# SUBMISSION COVER SHEET

**Registered Entity Identifier Code (optional): 13-151** **Date: April 24, 2013**

***IMPORTANT*: CHECK BOX IF CONFIDENTIAL TREATMENT IS REQUESTED.** ☒

| **ORGANIZATION** | **Chicago Mercantile Exchange Inc.** |
|---|---|

**FILING AS A:** ☐ **DCM** ☐ **SEF** ☒ **DCO** ☐ **SDR** ☐ **ECM/SPDC**

**TYPE OF FILING**

- **Rules and Rule Amendments**
  - ☐ Certification under § 40.6 (a) or § 41.24 (a)
  - ☐ "Non-Material Agricultural Rule Change" under § 40.4 (b)(5)
  - ☐ Notification under § 40.6 (d)
  - ☐ Request for Approval under § 40.4 (a) or § 40.5 (a)
  - ☐ Advance Notice of SIDCO Rule Change under § 40.10 (a)
- **Products**
  - ☒ Certification under § 39.5(b), § 40.2 (a), or § 41.23 (a)
  - ☐ Swap Class Certification under § 40.2 (d)
  - ☐ Request for Approval under § 40.3 (a)
  - ☐ Novel Derivative Product Notification under § 40.12 (a)

**RULE NUMBERS**

**N/A**

**DESCRIPTION**

39.5 Submission for OTC FX

Confidential treatment is requested for certain documents included in this submission

**Jason Silverstein**
Executive Director and Associate General Counsel
Legal Department

April 24, 2013

**BY ELECTRONIC SUBMISION**

Ms. Melissa Jurgens
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.
Washington, DC 20581

Re: **Supplemental 39.5 Submission for OTC FX Swaps**
**CME Submission No. 13-151**

Dear Ms. Jurgens:

In connection with the Commodity Futures Trading Commission's (the "Commission") request to Chicago Mercantile Exchange Inc. ("CME") relating to the Commission's mandatory clearing determinations, dated February 1, 2012, CME is hereby supplementing its February 22, 2012 submission No. 12-053 (the "CME Submission 12-053") to the Commission with additional information relating to OTC FX swaps that CME was accepting for clearing after the date of enactment of the Dodd-Frank Act and as of the date of such request. In CME Submission 12-053, we informed the Commission that we were clearing 38 OTC FX products that were either Non-Deliverable Forwards ("NDF") or Cash-Settled Forwards ("CSF" and together with the NDFs, the "Cleared FX Swaps"). We are supplementing CME Submission 12-053 with information about the Cleared FX Swaps in accordance with Regulation 39.5.

Pursuant to Regulation 39.5(b)(3)(i), CME states that it is eligible to accept the Cleared FX Swaps for clearing as it they are within a group, category, type or class of swaps that CME already clears. Should the Commission determine that any such swaps are required to be cleared, CME will be able to maintain compliance with the DCO core principles set forth in Section 5b(c)(2) of the Commodity Exchange Act and the regulations promulgated thereunder. This supplemental letter provides specific information required by Commission Regulation 39.5 and incorporates CME Submission 12-053 as appropriate.

In accordance with Regulation 39.5(b)(3)(ii)-(viii), we are providing the following information in support of this submission:

39.5(b)(3)(ii)(A): Outstanding Notional Exposures, Trading Liquidity and Pricing Data

Enclosed is the 2010 Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity. The Report provides the total average daily volume of outright forwards in the currencies of the NDF cleared by CME. Please note that the report does not specify NDF activity separate from the outright forward transaction information. The report is attached as Exhibit A.

39.5(b)(3)(ii)(B): Rule Framework, Capacity, Operational Expertise and Resources, Credit Support Infrastructure

We incorporate by reference CME Submission 12-053, attached as Exhibit B, and note that the Cleared FX Swaps are subject to the Base Financial Safeguards including the Base Guaranty Fund as further described in the CME Rulebook which is available at http://www.cmegroup.com/market-regulation/rulebook/index.html. CME Rule Submissions 11-360R and 11-144, enclosed herein as Exhibit C, provide product rules for each of the Cleared FX Swaps. Additionally, we are enclosing our operational guide for clearing members titled the "Operational Handbook for CME Cleared OTC FX" and which is designated for confidential treatment.

39.5(b)(3)(ii)(C): Effect on Mitigation of Systemic Risk

While markets in certain OTC derivatives asset classes continued to function well during the recent financial crisis, the crisis demonstrated the potential for systemic risk arising from the interconnectedness of OTC derivatives market participants and the limited transparency of bilateral counterparty relationships. To help mitigate systemic risk in the OTC derivatives markets, the G-20 Leaders agreed that all standardized OTC derivatives contracts should be cleared through central counterparties by the end of 2012. One of the key goals of the Dodd-Frank Act is the reduction of systemic risk through the use of central clearing for OTC derivatives.

As a central counterparty, CME Clearing interposes itself between counterparties to the swaps (and other derivatives products) that it clears, becoming the buyer to every seller and the seller to every buyer. For each swap that it clears, CME Clearing provides all clearing house services, including a mark-to-market function, on a daily basis. Depending upon the particular asset class, CME Clearing may standardize contract-critical dates *(e.g.,* start dates, last trade dates, expiry dates) and other contract terms. This may enable customers who hold positions to liquidate or to adjust positions simply by buying back or selling the relevant contracts. The associated benefits are considerable:

- *Centralized clearing.* Clearing the Cleared FX Swaps through CME Clearing allows market participants to free up counterparty credit lines. The daily mark-to-market process employed by CME Clearing enhances customer risk management.
- *Operational efficiencies.* Centralized clearing of swaps reduces operational burdens in several ways. Standardization and centralized clearing enables consolidation of collateral management and cash flows and eliminates the need for novations or tear-ups.
- *Ease of position adjustment.* In non-cleared markets, the only means to completely eliminate the risk of a swap is to (i) enter into a tear-up agreement with the swap counterparty, or (ii) enter into a novation *(i.e.,* find another entity willing to assume its side of the swap). In either case, the tearup or the novation must be approved by the bilateral swap counterparty. For most asset classes, central clearing may be used to offset by a contra trade.

CME Clearing has the necessary resources available to clear the swaps that are the subject of this submission. With respect to margining in particular, please see CME Submission 12-102RR that describes the HVaR margin methodology for the Cleared FX Swaps also enclosed herein and is enclosed as Exhibit D.

39.5(b)(3)(ii)(D): Effect on Competition – Fees and Charges

CME Group does not believe that there will be a material effect on competition. The Commission has previously noted its concerns regarding the effect on competition when considering a proposed clearing

determination.[1] We believe the acceptance on the Cleared FX Swaps is consistent with the Commission's analysis and do not believe CME's clearing of the Cleared FX Swaps will have a negative impact on competition. The Fee Schedule for the Cleared FX Swaps is enclosed herein as Exhibit E.

39.5(b)(3)(ii)(E): Reasonable Legal Certainty in DCO or Clearing Member Insolvency

Please refer to our response in CME Submission 12-053 which is incorporated herein.

39.5(b)(3)(iii): Product Specifications

The product rules and specifications are contained in CME Rule Submission 11-360R and CME Rule Submisision 11-144 which are enclosed herein.

39.5(b)(3)(iv): Participant Eligibility Standards

The Cleared FX Swaps are cleared by CME OTC Clearing Members. We have enclosed the *CME Handbook for OTC Clearing Membership*[2] detailing the various requirements for OTC clearing membership at CME Clearing as Exhibit F. In addition, please see CME Rule 8F004 (OTC Clearing Member Obligations) which provides for the minimum requirements for a CME OTC Clearing Member.[3]

39.5(b)(3)(v): Pricing Sources, Models and Procedures

The product rules contained in CME Submission 11-360R and the Operational Handbook for CME Cleared OTC FX describe the pricing sources and procedures for the Cleared FX Swaps.

39.5(b)(3)(vi): Risk Management Procedures

CME Submission 12-102RR provides detail on the risk methodology for the Cleared FX Swaps which is incorporated herein. The Cleared FX Swaps are subject to the Base Financial Safeguards including the Base Guaranty Fund as further described in the CME Rulebook.

39.5(b)(3)(vii): Applicable Rules, Manuals, Policies and Procedures

Links to the applicable rulebook and copies of manuals and handbooks are included in this submission.

39.5(b)(3)(viii): Notice of Submission

Notice of this submission (without enclosures, many of which have been designated for Confidential Treatment) has been concurrently posted on CME's web site at http://www.cmegroup.com/market-regulation/rule-filings.html.

[1] See 77 Fed. Reg 47183
[2] The Handbook can also be found at http://www.cmegroup.com/company/membership/files/CME-OTC-Clearing-Membership-Handbook.pdf
[3] http://www.cmegroup.com/rulebook/CME/I/8F/8F.pdf

Should you have any questions regarding this submission, or if any additional information is required, please contact me at (212) 299-2228 or via e-mail at jason.silverstein@cmegroup.com.
moon

Sincerely,

/s/ Jason Silverstein
Executive Director & Associate General Counsel

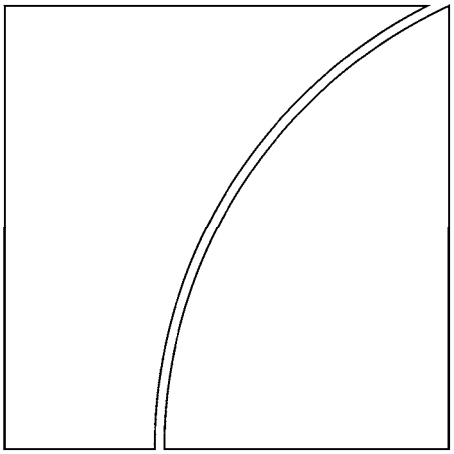
Enclosures

**EXHIBIT A**

**2010 Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity**

20 South Wacker Drive, Chicago, Illinois 60606 T 212 299 2228 F 212 299 2299 jason.silverstein@cmegroup.com cmegroup.com

BANK FOR INTERNATIONAL SETTLEMENTS



# Triennial Central Bank Survey

## Report on global foreign exchange market activity in 2010

Monetary and Economic Department

December 2010

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*Conventions used in the tables and graphs*

0 = Value close to zero.

... = Reported to be nil, not reported, not shown for reasons of confidentiality, not meaningful or not applicable.

Owing to rounding and incomplete reporting of various breakdowns, the component items do not always sum to the total for the category in question.

Lhs, rhs = left-hand scale, right-hand scale

## Participating institutions

Data on foreign exchange national turnover and amounts outstanding were provided by the following institutions:

| | |
|---|---|
| Argentina | Central Bank of Argentina |
| Australia | Reserve Bank of Australia |
| Austria | Central Bank of the Republic of Austria |
| Bahrain | Bahrain Monetary Agency |
| Belgium | National Bank of Belgium |
| Brazil | Central Bank of Brazil |
| Bulgaria | Bulgarian National Bank |
| Canada | Bank of Canada |
| Chile | Central Bank of Chile |
| China | People's Bank of China |
| | State Administration of Foreign Exchange |
| Chinese Taipei | Central Bank of China |
| Colombia | Bank of the Republic |
| Czech Republic | Czech National Bank |
| Denmark | National Bank of Denmark |
| Estonia | Bank of Estonia |
| Finland | Bank of Finland |
| France | Bank of France |
| Germany | Deutsche Bundesbank |
| Greece | Bank of Greece |
| Hong Kong SAR | Hong Kong Monetary Authority |
| Hungary | Magyar Nemzeti Bank |
| India | Reserve Bank of India |
| Indonesia | Bank Indonesia |
| Ireland | Central Bank of Ireland |
| Israel | Bank of Israel |
| Italy | Bank of Italy |
| Japan | Bank of Japan |
| Korea | Bank of Korea |
| Latvia | Bank of Latvia |
| Lithuania | Bank of Lithuania |
| Luxembourg | Central Bank of Luxembourg |
| Malaysia | Central Bank of Malaysia |
| Mexico | Bank of Mexico |
| Netherlands | Netherlands Bank |
| New Zealand | Reserve Bank of New Zealand |
| Norway | Central Bank of Norway |
| Peru | Central Reserve Bank of Peru |
| Philippines | Bangko Sentral ng Pilipinas |
| Poland | National Bank of Poland |
| Portugal | Bank of Portugal |
| Romania | National Bank of Romania |
| Russia | Central Bank of the Russian Federation |
| Saudi Arabia | Saudi Arabian Monetary Agency |
| Singapore | Monetary Authority of Singapore |
| Slovakia | National Bank of Slovakia |
| South Africa | South African Reserve Bank |
| Spain | Bank of Spain |
| Sweden | Sveriges Riksbank |
| | Statistics Sweden |
| Switzerland | Swiss National Bank |
| Thailand | Bank of Thailand |
| Turkey | Central Bank of the Republic of Turkey |
| United Kingdom | Bank of England |
| United States | Federal Reserve Bank of New York |

## A. Summary of main findings on global foreign exchange markets

Previous triennial surveys have used the expression "traditional foreign exchange markets" to refer to spot transactions, outright forwards and foreign exchange swaps. This expression excluded currency swaps and currency options, which were discussed separately. Starting with the 2010 survey, the expression "global foreign exchange markets" includes all five categories of foreign exchange instruments. The analysis distinguishes between *spot transactions* and *other related foreign exchange instruments* (outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange products).

In addition, the format of the 2010 survey includes the following main refinements and clarifications of reporting procedures compared with the 2007 survey:

- The list of currency pairs has been expanded in order to capture transactions involving currencies typically used in carry trade strategies, namely AUD/JPY, NZD/JPY, USD/ZAR and USD/HKD. Trades in the Brazilian real, Chinese renminbi, Indian rupee and Korean won against the US dollar were also collected.
- A more detailed counterparty breakdown for each instrument has been collected for identification of execution method in order to include a distinction between "with reporting dealers, local" and "with reporting dealers, cross-border".

Despite these changes, the data presented here can be considered as being largely comparable with those of the previous triennial survey in 2007, notwithstanding the different structure of the results. Weighted average coverage of foreign exchange markets in reporting countries increased from 96% in 2007 to 97% in 2010.

### 1. Turnover in April 2010

- Global foreign exchange market turnover was 20% higher in April 2010 than in April 2007, with average daily turnover of $4.0 trillion compared with $3.3 trillion. The increase was driven by the 48% growth in turnover of *spot* transactions, which represent 37% of foreign exchange market turnover. Spot turnover rose to $1.5 trillion in April 2010 from $1.0 trillion in April 2007.
- The increase in turnover of *other foreign exchange instruments* was more modest at 7%, with average daily turnover of $2.5 trillion in April 2010. Turnover in outright forwards and currency swaps grew strongly (by 31% and 36%, respectively). Turnover in the large foreign exchange swaps segment was flat relative to the previous survey, while trading in currency options fell.
- As regards counterparties, the higher global foreign exchange market turnover is associated with the increased trading activity of "other financial institutions" – a category that includes non-reporting banks, hedge funds, pension funds, mutual funds, insurance companies and central banks. Turnover by this category grew by 42%, rising to $1.9 trillion in April 2010 from $1.3 trillion in April 2007. At 13%, the share of trading with non-financial customers was the lowest since 2001.
- Foreign exchange market activity became more global, with cross-border transactions representing 65% of trading activity in April 2010, while local transactions accounted for 35%, the lowest share ever.
- The relative ranking of foreign exchange trading centres has changed slightly from the previous survey. Banks located in the United Kingdom accounted for 37% of all foreign exchange market turnover, against 35% in 2007, followed by the United States (18%), Japan (6%), Singapore (5%), Switzerland (5%), Hong Kong SAR (5%) and Australia (4%).

### 2. Amounts outstanding and market values at end-June 2010

- Growth in the positions of OTC foreign exchange instruments was moderate at 9%, compared with an increase of 83% in notional amounts outstanding of currency instruments in the 2004–07 period.
- In contrast, market values of these instruments almost doubled against a backdrop of increased financial market volatility during mid-April and early June 2010.

## B. Turnover in the global foreign exchange markets in April 2010

### 1. Growth of global foreign exchange turnover

The 2010 triennial survey shows another substantial increase in global foreign exchange market activity (spot transactions, outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange products[1]) since the last survey in 2007, following the unprecedented 72% rise in activity between 2004 and 2007.[2] In the wake of the financial crisis, global foreign exchange market turnover was 20% higher in April 2010 than in April 2007 (Table B.1). This increase brought average daily turnover to $4.0 trillion (from $3.3 trillion) at current exchange rates. Because euro/dollar exchange rates were almost unchanged in April 2007 and 2010, growth calculated at constant exchange rates was similar at 18%.[3, 4]

**Global foreign exchange market turnover**[1]

Daily averages in April, in billions of US dollars

| Instrument/maturity | 1998 | 2001 | 2004 | 2007 | 2010 |
|---|---|---|---|---|---|
| **Foreign exchange instruments** | **1,527** | **1,239** | **1,934** | **3,324** | **3,981** |
| Spot transactions[2] | 568 | 386 | 631 | 1,005 | 1,490 |
| Outright forwards[2] | 128 | 130 | 209 | 362 | 475 |
| Up to 7 days | 65 | 51 | 92 | 154 | 219 |
| Over 7 days | 62 | 80 | 116 | 208 | 256 |
| Foreign exchange swaps[2] | 734 | 656 | 954 | 1,714 | 1,765 |
| Up to 7 days | 528 | 451 | 700 | 1,329 | 1,304 |
| Over 7 days | 202 | 204 | 252 | 382 | 459 |
| Currency swaps | 10 | 7 | 21 | 31 | 43 |
| Options and other products[3] | 87 | 60 | 119 | 212 | 207 |
| *Memo:* | | | | | |
| *Turnover at April 2010 exchange rates*[4] | *1,705* | *1,505* | *2,040* | *3,370* | *3,981* |
| *Estimated gaps in reporting* | *49* | *30* | *116* | *152* | *144* |
| *Exchange-traded derivatives*[5] | *11* | *12* | *26* | *80* | *168* |

[1] Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). [2] Previously classified as part of the so-called "Traditional FX market". [3] The category "other FX products" covers highly leveraged transactions and/or trades whose notional amount is variable and where a decomposition into individual plain vanilla components was impractical or impossible. [4] Non-US dollar legs of foreign currency transactions were converted into original currency amounts at average exchange rates for April of each survey year and then reconverted into US dollar amounts at average April 2010 exchange rates. [5] Sources: FOW TRADEdata; Futures Industry Association; various futures and options exchanges. Reported monthly data were converted into daily averages of 20.5 days in 1998, 19.5 days in 2001, 20.5 in 2004, 20 in 2007 and 20 in 2010.

Table B.1

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1 Instrument definitions are provided in Section D (Methodology). See M King and C Mallo, *BIS Quarterly Review*, December 2010 (forthcoming), for a discussion of methodological issues that are important for correct interpretation of the survey data.

2 Growth rates in this section refer to changes over three years unless otherwise noted.

3 Foreign exchange growth in the earlier period was driven – apart from valuation effects – by factors such as low levels of financial market volatility and of risk aversion, and by expansion in hedge fund activity.

4 For more details on the results of the 2007 triennial survey, see G Galati and A Heath, "What drives the growth in FX activity? Interpreting the 2007 triennial survey", *BIS Quarterly Review*, December 2007.

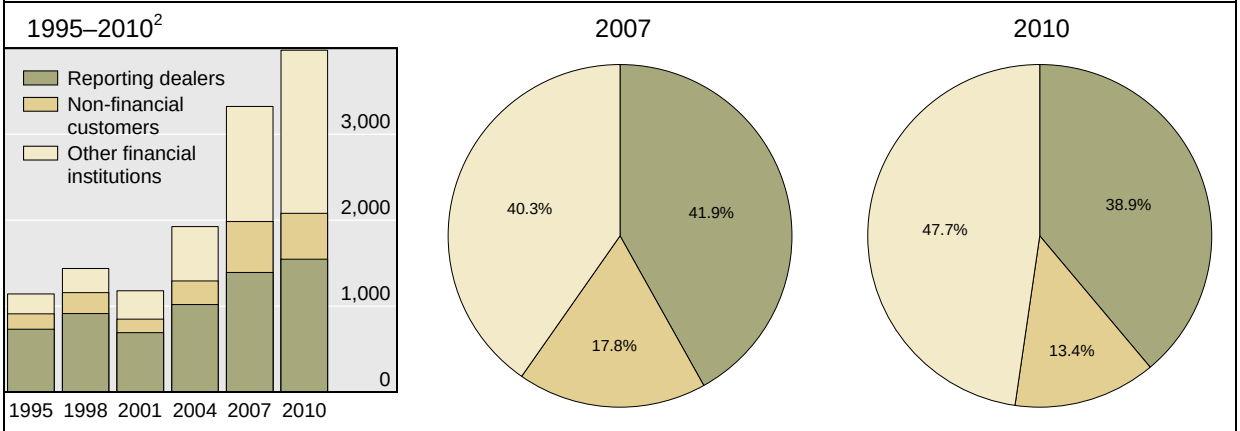
Turnover of outright forwards, foreign exchange swaps, currency swaps, currency options and other OTC foreign exchange products continues to be many times larger than the volumes traded on organised exchanges. Daily turnover for currency instruments on organised exchanges was $168 billion, less than 7% of the $2.5 trillion average daily turnover in those instruments (Table B.1).

## 2. Turnover by counterparty

Data for turnover by counterparty show that the increase in global foreign exchange market turnover in 2010 is largely due to the enlarged trading activity of *other financial institutions* – a category that includes non-reporting banks, hedge funds, pension funds, mutual funds, insurance companies and central banks[5] (Graph B.1). Turnover by this category grew by 42% to $1.9 trillion in April 2010 from $1.3 trillion in April 2007.

Reported foreign exchange market turnover by counterparty[1]

Daily averages in April




[1] Adjusted for local and cross-border inter-dealer double-counting, ie "net-net" basis. Excludes estimated gaps in reporting. Due to incomplete counterparty breakdown, components do not always sum to totals. [2] In billions of US dollars.

Graph B.1

Although a surge in activity with other financial institutions had already accounted for most of the growth in total turnover in 2007, this category's share (48%) surpassed transactions between reporting dealers (39%) for the first time in 2010 (Graph B.1). Other financial institutions increased their activity mainly in the spot market, with their share of turnover rising from 39% to 51%. In outright forwards, their share rose from 44% to 54% (Annex Table E.1).

Transactions between *reporting dealers* in the interbank market grew by 11% to $1.5 trillion in April 2010 from $1.4 trillion in April 2007 (Table B.2). Some of the factors identified as drivers of the downward trend in the share of the interbank market in analyses of previous triennial surveys, such as the increased concentration of the banking sector and the spread of electronic broking platforms, may also have had a dampening effect on interbank turnover.[6]

---

[5] M King and D Rime, *BIS Quarterly Review*, December 2010 (forthcoming), analyse in depth how the trading activity of participants in the "other financial institutions" sector has contributed to recent foreign exchange market turnover growth.

[6] See G Galati and M Melvin, "Explaining the surge in FX turnover", *BIS Quarterly Review*, December 2004, and G Galati, "Why has global FX turnover declined? Explaining the 2001 triennial survey", *BIS Quarterly Review*, December 2001.

**Global foreign exchange market turnover by counterparty**[1]

Daily averages in April, in billions of US dollars and per cent

| Instrument/counterparty/ maturity | 1998 | | 2001 | | 2004 | | 2007 | | 2010 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % |
| TOTAL | 1,527 | 100 | 1,239 | 64 | 1,934 | 100 | 3,324 | 100 | 3,981 | 100 |
| with reporting dealers | 961 | 63 | 719 | 37 | 1,018 | 53 | 1,392 | 42 | 1,548 | 39 |
| with other financial institutions | 299 | 20 | 346 | 18 | 634 | 33 | 1,339 | 40 | 1,900 | 48 |
| with non-financial customers | 266 | 17 | 174 | 9 | 276 | 14 | 593 | 18 | 533 | 13 |
| Local | 698 | 46 | 525 | 42 | 743 | 38 | 1,274 | 38 | 1,395 | 35 |
| Cross-border | 828 | 54 | 713 | 58 | 1,185 | 61 | 2,051 | 62 | 2,586 | 65 |

[1] Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). Due to incomplete reporting, components do not always sum to totals.

Table B.2

The lower share of turnover between reporting dealers is consistent with ongoing concentration in the FX industry. Among the top 13 global FX centres (covering 90% of global turnover), a decrease in the number of banks accounting for 75% of the turnover was reported between 2007 and 2010 in most centres. In contrast, in Denmark, Hong Kong SAR and Korea, an increase in competition is evident (Table B.3).

**Concentration in the banking industry**

Number of banks accounting for 75% of foreign exchange turnover[1]

| Country | 1998 | 2001 | 2004 | 2007 | 2010 |
|---|---|---|---|---|---|
| Switzerland | 7 | 6 | 5 | 3 | 2 |
| Denmark | 3 | 3 | 2 | 2 | 3 |
| Sweden | 3 | 3 | 3 | 3 | 3 |
| France | 7 | 6 | 6 | 4 | 4 |
| Canada | 6 | 5 | 4 | 6 | 5 |
| Germany | 9 | 5 | 4 | 5 | 5 |
| Australia | 9 | 10 | 8 | 8 | 7 |
| United States | 20 | 13 | 11 | 10 | 7 |
| Japan | 19 | 17 | 11 | 9 | 8 |
| United Kingdom | 24 | 17 | 16 | 12 | 9 |
| Singapore | 23 | 18 | 11 | 11 | 10 |
| Hong Kong SAR | 26 | 14 | 11 | 12 | 14 |
| Korea | 21 | 14 | 12 | 12 | 16 |

[1] Spot transactions, outright forwards and FX swaps.

Table B.3

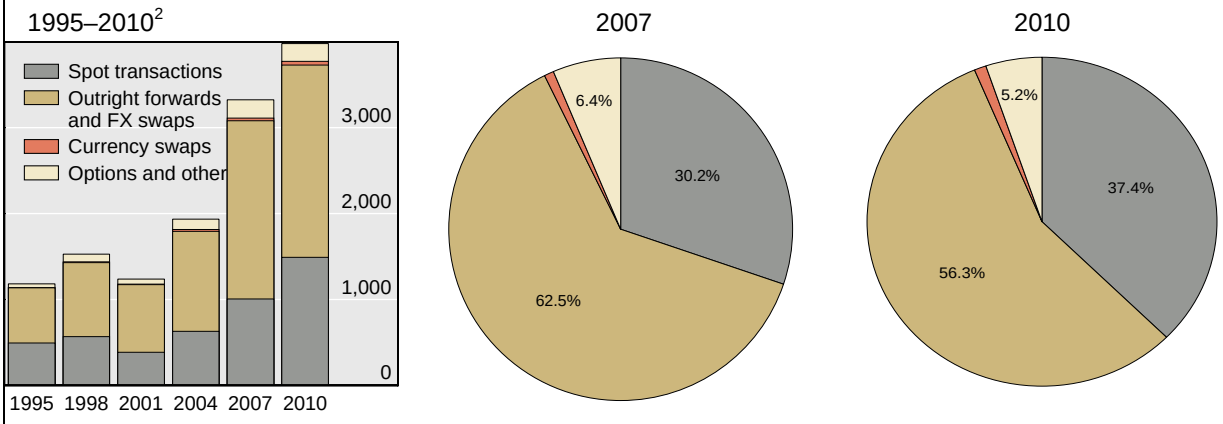
Foreign exchange market transactions with *non-financial customers* declined by 10%, falling to $533 billion in April 2010 from $593 billion in April 2007 (Table B.2). This category, which includes corporations and governments, now represents around 13% of global foreign exchange market activity, its lowest share since 2001. An increase in spot transactions by these counterparties was offset by a decrease in the use of foreign exchange swaps and currency options. The use of outright forwards and currency swaps by non-financial customers was relatively unchanged (Annex Table E.1).

## 3. Turnover by instrument

Foreign exchange *spot* turnover rose to $1.5 trillion in April 2010 from $1.0 trillion, an increase of 48% at current exchange rates (Table B.1). The increase in spot market turnover to a share of 37% of the global activity accounts for three quarters of the overall increase in global foreign exchange market activity relative to the previous survey (Graph B.2). The higher turnover in spot transactions is largely due to more active trading by other financial institutions, followed by inter-dealer trading (Annex Table E.1).

Reported foreign exchange market turnover by instrument[1]

Daily averages in April




[1] Adjusted for local and cross-border inter-dealer double-counting, ie "net-net" basis. Excludes estimated gaps in reporting. [2] In billions of US dollars. Graph B.2

Trading activity in *other related foreign exchange instruments* continued to expand, but at a much more moderate pace than in the three years to April 2007. Average daily turnover in these instruments grew by 7% to $2.5 trillion in April 2010, compared with an increase of 78% in the previous three-year period (Table B.1). Turnover in *outright forwards* increased by 31% to $475 billion. Trading in *currency swaps* also grew strongly, by 39%, albeit from a much lower level, to $43 billion.

*Foreign exchange swaps*, the most actively traded foreign exchange instrument by far, are widely used by banks to raise liquidity across money markets for different currencies.[7] The dominance of reporting banks in this market has declined markedly over time, falling from 70% of total turnover in 1998, and around 60% in 2001 and 2004, to just 47% in 2010. At $1.8 trillion (+3%), the level of turnover is largely unchanged from the prior survey. The distribution of trading across other counterparties and maturities was also largely unchanged from 2007 (Annex Table E.1).

Finally, the use of *currency options* declined by 2% between surveys, with average daily turnover of $207 billion in April 2010. However, turnover in currency options with other financial institutions increased, their share in this sector rising from 43% to 55% (Annex Table E.1).

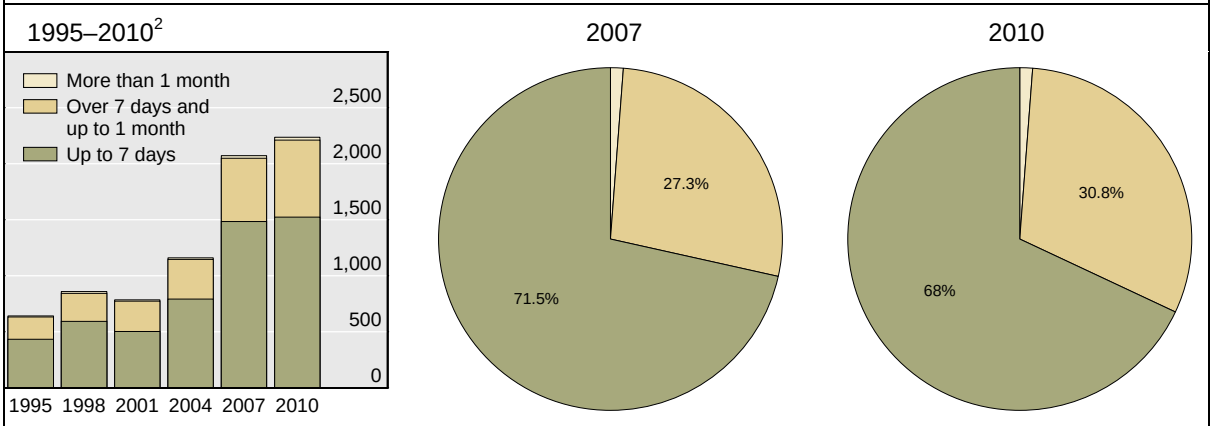
[7] Disruptions to the foreign exchange swap market during the 2007–09 financial crisis attracted considerable attention; see N Baba and F Packer, "From turmoil to crisis: dislocations in the FX swap market before and after the failure of Lehman Brothers", *BIS Working Papers*, no 285, July 2009.

## 4. Turnover by maturity[8]

The distribution of turnover by maturity, which is collected only for outright forwards and foreign exchange swaps (Table B.1 and Graph B.3), shows that the increase in instruments with a maturity of up to seven days was instrumental in the surge in turnover reported in 2007. Since then, the maturity distribution has remained fairly stable, with the share of short-term instruments dropping back slightly from 72% to 68% of turnover. With spot transactions having increased by almost half since 2007, it would, however, be unwarranted to conclude that the significance of short-term trades in the foreign exchange market has decreased.

Reported foreign exchange market turnover by maturity[1]

Daily averages in April




[1] Adjusted for local and cross-border double-counting, ie "net-net" basis. Excludes estimated gaps in reporting. Due to incomplete maturity breakdown, components do not always sum to totals. [2] In billions of US dollars. Graph B.3

## 5. Turnover by currency

The *currency composition* of turnover has changed only slightly over the past three years, with the relative share of the main currencies diverging somewhat (Table B.4).[9] The market share of the top three currencies (the US dollar, euro and Japanese yen) increased by 3 percentage points, with the market share of the top 10 increasing by only 1.4 percentage points. The biggest increases were seen for the euro and yen, and the biggest decline for sterling. The most significant increases in emerging market currencies were seen for the Turkish lira, Chinese renminbi and Korean won, followed by the Brazilian real and Singapore dollar.[10] The renminbi now accounts for almost 1% of global turnover, on a par with the Indian rupee and the Russian rouble.

[8] Original maturity.

[9] Because each transaction involves two currencies, the shares sum to 200%.

[10] The shares of some currencies, in particular the Brazilian real, the Chinese renminbi and the Korean won, have benefited at the margin from a refinement in the data collection process, which encouraged reporting banks to report turnover for a more comprehensive set of currency pairs. For more details on the set of currencies covered by the survey, see the statistical notes in Section D.

## Currency distribution of global foreign exchange market turnover[1]

Percentage shares of average daily turnover in April

| Currency | 1998 | 2001 | 2004 | 2007 | 2010 |
|---|---|---|---|---|---|
| US dollar | 86.8 | 89.9 | 88.0 | 85.6 | 84.9 |
| Euro | ... | 37.9 | 37.4 | 37.0 | 39.1 |
| Japanese yen | 21.7 | 23.5 | 20.8 | 17.2 | 19.0 |
| Pound sterling | 11.0 | 13.0 | 16.5 | 14.9 | 12.9 |
| Australian dollar | 3.0 | 4.3 | 6.0 | 6.6 | 7.6 |
| Swiss franc | 7.1 | 6.0 | 6.0 | 6.8 | 6.4 |
| Canadian dollar | 3.5 | 4.5 | 4.2 | 4.3 | 5.3 |
| Hong Kong dollar | 1.0 | 2.2 | 1.8 | 2.7 | 2.4 |
| Swedish krona | 0.3 | 2.5 | 2.2 | 2.7 | 2.2 |
| New Zealand dollar | 0.2 | 0.6 | 1.1 | 1.9 | 1.6 |
| Korean won | 0.2 | 0.8 | 1.1 | 1.2 | 1.5 |
| Singapore dollar | 1.1 | 1.1 | 0.9 | 1.2 | 1.4 |
| Norwegian krone | 0.2 | 1.5 | 1.4 | 2.1 | 1.3 |
| Mexican peso | 0.5 | 0.8 | 1.1 | 1.3 | 1.3 |
| Indian rupee | 0.1 | 0.2 | 0.3 | 0.7 | 0.9 |
| Russian rouble | 0.3 | 0.3 | 0.6 | 0.7 | 0.9 |
| Chinese renminbi | 0.0 | 0.0 | 0.1 | 0.5 | 0.9 |
| Polish zloty | 0.1 | 0.5 | 0.4 | 0.8 | 0.8 |
| Turkish lira | ... | 0.0 | 0.1 | 0.2 | 0.7 |
| South African rand | 0.4 | 0.9 | 0.7 | 0.9 | 0.7 |
| Brazilian real | 0.2 | 0.5 | 0.3 | 0.4 | 0.7 |
| Danish krone | 0.3 | 1.2 | 0.9 | 0.8 | 0.6 |
| New Taiwan dollar | 0.1 | 0.3 | 0.4 | 0.4 | 0.5 |
| Hungarian forint | 0.0 | 0.0 | 0.2 | 0.3 | 0.4 |
| Malaysian ringgit | 0.0 | 0.1 | 0.1 | 0.1 | 0.3 |
| Thai baht | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 |
| Czech koruna | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 |
| Philippine peso | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 |
| Chilean peso | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 |
| Indonesian rupiah | 0.1 | 0.0 | 0.1 | 0.1 | 0.2 |
| Israeli new shekel | ... | 0.1 | 0.1 | 0.2 | 0.2 |
| Colombian peso | ... | 0.0 | 0.0 | 0.1 | 0.1 |
| Romanian leu | ... | ... | 0.0 | 0.0 | 0.1 |
| Saudi riyal | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 |
| Argentine peso | 0.1 | ... | 0.0 | 0.0 | 0.0 |
| Peruvian nuevo sol | ... | 0.0 | 0.0 | 0.0 | 0.0 |
| Lithuanian litas | ... | ... | 0.0 | 0.0 | 0.0 |
| Other currencies | 8.7 | 6.6 | 6.5 | 7.6 | 4.6 |
| **All currencies** | **200.0** | **200.0** | **200.0** | **200.0** | **200.0** |

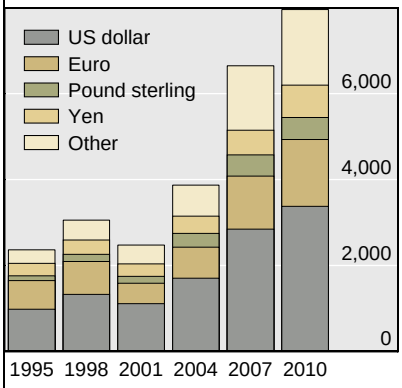
[1] Because two currencies are involved in each transaction, the sum of the percentage shares of individual currencies totals 200% instead of 100%. Adjusted for local and cross-border inter-dealer double-counting (ie “net-net” basis).

Table B.4

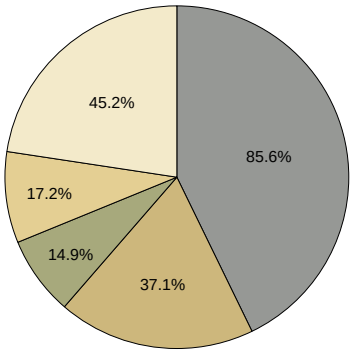
## Reported foreign exchange market turnover by currency[1]

Daily averages in April

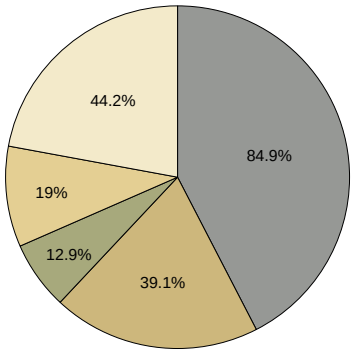
1995–2010[2]




2007




2010




[1] Adjusted for local and cross-border inter-dealer double-counting, ie "net-net" basis. Excludes estimated gaps in reporting. Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover. [2] In billions of US dollars. Graph B.4

The *US dollar* continued the slow retreat from its 90% peak share of all transactions, reached in the 2001 survey just after the introduction of the euro. The share of foreign exchange transactions involving the US dollar has fallen over time, to 85% in April 2010 (Graph B.4). This decline benefited the *euro*, which gained 2 percentage points in market share since the last survey and accounted for 39% of all transactions. The *Japanese yen* also increased its market share by 2 percentage points, to 19%, a recovery relative to the 2007 survey but still below its 2001 peak of 24%.

## Currency and instrument distribution of global foreign exchange market turnover[1]

Percentage shares of average daily turnover in April 2010

| Currency | Spot | Outright forwards | Foreign exchange swaps | Currency swaps | Options and other instruments |
|---|---|---|---|---|---|
| US dollar | 35.2 | 11.6 | 47.4 | 1.1 | 4.7 |
| Euro | 44.4 | 9.6 | 39.2 | 1.1 | 5.6 |
| Japanese yen | 39.7 | 15.2 | 36.9 | 0.9 | 7.2 |
| Pound sterling | 41.6 | 10.7 | 43.4 | 0.5 | 3.9 |
| Swiss franc | 36.4 | 7.5 | 50.2 | 0.7 | 5.3 |
| Australian dollar | 36.8 | 9.6 | 46.7 | 1.9 | 5.1 |
| Canadian dollar | 37.0 | 12.5 | 46.2 | 1.4 | 2.9 |
| Swedish krona | 21.5 | 9.8 | 64.4 | 0.8 | 3.4 |
| Hong Kong dollar | 19.9 | 4.0 | 74.0 | 0.4 | 1.8 |
| Norwegian krone | 23.4 | 11.7 | 60.0 | 1.2 | 3.6 |
| Korean won | 35.1 | 29.9 | 27.5 | 1.6 | 5.9 |
| Mexican peso | 36.3 | 10.8 | 47.5 | 0.7 | 4.6 |
| New Zealand dollar | 34.2 | 8.0 | 52.3 | 1.0 | 4.4 |
| Singapore dollar | 27.7 | 7.8 | 59.6 | 0.1 | 4.8 |
| Danish krone | 21.2 | 12.4 | 65.0 | 0.5 | 0.9 |
| South African rand | 31.7 | 9.9 | 54.3 | 0.5 | 3.6 |
| Russian rouble | 50.6 | 6.3 | 39.7 | 0.5 | 2.9 |
| Polish zloty | 22.4 | 11.1 | 59.4 | 0.6 | 6.5 |
| New Taiwan dollar | 31.9 | 35.9 | 25.0 | 0.5 | 6.7 |
| Indian rupee | 35.8 | 36.1 | 18.0 | 0.1 | 9.9 |
| Brazilian real | 31.3 | 47.3 | 2.9 | 1.4 | 17.1 |
| Czech koruna | 17.4 | 8.0 | 71.3 | 0.4 | 2.8 |
| Thai baht | 37.1 | 14.5 | 45.8 | 1.4 | 1.2 |
| Hungarian forint | 24.1 | 10.6 | 57.8 | 0.3 | 7.2 |
| Chilean peso | 38.8 | 48.2 | 9.0 | 3.5 | 0.5 |
| Malaysian ringgit | 38.0 | 37.9 | 20.2 | 1.2 | 2.7 |
| Chinese renminbi | 23.7 | 41.6 | 19.9 | 0.2 | 14.6 |
| Israeli new shekel | 23.1 | 7.3 | 58.6 | 1.3 | 9.6 |
| Turkish lira | 27.2 | 10.4 | 43.1 | 6.5 | 12.8 |
| Philippine peso | 33.5 | 35.7 | 17.7 | 2.8 | 10.2 |
| Indonesian rupiah | 40.9 | 44.2 | 11.1 | 1.1 | 2.7 |
| Saudi riyal | 50.6 | 11.6 | 37.8 | 0.0 | 0.1 |
| Colombian peso | 43.6 | 24.3 | 0.8 | 30.9 | 0.4 |
| Argentine peso | 85.0 | 13.9 | 0.3 | 0.0 | 0.7 |
| Bulgarian lev | 91.2 | 1.0 | 7.7 | 0.2 | 0.0 |
| Bahraini dinar | 31.1 | 22.2 | 45.6 | 0.7 | 0.4 |
| Estonian kroon | 39.5 | 4.6 | 55.9 | 0.0 | 0.0 |
| Lithuanian litas | 19.4 | 0.8 | 79.7 | 0.0 | 0.0 |
| Latvian lats | 18.8 | 2.4 | 78.8 | 0.0 | 0.0 |
| Peruvian nuevo sol | 64.6 | 34.6 | 0.3 | 0.3 | 0.2 |
| Romanian leu | 34.8 | 4.3 | 58.7 | 0.7 | 1.6 |
| **All currencies** | **37.4** | **11.9** | **44.3** | **1.1** | **5.2** |

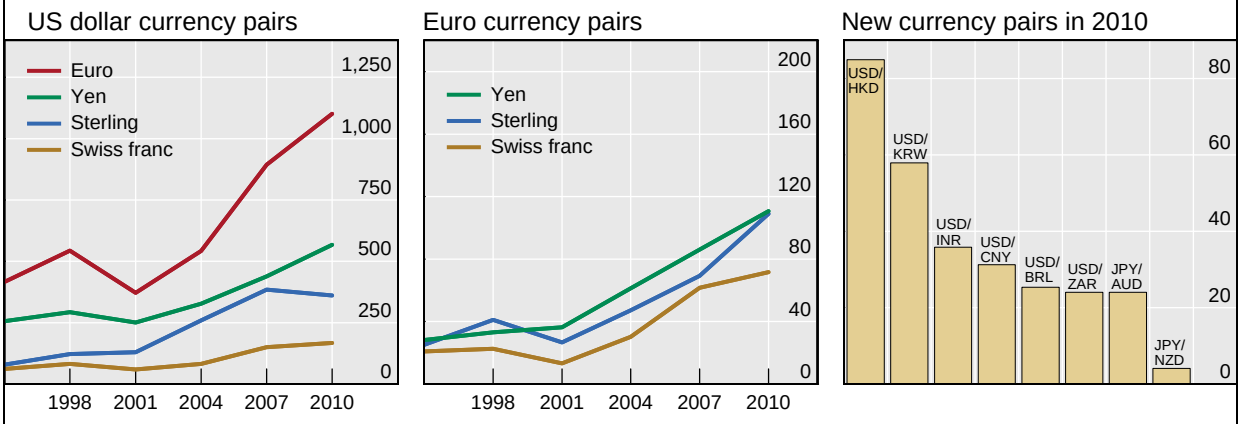
[1] Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis).

Table B.5

## 6. Turnover by currency pair

Reported foreign exchange market turnover by currency pair[1]

Daily averages in April, in billions of US dollars




[1] Adjusted for local and cross-border double-counting, ie "net-net" basis. Excludes estimated gaps in reporting. Graph B.5

Turnover by *currency pair* in April 2010 (Table B.6) showed no major changes in ranking from three years earlier, although absolute turnover in the major currency pairs tended to increase, with the exception of dollar/sterling transactions (Graph B.5). USD/EUR remained by far the dominant pair (with a 28% share), followed at some distance by USD/JPY with a slight increase to 14% of turnover. The USD/GBP pair continued to retreat from its 2004 peak to a 9% share or about the level reached in pre-euro 1998, but the EUR/GBP pair gained almost 60% in absolute terms.

**Global foreign exchange market turnover by currency pair[1]**

Daily averages in April, in billions of US dollars and percentages

| Currency pair | 2001 | | 2004 | | 2007 | | 2010 | |
|---|---|---|---|---|---|---|---|---|
| | Amount | % | Amount | % | Amount | % | Amount | % |
| US dollar/euro | 372 | 30 | 541 | 28 | 892 | 27 | 1,101 | 28 |
| US dollar/yen | 250 | 20 | 328 | 17 | 438 | 13 | 568 | 14 |
| US dollar/sterling | 129 | 10 | 259 | 13 | 384 | 12 | 360 | 9 |
| US dollar/Australian dollar | 51 | 4 | 107 | 6 | 185 | 6 | 249 | 6 |
| US dollar/Swiss franc | 59 | 5 | 83 | 4 | 151 | 5 | 168 | 4 |
| US dollar/Canadian dollar | 54 | 4 | 77 | 4 | 126 | 4 | 182 | 5 |
| US dollar/Swedish krona | 6 | 0 | 7 | 0 | 57 | 2 | 45 | 1 |
| US dollar/other | 193 | 16 | 300 | 16 | 612 | 18 | 705 | 18 |
| Euro/yen | 36 | 3 | 61 | 3 | 86 | 3 | 111 | 3 |
| Euro/sterling | 27 | 2 | 47 | 2 | 69 | 2 | 109 | 3 |
| Euro/Swiss franc | 13 | 1 | 30 | 2 | 62 | 2 | 72 | 2 |
| Euro/other | 22 | 2 | 44 | 2 | 123 | 4 | 162 | 4 |
| Other currency pairs | 28 | 2 | 50 | 3 | 139 | 4 | 149 | 4 |
| All currency pairs | 1,239 | 100 | 1,934 | 100 | 3,324 | 100 | 3,981 | 100 |

[1] Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis).

Table B.6

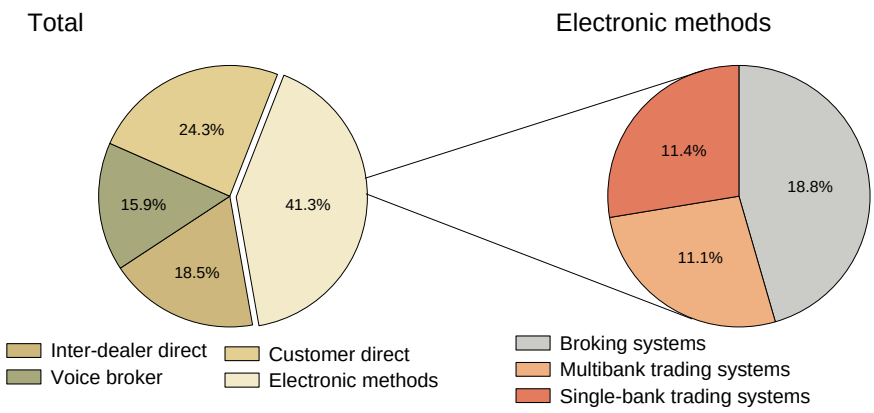
The 2010 survey has expanded the detailed coverage of emerging economy currencies, including additional currency pairs. New currency pairs relate mainly to transactions between the US dollar and Asian currency pairs (Graph B.5).

## 7. Turnover by execution method

Reporting institutions were asked to provide information on the execution method[11] used to settle their foreign exchange transactions. In the 2010 survey, the data on execution method now distinguish between trades "with reporting dealers, local" and those "with reporting dealers, cross-border", to allow more accurate elimination of double-counting. Separate information was requested for spot transactions, outright forwards, foreign exchange swaps and options: the data reveal that 40% of spot transactions are conducted on electronic trading systems[12] (Annex Table E.24), compared with 12–27% for other foreign exchange instruments. As noted in previous surveys, the spread of electronic trading platforms has also contributed to greater activity by other financial institutions, particularly algorithmic trading (Graph B.6).

Foreign exchange market turnover by execution method[1]

Daily averages in April 2010




[1] Adjusted for local and cross-border inter-dealer double-counting, ie "net-net" basis. Graph B.6

## 8. Geographical distribution of turnover

Foreign exchange market activity was more global in April 2010, with the share of cross-border transactions increasing to 65% from 62% in April 2007 (Table B.2). Local transactions fell to 35% of total turnover. Cross-border trading has increased slowly but steadily over the past five surveys.

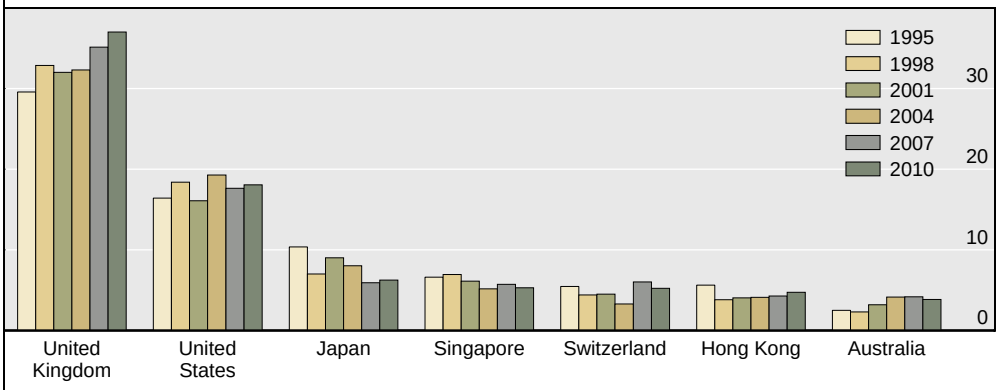
The geographical distribution of foreign exchange trading typically changes slowly over time, and the 2010 results are no exception (Table B.8). Banks located in the United Kingdom accounted for 37% of global foreign exchange market turnover, followed by those in the United States (18%), Japan (6%), Singapore (5%), Switzerland (5%), Hong Kong SAR (5%) and Australia (4%). Japan has recovered its third-place ranking, which it lost in the 2007 survey. Singapore has moved ahead of Switzerland in 2010 (Graph B.7).

[11] Detailed definitions of execution methods are provided in Section D.7 of the Methodology.

[12] Most inter-dealer trading is also executed electronically.

## Geographical distribution of foreign exchange market turnover[1]

Daily averages in April, in per cent



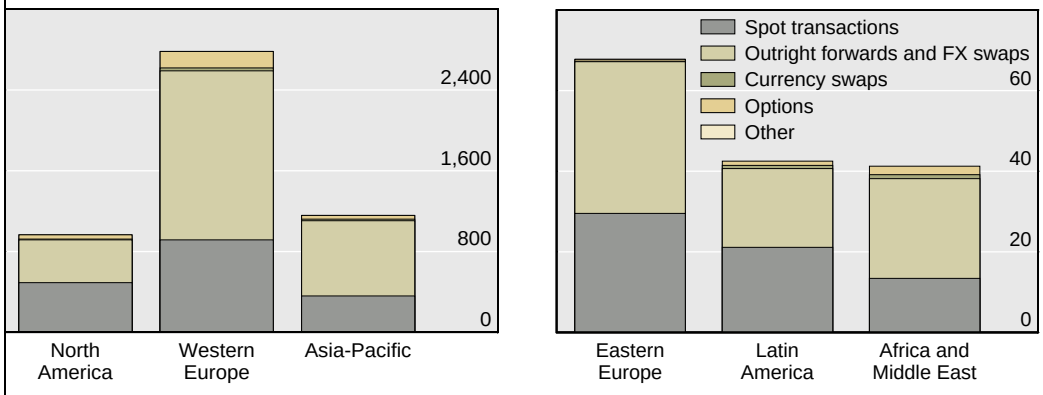

[1] Adjusted for local double-counting, ie "net-gross" basis.

Graph B.7

In dollar terms, the greatest increases in trading activity were in the United Kingdom ($370 billion), the United States ($159 billion), Japan ($62 billion) and Hong Kong SAR ($57 billion). Other countries that saw significant growth relative to the 2007 survey include Denmark, France, Singapore, Finland, Turkey, Australia and Spain.[13]

## Regional foreign exchange turnover by instrument[1]

Daily averages in April 2010, in billions of US dollars




[1] Regional aggregates are adjusted for local inter-dealer double-counting, ie trades between reporting dealers located in the same countries were halved, ie "net-gross" basis. Regional aggregates are not adjusted for intra-regional double-counting, ie trades between reporting dealers located in different countries of the same region were not halved.

Graph B.8

[13] D Mihaljek and F Packer, *BIS Quarterly Review*, December 2010 (forthcoming), discuss in depth what distinguishes turnover in FX derivatives in emerging markets from that in developed countries.

Foreign exchange trading is concentrated in western Europe, which accounts for 55% of global turnover on a net-gross basis, thanks to the presence of the London market and a number of other important trading centres. The Americas and Asia account for about 20% each (Graph B.8). These shares are approximate, since the data do not allow double-counting between reporting dealers located in different countries of the same region to be corrected. Regional turnover by instrument is fairly evenly divided between spot transactions, which account for about 50% of turnover in North and Latin America and for about a third of turnover in other regions, and outright forwards and FX swaps, which account for almost two thirds of turnover in most regions but around 45% in the Americas. The remainder comprises options, which account for around 5% of turnover (Table B.7).

**Regional FX turnover by instrument**[1]

Daily averages in April 2010, in billions of US dollars

| Region | Spot | Outright forwards and FX swaps | Currency | Options | Total |
|---|---|---|---|---|---|
| North America | 491 | 423 | 10 | 42 | 966 |
| Western Europe | 916 | 1,672 | 29 | 163 | 2,780 |
| Asia-Pacific | 361 | 743 | 16 | 38 | 1,159 |
| Eastern Europe | 30 | 38 | 0 | 0 | 68 |
| Latin America | 21 | 20 | 1 | 1 | 42 |
| Africa and Middle East | 13 | 25 | 1 | 2 | 41 |
| All regions ( “net-gross”) | 1,832 | 2,921 | 57 | 246 | 5,056 |
| Adjustment for cross-border double-counting | -342 | -681 | -14 | -39 | -1,075 |
| Global turnover ( “net-net”) [2] | 1,490 | 2,240 | 43 | 207 | 3,981 |

[1] Regional aggregates are adjusted for local inter-dealer double-counting, ie trades between reporting dealers located in the same countries were halved, ie “net-gross” basis. Regional aggregates are not adjusted for intraregional double-counting, ie trades between reporting dealers located in different countries of the same region were not halved. [2] Global aggregates are adjusted for both local and cross-border inter-dealer double-counting, ie “net-net” basis.

Table B.7

## Geographical distribution of global foreign exchange market turnover[1]

Daily averages in April, in billions of US dollars and per cent

| Country | 1998 | | 2001 | | 2004 | | 2007 | | 2010 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % |
| Argentina | 2 | 0 | … | … | 1 | 0 | 1 | 0 | 2 | 0 |
| Australia | 48 | 2 | 54 | 3 | 107 | 4 | 176 | 4 | 192 | 4 |
| Austria | 12 | 1 | 8 | 0 | 15 | 1 | 19 | 0 | 20 | 0 |
| Bahrain | 3 | 0 | 3 | 0 | 3 | 0 | 3 | 0 | 5 | 0 |
| Belgium | 27 | 1 | 10 | 1 | 21 | 1 | 50 | 1 | 33 | 1 |
| Brazil[2] | 5 | 0 | 6 | 0 | 4 | 0 | 6 | 0 | 14 | 0 |
| Bulgaria | … | … | … | … | … | … | 1 | 0 | 1 | 0 |
| Canada | 38 | 2 | 44 | 3 | 59 | 2 | 64 | 1 | 62 | 1 |
| Chile | 1 | 0 | 2 | 0 | 2 | 0 | 4 | 0 | 6 | 0 |
| China[3] | 0 | 0 | … | … | 1 | 0 | 9 | 0 | 20 | 0 |
| Chinese Taipei | 5 | 0 | 5 | 0 | 9 | 0 | 16 | 0 | 18 | 0 |
| Colombia | … | … | 0 | 0 | 1 | 0 | 2 | 0 | 3 | 0 |
| Czech Republic | 5 | 0 | 2 | 0 | 2 | 0 | 5 | 0 | 5 | 0 |
| Denmark | 28 | 1 | 24 | 1 | 42 | 2 | 88 | 2 | 120 | 2 |
| Estonia | … | … | … | … | 0 | 0 | 1 | 0 | 1 | 0 |
| Finland | 4 | 0 | 2 | 0 | 2 | 0 | 8 | 0 | 31 | 1 |
| France | 77 | 4 | 50 | 3 | 67 | 3 | 127 | 3 | 152 | 3 |
| Germany | 100 | 5 | 91 | 5 | 120 | 5 | 101 | 2 | 109 | 2 |
| Greece | 7 | 0 | 5 | 0 | 4 | 0 | 5 | 0 | 5 | 0 |
| Hong Kong SAR | 80 | 4 | 68 | 4 | 106 | 4 | 181 | 4 | 238 | 5 |
| Hungary | 1 | 0 | 1 | 0 | 3 | 0 | 7 | 0 | 4 | 0 |
| India | 2 | 0 | 3 | 0 | 7 | 0 | 38 | 1 | 27 | 1 |
| Indonesia | 2 | 0 | 4 | 0 | 2 | 0 | 3 | 0 | 3 | 0 |
| Ireland | 11 | 1 | 9 | 1 | 8 | 0 | 11 | 0 | 15 | 0 |
| Israel | … | … | 1 | 0 | 5 | 0 | 8 | 0 | 10 | 0 |
| Italy | 29 | 1 | 18 | 1 | 23 | 1 | 38 | 1 | 29 | 1 |
| Japan | 146 | 7 | 153 | 9 | 207 | 8 | 250 | 6 | 312 | 6 |
| Korea | 4 | 0 | 10 | 1 | 21 | 1 | 35 | 1 | 44 | 1 |
| Latvia | … | … | … | … | 2 | 0 | 3 | 0 | 2 | 0 |
| Lithuania | … | … | … | … | 1 | 0 | 1 | 0 | 1 | 0 |
| Luxembourg | 23 | 1 | 13 | 1 | 15 | 1 | 44 | 1 | 33 | 1 |
| Malaysia | 1 | 0 | 1 | 0 | 2 | 0 | 3 | 0 | 7 | 0 |
| Mexico | 9 | 0 | 9 | 1 | 15 | 1 | 15 | 0 | 17 | 0 |
| Netherlands | 43 | 2 | 31 | 2 | 52 | 2 | 25 | 1 | 18 | 0 |
| New Zealand | 7 | 0 | 4 | 0 | 7 | 0 | 13 | 0 | 9 | 0 |
| Norway | 9 | 0 | 13 | 1 | 14 | 1 | 32 | 1 | 22 | 0 |
| Peru | … | … | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| Philippines | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 5 | 0 |
| Poland | 3 | 0 | 5 | 0 | 7 | 0 | 9 | 0 | 8 | 0 |
| Portugal | 4 | 0 | 2 | 0 | 2 | 0 | 4 | 0 | 4 | 0 |
| Romania | … | … | … | … | … | … | 3 | 0 | 3 | 0 |
| Russia | 7 | 0 | 10 | 1 | 30 | 1 | 50 | 1 | 42 | 1 |
| Saudi Arabia | 2 | 0 | 2 | 0 | 2 | 0 | 4 | 0 | 5 | 0 |
| Singapore | 145 | 7 | 104 | 6 | 134 | 5 | 242 | 6 | 266 | 5 |
| Slovakia | … | … | 1 | 0 | 2 | 0 | 3 | 0 | 0 | 0 |
| Slovenia | … | … | 0 | 0 | 0 | 0 | 0 | 0 | … | … |
| South Africa | 9 | 0 | 10 | 1 | 10 | 0 | 14 | 0 | 14 | 0 |
| Spain | 20 | 1 | 8 | 0 | 14 | 1 | 17 | 0 | 29 | 1 |
| Sweden | 16 | 1 | 25 | 1 | 32 | 1 | 44 | 1 | 45 | 1 |
| Switzerland | 92 | 4 | 76 | 4 | 85 | 3 | 254 | 6 | 263 | 5 |
| Thailand | 3 | 0 | 2 | 0 | 3 | 0 | 6 | 0 | 7 | 0 |
| Turkey | … | … | 1 | 0 | 3 | 0 | 4 | 0 | 17 | 0 |
| United Kingdom | 685 | 33 | 542 | 32 | 835 | 32 | 1,483 | 35 | 1,854 | 37 |
| United States | 383 | 18 | 273 | 16 | 499 | 19 | 745 | 17 | 904 | 18 |
| **Total**[4] | **2,099** | **100** | **1,705** | **100** | **2,608** | **100** | **4,281** | **100** | **5,056** | **100** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). [2] Data for 1998 only cover spot transactions. [3] Data from 1998 to 2004 only cover spot transactions. [4] Estimated coverage of the FX market ranged between 90% and 100% in most countries.

Table B.8

## C. Amounts outstanding at end-June 2010

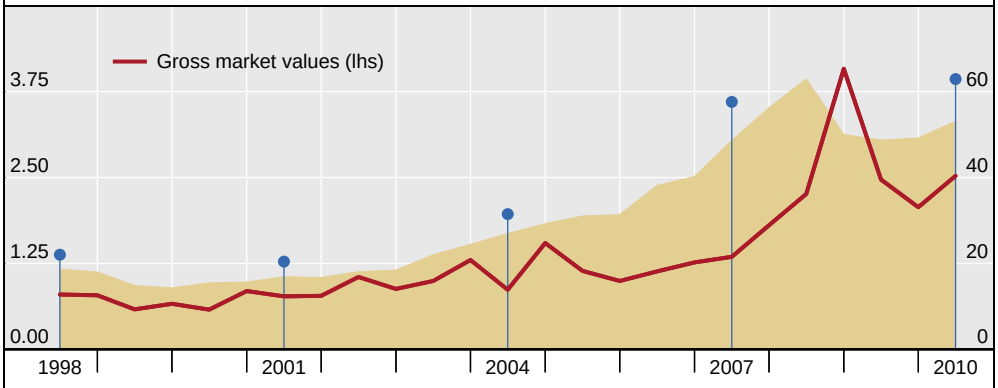
### 1. Growth of global foreign exchange positions

This part of the report focuses on the results of the second part of the Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity together with those of the semiannual OTC derivatives market statistics, both at end-June 2010. The triennial survey provides a benchmark for the regular semiannual survey of positions in the global OTC derivatives market. Graph C.1 combines the triennial end-June survey data (blue dots on vertical lines) with the more frequent semiannual data. While the semiannual survey relies on data provided by 59 major dealers in the G10 countries, the triennial survey expands coverage to over 400 market participants in 42 countries and jurisdictions worldwide (including the regular semiannual participants). Both surveys cover the worldwide consolidated positions of reporting dealers (notional amounts outstanding and gross market values) of foreign exchange instruments traded in OTC markets (outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange instruments). The coverage of the triennial surveys has been 9% higher than that of the semiannual surveys in terms of amounts outstanding in both 2007 and 2010.

Global OTC foreign exchange market[1]

BIS triennial and semiannual surveys, notional amounts outstanding,[2] in trillions of US dollars

By data type




[1] Outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange instruments. [2] Dots mark triennial survey dates and notional amounts outstanding in the triennial survey data.

Source: BIS. Graph C.1

**Global positions in OTC derivatives markets by type of instrument**[1]

Amounts outstanding, in billions of US dollars

| | Positions at end-June 2007 | | | Positions at end-June 2010 | | |
|---|---|---|---|---|---|---|
| | Notional amounts | Gross market values | %[2] | Notional amounts | Gross market values | %[2] |
| Foreign exchange contracts | 57,604 | 1,612 | 2.8 | 62,933 | 3,158 | 5.0 |
| Outright forwards and FX swaps | 29,775 | 668 | 2.2 | 31,935 | 1,330 | 4.2 |
| Currency swaps | 14,130 | 666 | 4.7 | 18,890 | 1,372 | 7.3 |
| Options | 13,662 | 279 | 2.0 | 12,107 | 456 | 3.8 |
| Other | 37 | ... | ... | 1 | ... | ... |
| Memo: Exchange-traded currency contracts[3] | 326 | ... | ... | 386 | ... | ... |

[1] Adjusted for inter-dealer double-counting. [2] Gross market values as a percentage of notional amounts. [3] Sources: FOW TRADEdata; Futures Industry Association; various futures and options exchanges.

Table C.1

Growth in the positions of OTC *foreign exchange* instruments was moderate at 9%, compared with an increase of 83% in notional amounts outstanding of currency instruments in the 2004–07 period. The 2007 and 2010 BIS triennial surveys bracket a period of strong growth in amounts outstanding, as shown by comparison with the semiannual data in Graph C.1. Notional amounts outstanding in all instruments peaked in June 2008, declined thereafter and recovered somewhat by June 2010.

Notional amounts outstanding provide useful information on the structure of the OTC foreign exchange market but should not be interpreted as a measure of the counterparty risk of these positions. While no single comprehensive measure of risk exists, a useful concept is the cost of replacing all open contracts at the prevailing market prices. This measure, called *gross market value*, increased at a considerably higher rate (96%) than notional amounts during the reporting period, to $3.2 trillion at the end of June 2010.

Sharp asset price movements following the bankruptcy of Lehman Brothers in September 2008 resulted in a strong rise of gross market values (Graph C.1, left-hand scale) in the second half of 2008. Gross market values declined rapidly again in subsequent periods as prices moved closer to their pre-crisis values, but increased again in the first half of 2010 as foreign exchange markets went through another bout of turbulence.

## 2. Positions by counterparty

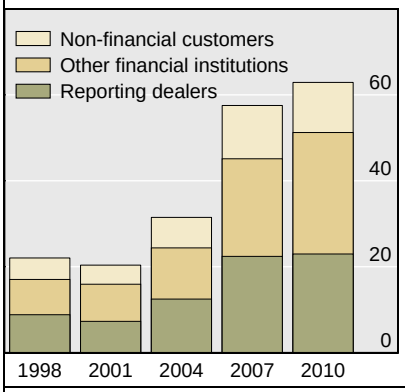
Data for amounts outstanding by counterparty show that the increase in global foreign exchange market positions in 2010 is also due mainly to the enlarged trading activity of *other financial institutions* (counterparties such as non-reporting banks, hedge funds, pension funds, mutual funds, insurance companies and central banks). While a surge in activity with both reporting dealers and other financial institutions had already accounted for most of the growth in total amounts outstanding in 2007, the latter category's share (45%) surpassed transactions between reporting dealers (36%) for the first time in 2010 (Graph C.2). Reporting dealers and non-financial customers had both accounted for a 39% share of outstanding OTC foreign exchange instruments in June 2007.

In terms of counterparty risk, as measured by gross market values, the position appears largely the same in relative terms. While absolute amounts at risk have doubled (Graph C.2), this doubling has been distributed fairly evenly in all market segments.

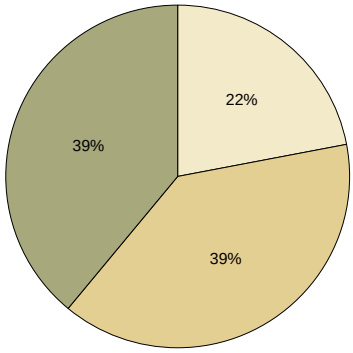
## Global positions in OTC foreign exchange market by counterparty[1]

Notional amounts outstanding

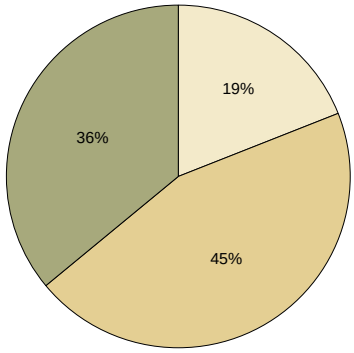
1998–2010[2]




2007

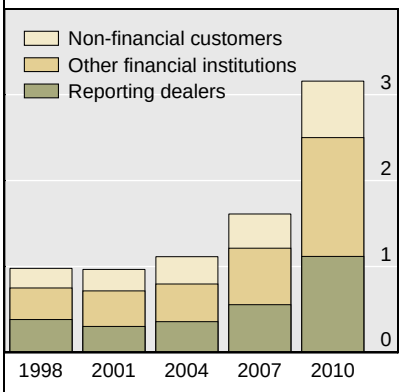



2010

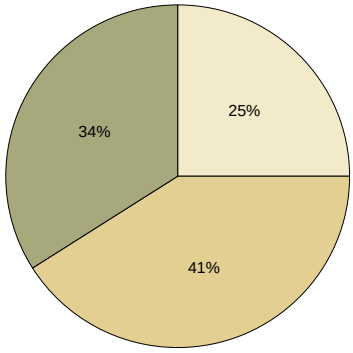



Gross market values

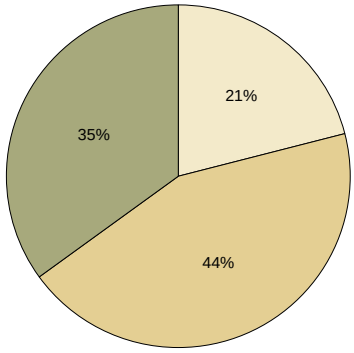
1998–2010[2]




2007




2010




[1] Adjusted for inter-dealer double-counting. [2] In billions of US dollars. Graph C.2

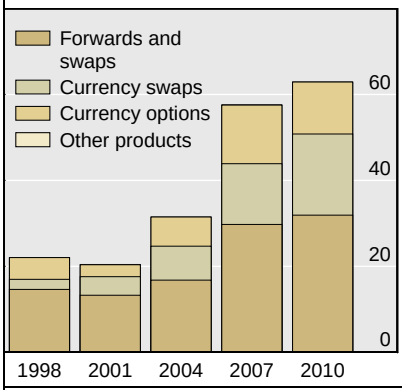
### 3. Positions value by instrument

Not all foreign exchange OTC instruments showed limited growth in amounts outstanding. Currency swaps increased to almost $19 trillion outstanding in June 2010, growing by a third relative to 2007, increasing their share of outstanding instruments to 30% (Graph C.3). In contrast, currency options outstanding fell 12% to $12 trillion, or 19% of the total outstanding. Gross market values, which had been rather low in June 2007, despite large amounts outstanding, doubled for most instruments against a backdrop of currency volatility, with the value of options trailing behind somewhat, but still increasing by 63%.

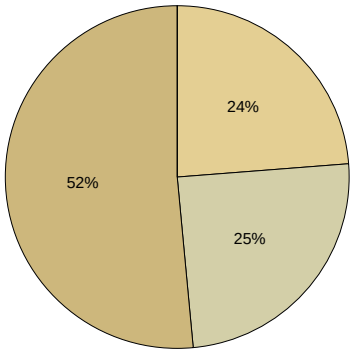
## Global positions in OTC foreign exchange market by instrument[1]

Notional amounts outstanding

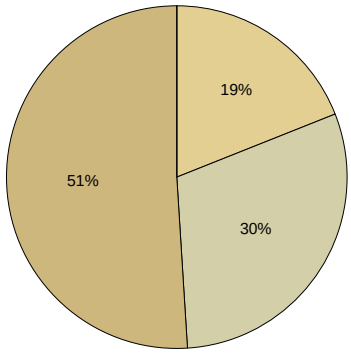
1998–2010[2]




2007

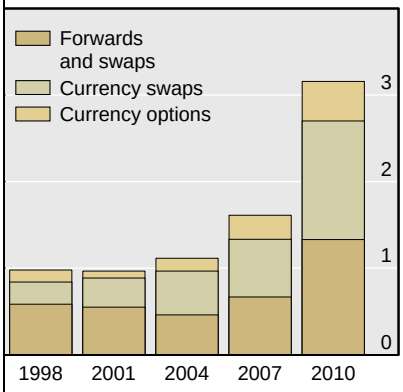



2010

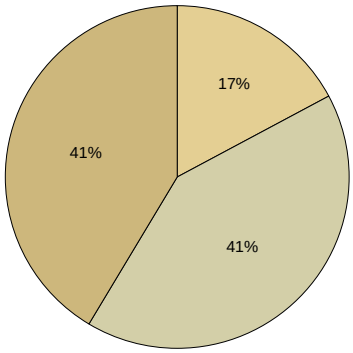



Gross market values

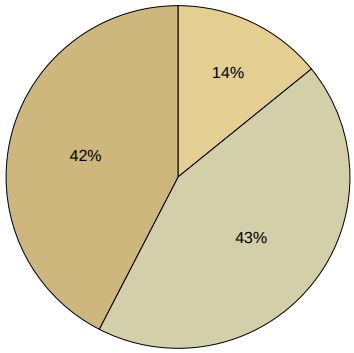
1998–2010[2]




2007




2010




[1] Adjusted for inter-dealer double-counting. [2] In billions of US dollars. Graph C.3

## 4. Positions by maturity

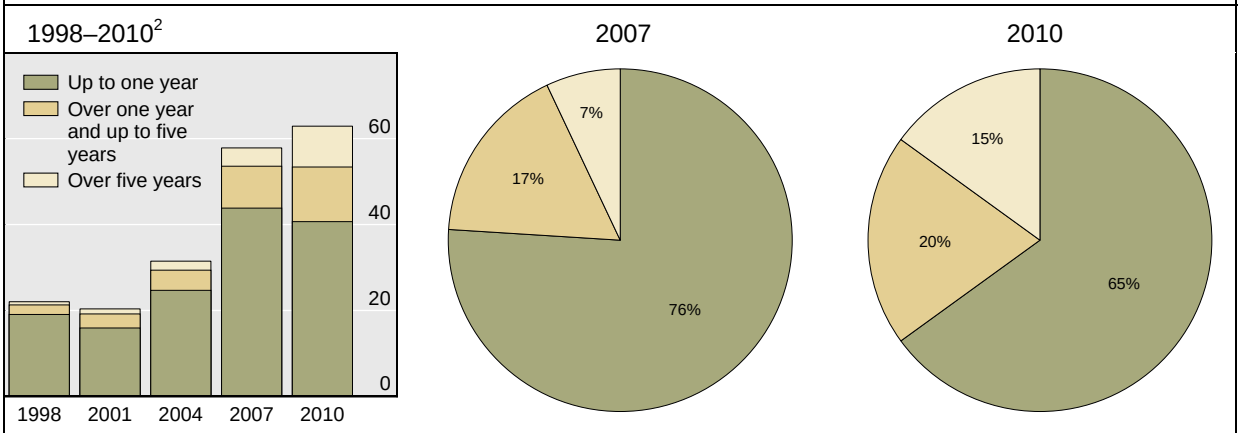
The maturity distribution of outstanding instruments is dominated by short-term instruments, with 65% of the outstanding total having a remaining maturity of less than a year (Graph C.4), which is consistent with the dominance of very short-term (seven days or less) instruments in turnover.

The instrument breakdown for notional amounts outstanding of FX derivatives reflects typical differences in the maturities of the various types of contracts. Outright forwards and FX swaps, which tend to have comparatively short maturities (Table C.2), accounted for a noticeably smaller share of open positions (42%) than of turnover (56%). By contrast, currency swaps, which tend to have much longer maturities than forwards or FX swaps, had a share of 43% in notional amounts outstanding, but only of 1% in turnover.[14]

[14] The maturity distribution of currency swaps, outright forwards and FX swaps is not reported individually in the reporting template for amounts outstanding.

## Global positions in OTC foreign exchange market by maturity[1]

Notional amounts outstanding




[1] Adjusted for inter-dealer double-counting. [2] In billions of US dollars..

Graph C.4

### 5. Positions by currency[15]

Global positions in OTC foreign exchange markets by currency (Graph C.5) showed only limited change in amounts outstanding. US dollar-denominated instruments were up slightly, being involved on one side of 85.5% of total amounts outstanding, compared with 83.0% in 2007. The weight of instruments denominated in sterling fell, with only 11.7% of positions including the currency on one side, compared with 15.5% in April 2007.

[15] Because each transaction involves two currencies, the shares sum to 200%.

## Global positions in OTC foreign exchange markets[1]

Amounts outstanding at end-June, in billions of US dollars

| | Total[2] | | | Of which | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Forwards and swaps[3] | | | Options | | |
| | 2004 | 2007 | 2010 | 2004 | 2007 | 2010 | 2004 | 2007 | 2010 |
| **Total** | 31,499 | 57,604 | 62,933 | 24,702 | 43,905 | 50,825 | 6,789 | 13,662 | 12,107 |
| by currency | | | | | | | | | |
| US dollar | 28,402 | 47,783 | 53,821 | 22,024 | 37,407 | 44,205 | 6,378 | 10,376 | 9,615 |
| Euro | 11,726 | 21,356 | 22,710 | 9,248 | 16,205 | 18,528 | 2,478 | 5,151 | 4,182 |
| Yen | 7,265 | 12,178 | 12,611 | 5,178 | 7,130 | 8,411 | 2,088 | 5,048 | 4,200 |
| Pound sterling | 5,078 | 8,933 | 7,383 | 4,013 | 7,701 | 6,426 | 1,065 | 1,232 | 957 |
| Swiss franc | 1,590 | 3,451 | 4,319 | 1,276 | 2,424 | 3,358 | 313 | 1,027 | 961 |
| Canadian dollar | 1,261 | 2,604 | 2,801 | 1,044 | 2,183 | 2,482 | 217 | 421 | 318 |
| Australian dollar | 1,583 | 3,056 | 3,892 | 1,169 | 2,344 | 3,265 | 414 | 712 | 627 |
| Swedish krona | 877 | 1,601 | 1,590 | 790 | 1,434 | 1,453 | 88 | 167 | 136 |
| Other | 5,216 | 14,246 | 16,739 | 4,663 | 10,984 | 13,521 | 538 | 3,189 | 3,216 |
| by maturity[4] | | | | | | | | | |
| One year or less | 24,706 | 43,830 | 40,671 | 18,618 | 5,519 | 6,328 | 6,089 | 10,605 | 8,388 |
| Over 1 year and up to 5 years | 4,712 | 9,793 | 12,744 | 4,114 | 1,267 | 1,787 | 598 | 2,702 | 2,584 |
| Over 5 years | 2,067 | 4,222 | 9,526 | 1,966 | 535 | 746 | 101 | 375 | 1,136 |

[1] Adjusted for inter-dealer double-counting. [2] Including "other" instruments. Counting both currency sides of every foreign exchange transaction means that the currency breakdown sums to 200% of the aggregate. [3] Outright forwards, foreign exchange swaps and currency swaps. [4] Due to incomplete maturity breakdown, components do not always sum to totals.

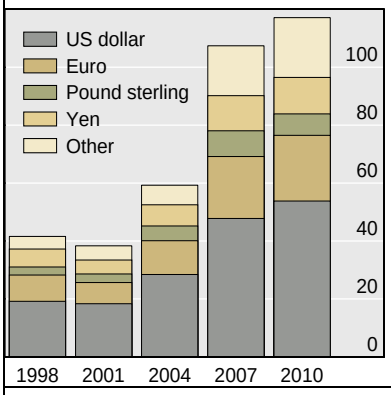
Table C.2

Gross market values increased particularly strongly in euro- and sterling-denominated instruments by end-June 2010. Market values for US dollar-denominated instruments declined on a relative basis from 91% of the total to 81% (Graph C.5).

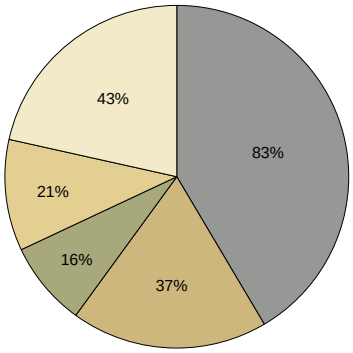
## Global positions in OTC foreign exchange market by currency[1]

Notional amounts outstanding

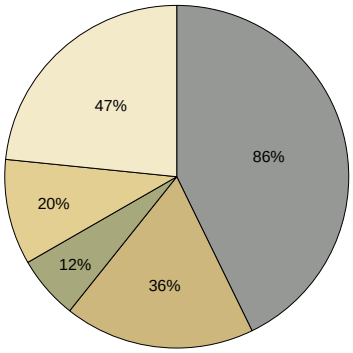
1995–2010[2]




2007

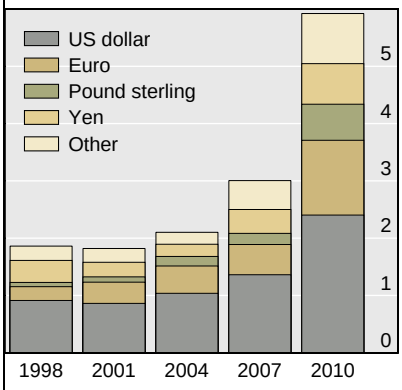



2010

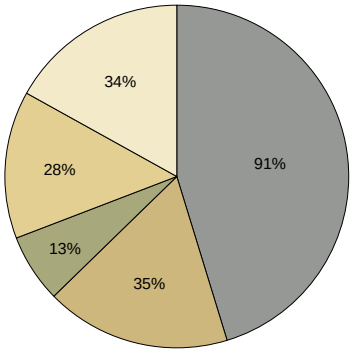



Gross market values

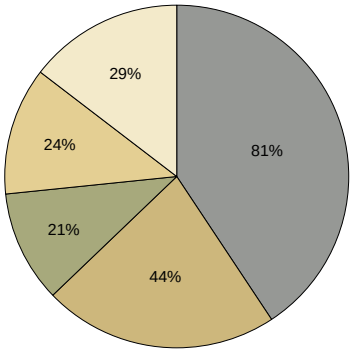
1998–2010[2]




2007




2010




[1] Adjusted for inter-dealer double-counting. [2] In billions of US dollars.

Graph C.5

# D. Methodology

## I. Background to the Triennial Central Bank Survey

In April and at end-June of this year, 53 and 42 central banks and monetary authorities, respectively, participated in both parts of the eighth Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity ("the triennial survey"). The objective of the survey is to provide the most comprehensive and internationally consistent information on the size and structure of global foreign exchange markets, allowing policymakers and market participants to better monitor patterns of activity in the global financial system.[16] Coordinated by the BIS, participating institutions collect data in April from 1,309[17] banks and other dealers (so-called reporting dealers) on turnover in foreign exchange instruments. For the survey, each participating institution is requested to collect data from the reporting dealers in its jurisdiction and calculate aggregate national data. These data are then provided to the BIS, which compiles and publishes the global aggregates. In addition, more than 4,000 institutions located around the world participated in the second part of the triennial survey, which covers data on amounts outstanding at end-June 2010 and complements the turnover data collected in the first part of the survey.[18] The triennial survey has been conducted every three years since April 1989, covering data on amounts outstanding since 1995.

It should be noted that previous triennial surveys have used the expression "traditional foreign exchange markets" to refer to spot transactions, outright forwards and foreign exchange swaps. This expression excludes currency swaps, currency options and other foreign exchange instruments, which are classified under OTC derivative instruments. Starting with the 2010 survey, the expression "global foreign exchange markets" includes all six foreign exchange instruments. The analysis will henceforth distinguish between *spot transactions* and *other related foreign exchange instruments* (outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange products).

## II. Statistical notes

This section contains a description of the methodology, general definitions, classification principles and compilation procedures for the most recent Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity carried out by central banks and monetary authorities in April and at end-June 2010. The main purpose of the statistics collected by the triennial survey is to provide a measure of the size and structure of foreign exchange and other derivatives markets and to monitor key developments in these segments. In conjunction with the banking and securities statistics, the data provide a more comprehensive picture of activity in global financial markets.

Two main statistical frameworks are implemented by the BIS for the collection of foreign exchange and derivatives statistics: the triennial survey and the semiannual OTC derivatives market statistics. The triennial survey covers data not only on turnover in foreign exchange in the month of April, ie the first part of the triennial survey, but also on OTC derivatives amounts outstanding at end-June, ie the second part of the triennial survey. The amounts outstanding part of the survey covers positions across a wider range of market risk categories and is used to benchmark the representativeness of the more frequent semiannual survey on OTC derivatives market activity.[19]

---

[16] The triennial survey complements more frequent regional surveys conducted in the following financial centres by local foreign exchange committees: Australia, Canada, Hong Kong SAR, London, New York, Singapore and Tokyo.

[17] Compared with 1,260 in 2007.

[18] The second part of the triennial survey is conducted on a consolidated basis and covers not only positions in FX-related instruments but also those in interest rate, equity-linked, commodity, credit and other derivative products.

[19] Detailed results of the June 2010 semiannual and triennial Surveys are available on the BIS website at www.bis.org/publ/otc_hy1011.htm.

The present report is focused exclusively on the statistics covering foreign exchange market instruments.

The format of the 2010 survey includes the following main refinements and clarifications of reporting procedures as compared with the previous survey:

– The list of currency pairs has been expanded in order to capture transactions involving currencies typically used in carry trade strategies, namely AUD/JPY, NZD/JPY, USD/ZAR and USD/HKD. Trades in the Brazilian real, Chinese renminbi, Indian rupee and Korean won against the US dollar were also collected.

– A more detailed counterparty breakdown for each instrument has been collected for identification of execution method in order to include a distinction between "with reporting dealers, local" and "with reporting dealers, cross-border". The more detailed counterparty breakdown allows for a more accurate correction of inter-dealer double-counting.

Despite these changes, the data presented here can be considered as being largely comparable with those of the previous triennial survey in 2007, notwithstanding the different structure of the results. Weighted average coverage of foreign exchange markets in reporting countries increased from 96% in 2007 to 97% in 2010.

## 1. Coverage and basic features of the 2010 survey

The triennial survey collects data on the following foreign exchange instruments that can be divided into two groups: spot transactions, for which only turnover data are collected; and outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange instruments, for which both turnover and amounts outstanding are reported.

In the turnover part, the instrument breakdown distinguishes between spot transactions, forwards, swaps, options and other foreign exchange products (see Section B.3). The counterparty breakdown distinguishes between transactions with reporting dealers, with other financial institutions and with non-financial customers. A further local/cross-border breakdown was requested (see Section B.4). The currency breakdown includes separate reporting of all reporting countries' currencies (see Section B.5). The maturity breakdown distinguishes between transactions with original maturity up to seven days, over seven days and up to one year, and over one year (see Section B.6). Information on the execution method was also requested for foreign exchange transactions (see Section B.7). Central banks and monetary authorities were also requested to provide information on the percentage coverage of the survey in their country, the number of banks covering 75% of the reported totals, the number of participants, the number of trading days[20] and the nature of the turnover in April 2010 and during the preceding six months. The results are shown in Table D.1.

The second part of the triennial survey covers notional amounts outstanding and gross market values of foreign exchange, but also of interest rate, equity, commodity, credit and other derivatives. The following instrument breakdown was requested for the foreign exchange market risk category: forwards and swaps,[21] currency swaps, currency options sold, currency options bought and other foreign exchange products. As in the turnover part of the survey, data for the OTC foreign exchange instruments are broken down by counterparty (see Section C.2), currency (see Section C.5) and remaining maturity (see Section C.4).

[20] Trading days are requested so that daily averages can be calculated.

[21] This category covers outright forwards and foreign exchange swaps.

## Basic features of the April 2010 foreign exchange market survey[1]

| | Coverage, in per cent | Banks covering 75% | Number of participants | Trading days | Nature of turnover | |
|---|---|---|---|---|---|---|
| | | | | | April | Preceding six months |
| Argentina | 98 | 10 | 67 | 20 | Above normal | Increasing |
| Australia | 95 | 7 | 27 | 19 | Normal | Steady |
| Austria | 92 | 3 | 14 | 21 | Below normal | Steady |
| Bahrain | 90 | 4 | 26 | 24 | Below normal | Decreasing |
| Belgium | 95 | 3 | 4 | 21 | Normal | Steady |
| Brazil | 70 | 7 | 14 | 20 | Normal | Increasing |
| Bulgaria | 90 | 3 | 11 | 20 | Below normal | Decreasing |
| Canada | 99 | 5 | 16 | 21 | Normal | Steady |
| Chile | 100 | 9 | 29 | 21 | Normal | Steady |
| China | 70 | 10 | 15 | 22 | Normal | Steady |
| Chinese Taipei | 86 | 16 | 29 | 21 | Above normal | Increasing |
| Colombia | 85 | 13 | 17 | 20 | Normal | Steady |
| Czech Republic | 95 | 5 | 13 | 21 | Normal | Steady |
| Denmark | 98 | 3 | 6 | 18 | Normal | Steady |
| Estonia | 96 | 2 | 3 | 21 | Normal | Steady |
| Finland | 99 | 1 | 12 | 20 | Normal | Steady |
| France | 98 | 4 | 35 | 21 | Normal | Increasing |
| Germany | 90 | 5 | 27 | 20 | Normal | Steady |
| Greece | 89 | 4 | 5 | 20 | Below normal | Decreasing |
| Hong Kong SAR | 95 | 14 | 67 | 19 | Normal | Steady |
| Hungary | 88 | 6 | 10 | 21 | Normal | Steady |
| India | 75 | 19 | 19 | 20 | Normal | Steady |
| Indonesia | 76 | 19 | 20 | 21 | Normal | Normal |
| Ireland | 100 | 5 | 20 | 21 | Normal | Steady |
| Israel | 100 | 4 | 12 | 19 | Normal | Steady |
| Italy | 88 | 4 | 35 | 21 | Normal | Increasing |
| Japan | 98 | 8 | 45 | 21 | Normal | Increasing |
| Korea | 99 | 16 | 41 | 22 | Normal | Steady |
| Latvia | 31 | 3 | 5 | 20 | Normal | Steady |
| Lithuania | 96 | 2 | 7 | 21 | Normal | Steady |
| Luxembourg | 100 | 10 | 148 | 20 | Normal | Steady |
| Malaysia | 100 | 6 | 10 | 22 | Normal | Steady |
| Mexico | 92 | 7 | 17 | 20 | Normal | Steady |
| Netherlands | 95 | 3 | 7 | 20 | Normal | Steady |
| New Zealand | 95 | 3 | 5 | 20 | Above normal | Steady |
| Norway | 90 | 2 | 7 | 19 | Normal | Steady |
| Peru | 95 | 6 | 16 | 20 | Normal | Steady |
| Philippines | 100 | 9 | 32 | 19 | Normal | Increasing |
| Poland | 93 | 8 | 17 | 21 | Normal | Steady |
| Portugal | 100 | 4 | 75 | 21 | Normal | Steady |
| Romania | 99 | 8 | 33 | 21 | Normal | Steady |
| Russia | 94 | 16 | 40 | 22 | Normal | Steady |
| Saudi Arabia | 90 | 5 | 16 | 30 | Normal | Steady |
| Singapore | 99 | 10 | 54 | 21 | Normal | Steady |
| Slovakia | 60 | 5 | 3 | 20 | Normal | Steady |
| South Africa | 95 | 5 | 11 | 19 | Below normal | Steady |
| Spain | 91 | 2 | 9 | 20 | Normal | Steady |
| Sweden | 90 | 3 | 4 | 20 | Normal | Steady |
| Switzerland | 100 | 2 | 27 | 19 | Normal | Steady |
| Thailand | 100 | 10 | 27 | 18 | Normal | Steady |
| Turkey | 86 | 7 | 20 | 21 | Normal | Increasing |
| United Kingdom | 99 | 9 | 47 | 20 | Normal | Steady |
| United States | 95 | 7 | 24 | 21 | Normal | Increasing |

[1] Spot transactions, outright forwards and FX swaps.

Table D.1

## 2. Types of data collected

### *2.1 Turnover data*

Turnover data provide a measure of market activity as well as an indication of market liquidity. Turnover is defined as the absolute gross value of all new deals entered into during the month of April 2010, and is measured in terms of the nominal or notional amount of the contracts.

No distinction is made between sales and purchases (ie a purchase of $5 million against sterling and a sale of $7 million against sterling would amount to a gross turnover of $12 million). Direct cross-currency transactions are counted as single transactions; however, cross-currency transactions passing through a vehicle currency are recorded as two separate deals against the vehicle currency. The gross amount of each transaction is recorded once, and netting arrangements and offsets are ignored. For turnover of transactions with variable nominal or notional principal amounts, the nominal or notional principal amount on the transaction date is reported.

The basis for reporting is in principle the location of the sales desk of any trade, even if deals entered into in different locations are booked in a central location. Thus, transactions concluded by offices located abroad are not reported by the country of location of the head office, but by that of the office abroad (insofar as the latter is a reporting institution in one of the other 52 reporting countries). Where no sales desk was involved in a deal, the trading desk is used to determine the location of deals.

In all cases, transactions are reported to the BIS in US dollar equivalents, with non-dollar amounts generally converted into US dollars using the exchange rate prevailing on the date of the trade.

As in the previous triennial foreign exchange market surveys, turnover data are collected over a one-month period, the month of April, in order to reduce the likelihood of very short-term variations in activity contaminating the data. The data collected for the survey reflect all transactions entered into during the calendar month of April 2010, regardless of whether delivery or settlement was made during that month.

In order to allow a comparison across countries, daily turnover averages are computed by dividing aggregate monthly turnover for the country in question by the number of days in April on which the foreign exchange and derivatives markets in that country were open. The number of trading days ranged from 18 to 22 in April 2010, with the exception of Saudi Arabia (30 days) and Bahrain (24 days).

### *2.2 Nominal or notional amounts outstanding*

Nominal or notional amounts outstanding provide a measure of market size, and can also provide a rough proxy for the potential transfer of price risk in derivatives markets. They are also comparable to measures of market size in related underlying cash markets and shed useful light on the relative size and growth of cash and derivatives markets.

Nominal or notional amounts outstanding are defined as the absolute gross nominal or notional value of all deals concluded and still open on the last business day of June 2010; end-June is chosen to provide consistency with the semiannual OTC derivatives market statistics for the G10 countries.

As in the case of the turnover data, no distinction is made between sales and purchases of derivative instruments and the resulting claims and liabilities of open contracts. In the case of foreign exchange swaps, which are concluded as spot/forward transactions, only the unsettled forward part of the deal is reported. If foreign exchange swaps are executed on a forward/forward basis, amounts outstanding are reported separately for both legs. For other forward contracts and swaps, the transactions are always reported as one transaction only. For transactions with variable notional principal amounts, notional principal amounts at the reporting date are provided.

In contrast to the turnover part of the survey, data on notional amounts outstanding data are collected on a consolidated basis, ie including positions of all branches and (majority-owned) subsidiaries of a given institution. All these positions were added together and reported by the parent institution only to the monetary institution in the country where the parent institution had its head office. In addition, all in-house deals and deals with other domestic and foreign offices of the same institution were netted out.

Amounts outstanding are reported to the BIS in US dollar equivalents, with non-dollar amounts converted into US dollars using end-of-period exchange rates.

### *2.3 Gross market values*

Another measure of the size of derivatives markets is provided by the gross market values. Gross market values also supply information about the scale of gross transfer of price risks in the derivatives markets. Furthermore, gross market values at current market prices provide a measure of derivatives market size and economic significance that is readily comparable across markets and products.

Gross market values are defined as the sums of the absolute values of all open contracts with either positive or negative replacement values calculated at market prices prevailing on the reporting date. Replacement value denotes the price to be received or paid if the instrument were sold in the market at the time of reporting. Market values are therefore the amounts at which a contract could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale. If a quoted price was available for a contract, the number of trading units was multiplied by that market price. If a quoted market price was not available, the reporting institution provided its best estimate of market value based on the quoted price of a similar contract or on valuation techniques such as discounted cash flows.

Gross market value is defined as the value of all open contracts before counterparty or any other netting. Thus, the gross positive market value of a firm's outstanding contracts is the sum of all positive replacement values of a firm's contracts. Similarly, the gross negative market value is the sum of all negative values of a firm's contracts.

The term "gross" is used to indicate that contracts with positive and negative replacement values with the same counterparty should not be netted. Nor should the sums of positive and negative contract values be set off against each other within a risk category.

In the case of forwards and swaps, the market (or replacement) value of outstanding contracts to which the reporter is a counterparty is either positive, zero or negative, depending on how underlying prices have moved since the contract's initiation.

Unlike forwards or swaps, OTC options have a market value at initiation, which is equal to the premium paid to the writer of the option. Throughout their life, option contracts can only have a positive market value for the buyer and a negative market value for the seller. If a quoted market price is available for a contract, the market value for that contract is the product of the number of trading units of the contract multiplied by that market price. If a quoted market price is not available, the market value of an outstanding option contract is determined on the basis of secondary market prices for options with the same strike prices and remaining maturities as the options being valued, or by using option pricing models. In an option pricing model, current quotes of forward prices for the underlying (spot prices for American options) and the implied volatility and market interest rate relevant to the option's maturity would normally be used to calculate the "market" values.

In the case of options, the gross positive market value is the sum of the current market values of all purchased options, and gross negative market value is the sum of the values of sold options. As is the case for other instruments, options sold and purchased with the same counterparty are not netted against each other, nor are options that are bought and sold against the same underlying offset against each other.

Data on gross market values are reported, in US dollar equivalents, with non-dollar amounts converted into US dollars using end-of-period exchange rates.

## 3. Instruments

Foreign exchange transactions are broken down into spot transactions and three types of *plain vanilla derivative instrument*, ie forwards, swaps and options. Plain vanilla instruments are defined as products traded in generally liquid markets according to more or less standardised contracts and market conventions. If a transaction is composed of several plain vanilla components, each part is in principle to be reported separately. In addition, there is a separate category for "other foreign exchange products". This mainly includes transactions with a variable notional principal amount or contract features which act to multiply leverage.

The definitions used for foreign exchange market instruments are the following:

**Spot transaction**: single outright transaction involving the exchange of two currencies at a rate agreed on the date of the contract for value or delivery (cash settlement) within two business days.

**Outright forward**: transaction involving the exchange of two currencies at a rate agreed on the date of the contract for value or delivery (cash settlement) at some time in the future (more than two business days later). This category also includes non-deliverable forwards and other forward contracts for differences.

**Foreign exchange swap**: transaction which involves the actual exchange of two currencies (principal amount only) on a specific date at a rate agreed at the time of the conclusion of the contract (the short leg), and a reverse exchange of the same two currencies at a date further in the future at a rate (generally different from the rate applied to the short leg) agreed at the time of the contract (the long leg).

**Currency swap**: contract which commits two counterparties to exchange streams of interest payments in different currencies for an agreed period of time and usually to exchange principal amounts in different currencies at a pre-agreed exchange rate at maturity.

**Currency option/warrant**: option contract that gives the right to buy or sell a currency with another currency at a specified exchange rate during a specified period. This category also includes exotic currency options such as average rate options and barrier options.

**Currency swaption**: option to enter into a currency swap contract.

**Other foreign exchange products**: the options section takes precedence in the instrument classification, so that any foreign exchange derivative product with an embedded option is to be reported as an option. All other foreign exchange derivative products are in principle to be reported in the forwards or swaps section. However, foreign exchange derivative instruments which involve several features and where a breakdown into individual plain vanilla components is impractical or impossible, such as swaps with underlying notional principal in one currency and fixed or floating interest rate payments based on interest rates in currencies other than the notional (differential swaps or diff swaps), are to be allocated to the residual category of "other" foreign exchange products.

## 4. Counterparties

Following the methodology of previous triennial central bank surveys, reporting institutions were requested to provide a counterparty breakdown for each instrument depending on whether the counterparty was a reporting dealer, another financial institution or a non-financial customer.[22] In the turnover part of the survey, reporters were also requested to

[22] One of the main purposes of this counterparty breakdown is to eliminate double-counting; see Section 8.

provide separate information on local and cross-border transactions according to the location of the counterparty.[23]

To enable survey participants to identify other reporting dealers and thereby perform the counterparty allocation, a list containing all institutions that participated in the turnover part of the survey was circulated to all market participants together with the main reporting templates. For the amounts outstanding part, however, the list of institutions circulated for the counterparty allocation comprised only those 59 reporters that regularly participate in the semiannual OTC derivatives survey. The reason for not including all reporting institutions was to ensure consistency with the regular derivatives market statistics and to limit the reporting burden. While this approach makes it difficult to accurately eliminate double-counting of trades between non-regular reporters (see Section 8), the amounts involved are believed to be small.

The following three counterparty categories are covered in both parts of the triennial survey:

"Reporting dealers" are defined as financial institutions that actively participate in local and global foreign exchange and derivatives markets. These are mainly large commercial and investment banks and securities houses that (i) participate in the *inter-dealer* market and/or (ii) have active *business with large customers*, such as large corporate firms, governments and other non-reporting financial institutions; in other words, *reporting dealers* are institutions that are actively buying and selling currency and OTC derivatives both for their own account and/or to meet customer demand. In practice, *reporting dealers* are often those institutions that actively or regularly deal through electronic platforms, such as EBS or Reuters dealing facilities. The category of reporting dealers also includes the branches and subsidiaries of institutions operating in multiple locations that have sales desks, but not necessarily trading desks, which conduct active business with large customers.

"Other financial institutions" are defined as those financial institutions that are not classified as *reporting dealers*. Thus, the term mainly covers all other financial institutions, such as smaller commercial banks, investment banks and securities houses, and in addition mutual funds, pension funds, hedge funds, currency funds, money market funds, building societies, leasing companies, insurance companies, financial subsidiaries of corporate firms and central banks.

"Non-financial customers" are defined as any counterparty other than those described above, ie mainly non-financial *end users*, such as corporations and governments.

## 5. Currency and other market risk breakdowns

### *5.1 Turnover*

In order to obtain consistent data on turnover in principal currency segments of the foreign exchange market, reporting institutions are asked to report turnover data on foreign exchange contracts and to identify the main currency pairs. Thus, data should be provided separately for trading in the domestic currency, the US dollar and the euro against each other and against the individual currencies listed below.

- JPY: Japanese yen
- GBP: pound sterling
- CHF: Swiss franc
- CAD: Canadian dollar
- AUD: Australian dollar
- SEK: Swedish krona
- Other currencies

[23] In other words, not according to its nationality.

Due to the importance of carry trade activities, data are also collected for transactions involving certain combination of currencies that – not being explicitly listed with the main currency pairs above – are typically present in carry trade strategies, namely USD/ZAR, USD/HKD, AUD/JPY and NZD/JPY. Data on trades in the Brazilian real, Chinese renminbi, Indian rupee and Korean won against the US dollar were also collected.

Moreover, given the increasing interest in the identification of turnover in all reporting countries' currencies, reporting dealers were requested to provide supplementary information on total turnover for the following currencies:

Argentine peso, Australian dollar, Bahraini dinar, Brazilian real, Bulgarian lev, Canadian dollar, Chilean peso, Chinese renminbi, New Taiwan dollar, Colombian peso, Czech koruna, Danish krone, Estonian kroon, Hong Kong dollar, Hungarian forint, Indian rupee, Indonesian rupiah, Israeli new shekel, Japanese yen, Korean won, Latvian lats, Lithuanian litas, Malaysian ringgit, Mexican peso, New Zealand dollar, Norwegian krone, Peruvian new sol, Philippine peso, Polish zloty, Romanian leu, Russian rouble, Saudi riyal, Singapore dollar, South African rand, Swedish krona, Swiss franc, Thai baht, Turkish lira and pound sterling.

### *5.2 Amounts outstanding*

For amounts outstanding of foreign exchange contracts, the following currency breakdown was requested: USD, EUR, JPY, GBP, CHF and other currencies.

In addition, reporting institutions were asked to identify amounts for other individual currencies if they had a material amount of outstanding contracts in those currencies, ie if a notional amount outstanding in a currency for a given instrument was greater than 2% of the total notional amounts outstanding for that instrument. However, participating central banks had discretion in defining a "material" amount for reporting of other individual currencies.

In contrast to the turnover part of the survey, amounts outstanding of foreign exchange contracts are broken down on a single currency basis. This means that the notional amount outstanding and the gross positive or negative market value of each contract are reported twice, according to the currencies making up the two "legs" of the contract. The total of the amounts reported for individual currencies thus sums to 200% of total contracts outstanding, while total reported contracts represent only half of the sum of the individual currency components. For example, a reporting institution entering into a forward contract to purchase US dollars in exchange for euros with a notional principal amount of $100 million will have reported $100 million in the US dollar column, another $100 million in the euro column and $100 million in the "Total" column.

## 6. Maturities

### *6.1 Turnover*

Transactions in outright forwards and foreign exchange swaps are broken down on an *original maturity* basis according to the following maturity bands:

- seven days or less
- over seven days and up to one year
- over one year

For *outright forward* contracts, the maturity band of the transaction is determined by the difference between the delivery date and the date of the initiation of the contract. For both *spot/forward* and *forward/forward foreign exchange swaps*, the maturity band for the contract is determined by the difference between the due date of the second or long leg of the swap and the date of the initiation of the contract.

### *6.2 Amounts outstanding*

For amounts outstanding of foreign exchange contracts, a breakdown is requested by *residual maturity* between the following bands:

- one year or less
- over one year and up to five years
- over five years

In the case of transactions where the first leg has not come due, the remaining maturity of each leg is determined as the difference between the reporting date and the settlement or due date, respectively, of the near- and far-end legs of the transaction.

## 7. Execution methods

Reporting institutions were asked to provide information on the execution method used to settle their foreign exchange transactions. Separate information was requested for spot, outright forwards, foreign exchange swaps and currency options.

Amounts outstanding are reported separately according to the following categories:

| | |
|---|---|
| *Interbank direct (inter-reporting dealer)* | Executed between two dealers participating in the triennial survey and not intermediated by a third party. For example, a transaction executed via direct telephone communication or direct electronic dealing systems such as Reuters Conversational Dealing. |
| *Customer direct (inter-dealer/customer)* | Executed between a reporting dealer and either a customer or a non-reporting dealer, and not intermediated by a third party. For example, a deal executed via direct telephone communication or direct electronic dealing systems such as Reuters Conversational Dealing. |
| *Electronic broking systems* | Executed via automated order matching system for foreign exchange dealers. Examples of such systems are EBS and Reuters Matching 2000/2. |
| *Electronic trading systems* | Executed via a single-bank proprietary platform or a multibank dealing system. These systems are generally geared towards customers. Examples of multibank systems include FXAll, Currenex, FXConnect, Globalink and eSpeed. |
| *Voice broker* | Executed via telephone communication with a foreign exchange voice broker. |

## 8. Elimination of double-counting

Double-counting arises because transactions between two reporting entities are recorded by each of them, ie twice. In order to derive meaningful measures of overall market size, it is therefore necessary to halve the data on transactions between reporting dealers. To permit this, reporters are asked to distinguish deals contracted with other reporters (dealers) (see Section 4). The following methods of adjustment are applied for the three different types of data collected in the survey: turnover, notional amounts outstanding and gross market values.

### Double-counting and the specific case of overnetting

In the case of turnover data, the procedure used to eliminate double-counting between reporting dealers across countries implicitly assumes that each transaction is reported twice. This assumption can introduce a bias at the currency level if, for example, one country accurately reports cross-border transactions in their local currency with reporting dealers in the rest of the world, but counterparties in the rest of the world do not separately identify those deals under the relevant currency but under the residual category instead. In this case, the method of halving inter-dealer cross-border transactions will underestimate the size of trade for this currency. The resulting effect is referred to as overnetting.

Overnetting is likely to be more relevant for currencies with lower turnover since they are less likely to be separately identified by large centres. The consequence can be that the global turnover for the segment "with reporting dealers, cross-border" for a given currency could be less than the turnover reported by the currency's home country.

One way of partially correcting for overnetting is to use only the domestic report of cross-border trade in local currency as an estimate in cases where the overnetting is evident. The reasoning behind this methodology is that global turnover for each currency should be at least equal to the turnover reported by the currency's home country.

After measuring the extent to which the overnetting could affect each individual currency covered by the survey, results suggested that, at an aggregate level, some cases of overnetting can be found in currencies such as the Hong Kong dollar, Russian rouble, Slovak koruna and Danish krone. A selection of the currencies affected by this bias is presented in Table D.2 below.

## Overnetting estimation for inter-dealer cross-border transactions

Foreign exchange turnover in April 2010, in millions of US dollars[1]

| | Reported by country of origin | Reported by rest of the world | Calculated net-net figure | Overnetting |
|---|---|---|---|---|
| Bulgarian lev | 47 | 11 | 29 | 18 |
| Colombian peso | 321 | 152 | 237 | 85 |
| Danish krone | 11,627 | 6,714 | 9,171 | 2,457 |
| Hong Kong dollar | 37,935 | 17,295 | 27,615 | 10,320 |
| Lithuanian litas | 783 | 736 | 760 | 24 |
| Russian rouble | 4,766 | 4,270 | 4,518 | 248 |

[1] Including spot transactions, outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange transactions.

Table D.2

It is acknowledged that this bias can also be present for other major currencies; however, the lack of a vis-à-vis country breakdown makes it impossible to measure the size of the bias.

### *8.1 Double-counting: netting of turnover data*

In the case of turnover data, in order to obtain country aggregates, the BIS deducts one half of the amounts reported under "with local reporting dealers" to arrive at the so-called "net-gross" figure, ie country aggregates net of local inter-dealer double-counting. In a second step, to obtain global aggregates, the BIS performs an additional calculation, which is the deduction of one half of the amount reported under "with cross-border reporting dealers", to arrive at the so-called "net-net" figure, ie the overall global turnover figure net of local and cross-border inter-dealer double-counting. Based on this principle, country aggregates are systematically shown in all tables as net-gross figures while global aggregates are presented as net-net totals.[24]

### *8.2 Double-counting: netting of data on amounts outstanding*

The same methodology is applied to notional amounts outstanding. The only distinction from the turnover data is that amounts outstanding are collected on a worldwide consolidated basis, which implies that there is no relevant local/cross-border distinction. Double-counting is therefore eliminated by deducting half of the amount reported under "with reporting dealers".

### *8.3 Double-counting: netting of gross market values*

In the case of gross market values, for which data are also collected on a worldwide consolidated basis without distinction between local and cross-border deals, the adjustments for double-counting are performed as follows: in a first step, gross positive and negative market values of contracts held by reporting institutions are added together to obtain data on a "gross-gross" basis; in a second step, the gross negative market value of contracts with other reporting dealers is subtracted from the "gross-gross" data to immediately arrive at "net-net" figures. For gross market values reported by non-regular reporting institutions, ie dealers that did not participate in the regular derivatives market statistics exercise in the G10 countries, the adjustments for double-counting are assumed to be proportionate to those of the regular reporting institutions.

## 9. Gaps in reporting

Gaps in reporting stem from two sources: incomplete reporting, ie deals between two non-reporters in the countries providing data, and less than full country coverage. The second type of gap is mitigated by the existence of counterparty reports. The bulk of the cross-border business of institutions located in non-reporting countries is very likely to be captured by the reports of their counterparties if they are reporting dealers in countries participating in the survey. However, transactions between dealers in non-reporting countries, and between non-reporting dealers and customers or other financial institutions, are not captured.

An estimate of both gaps is provided for turnover in foreign exchange instruments (see Table D.3). The basis for estimating gaps due to incomplete reporting in the countries providing the data is the information supplied on the coverage of the survey in each participating country. For example, if in a given country the coverage of the survey as compared with total market activity was 90%, the gap from incomplete reporting is estimated to represent the remaining 10% of the total market turnover in that country.

Gaps are not estimated for notional amounts outstanding and gross market values because it can be assumed that the coverage for the two latter types of data is almost complete due to the worldwide consolidated reporting by all major dealers in the participating countries.

[24] In some cases, tables by country also include gross-gross aggregates for information purposes.

**Measures of global foreign exchange market activity**[1]

Daily averages in April, in billions of US dollars

| | 1998 | 2001 | 2004 | 2007 | 2010 |
|---|---|---|---|---|---|
| Total reported gross turnover | 2,488 | 1,959 | 2,953 | 4,717 | 5,529 |
| Adjustment for local double-counting[2] | –370 | –245 | –344 | –436 | –472 |
| Total reported turnover net of local double-counting ("net-gross" ) | 2,117 | 1,713 | 2,609 | 4,281 | 5,056 |
| Adjustment for cross-border double-counting[3] | –543 | –446 | –674 | –957 | –1,075 |
| Total reported net turnover | 1,527 | 1,239 | 1,934 | 3,324 | 3,981 |
| Of which: cross-border transactions | 777 | 677 | 1,185 | 2,051 | 2,586 |

[1] Including spot, outright forward, foreign exchange swap, currency swap, currency options and other foreign exchange products. [2] Made by halving positions vis-à-vis other local reporting dealers. [3] Made by halving positions vis-à-vis other reporting dealers abroad.

Table D.3

## 10. Intertemporal comparisons

Intertemporal comparisons are complicated by changes in coverage and definition, and by the movement of exchange rates over the three-year periods separating the surveys in the participating countries.

Changes in coverage may be of two kinds. First, within national markets the coverage of dealers active in national markets may have changed. An increase in the number of reporting institutions, for example, does not necessarily denote greater coverage. If institutions which were not active before, and were therefore not covered in earlier reports, begin to deal on a substantial scale, it is legitimate to compare the total turnover of the larger number of reporting institutions with the total turnover of the smaller number reporting their transactions in the previous period. The same applies, of course, in the case of a decrease in the number of reporting institutions due to a reduction or the transfer to another country of their activity, and to their relative importance in the market.

The second type of change in coverage relates to the inclusion of a larger number of countries and of new features since the inception of the survey in 1986. For instance, in 1995 the coverage of market activity was significantly expanded to include most financial derivatives. In 1998 the number of reporting countries increased from 28 to 43 and the coverage of derivatives market activity was further expanded to include separate data on credit-linked derivatives. In 2001, 2004 and 2007 the number of reporting countries increased further to 48, 52 and 54, respectively, while in 2010 the number of participating countries dropped to 53. For all these periods, the coverage of market segments remained the same as in 1998.

While the additional information provided by new reporting countries is valuable, not all of it relates to transactions that were not captured before. The bulk of these countries' cross-border transactions with dealers can be presumed to have been included in the reports of their counterparties in earlier years. In new reporting countries, the business not previously captured therefore relates to local inter-dealer transactions and transactions with non-reporting financial institutions and customers.

Another complication involves changes in definitions. Most changes in definitions reflect improvements in compilation procedures. In particular, greater effort has been made following the 1992 survey to classify counterparties accurately, and a finer counterparty

breakdown has been used. As a result, it is now possible to arrive at more accurate estimates of double-counting and to compile net figures on turnover for all items.

However, intertemporal comparisons have to be interpreted carefully. The current procedure introduces biases to the extent that the share of inter-dealer business has changed over time. In 2004, an effort was made to clarify the concept of reporting dealers, in order to better distinguish between inter-dealer and customer transactions. In addition, the reporting basis for the location of trades was further clarified as being, in principle, that of the *sales desk* of any reporting institution. See Section 2.1 of these statistical notes for more details.

The extension of the currency breakdown in 2010 is another factor to be considered when analysing movements in a particular currency or currency pair. The effect of the template expansion of selected currency pairs in the 2010 survey is shown in Table D.4. Some caution is therefore needed when making intertemporal comparisons on turnover for the currencies involved.

**Effect of the template expansion on selected currency pairs**

Foreign exchange turnover in April 2010[1], in millions of US dollars

| | Total | Of which: due to template expansion | % share of total |
|---|---|---|---|
| USD/BRL | 25,359 | 17,142 | 67.6 |
| USD/CNY | 31,283 | 21,551 | 68.9 |
| USD/HKD | 84,951 | 33,509 | 39.4 |
| USD/INR | 35,820 | 15,678 | 43.8 |
| USD/KRW | 57,900 | 23,465 | 40.5 |
| USD/ZAR | 24,045 | 16,835 | 70.0 |
| JPY/AUD | 24,040 | 12,840 | 53.4 |
| JPY/NZD | 4,089 | 4,050 | 99.0 |

[1] Adjusted for local and cross-border inter-dealer double-counting. Including spot, outright forward, foreign exchange swap, currency swap and options transactions.

Table D.4

## 11. Data at constant exchange rates

Another question often raised with intertemporal comparisons is the impact on aggregate turnover of movements in exchange rates vis-à-vis the US dollar from one reporting date to the next. For instance, turnover in the Japanese yen/pound sterling sector may have remained unchanged from one reporting period to the next in terms of these currencies. But if the dollar rises against both currencies, total turnover in the segment reported in dollar terms will be lower, thus signalling a decline where none has in fact taken place. Even in currency pairs involving the dollar, exchange rate movements will impact on turnover. For example, if a trade for a fixed amount of yen against US dollars is transacted, the trade will enter the aggregates with a smaller or larger US dollar amount, depending on how the yen moves against the dollar from one reporting date to the next. To provide some guidance on the impact of actual exchange rate movements on total reported aggregates, pre-2010 totals have been additionally recalculated at constant exchange rates, replacing historical exchange rates by average April 2010 exchange rates. All transactions in a given currency, say the yen, are converted into original currency terms at the historical exchange rate and then recalculated using the average April 2010 dollar/yen exchange rate, as appropriate. In the case of foreign exchange transactions, the dollar side of transactions remains

unchanged, since the exchange rate for dollar amounts is constant (and equal to one) over time. The sums of all recalculated transactions are divided by two. This takes account of the joint contribution of two currencies to each foreign exchange transaction.

## 12. Annex tables

The detailed aggregated results of the Central Bank Survey of Foreign Exchange and Derivatives Market Activity in April and at end-June 2010, as far as foreign exchange instruments are concerned, are presented in the following set of annex tables in two separate sections (E.1 and E.2):

Section E.1 covers turnover in global foreign exchange markets, ie turnover in spot transactions, outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange products.

Section E.2 comprises notional amounts outstanding and gross market values of OTC foreign exchange derivatives markets.

Country aggregates are systematically shown in all tables as net-gross figures, while global aggregates are presented as net-net totals (see Section 8).

In some cases, the sum of sub-items does not equal the total for particular categories. Apart from rounding, this can result from incomplete classification of data, use of residual categories and suppression of data for confidentiality reasons.

### *12.1 Turnover on foreign exchange markets (Section E.1)*

Tables E.1 to E.4 show total reported foreign exchange market turnover net of both local and cross-border inter-dealer double-counting[25] by market segment, counterparty and currency. No adjustments were made for gaps in reporting in these or any other annex tables.

Because two currencies are involved in each deal, the sum of transactions in all individual currencies shown in Table E.1 equals twice the total shown in the first column. Information by currency pair is shown for the US dollar in Table E.2, for the euro in Table E.3 and for the yen in Table E.4. Because the data in these latter tables relate to currency pairs, the sum of all transactions equals the total for the currency in question, not twice that total. The totals for the currencies in Tables E.2, E.3 and E.4 therefore correspond to the figures in the second, third and fourth columns of Table E.1. The information on currencies relates only to separately reported transactions. If transactions in a given currency were not identified separately, but placed with residual (or other) currencies, global turnover in that currency may be understated (see Section 8 and the box on overnetting). For the major currencies, the amount of underestimation from this source can be presumed to be minimal.

The data on transactions in “currencies of other reporting countries” relate to transactions that have been individually identified as the local currency of another country participating in the survey (see Section 5 for the full list of currencies identified in the survey). Data in the “residual currencies” column represent the difference between the total and sum of components.

Tables E.5 to E.9 provide information on reported foreign exchange market turnover by country and currency net of local inter-dealer double-counting. No adjustment was made for cross-border inter-dealer double-counting or for gaps in reporting. The totals at the foot of these tables are the sum of the items in the columns in question. They do not correspond to those in Tables E.1 to E.4 because of the absence of an adjustment for cross-border inter-dealer double-counting.

[25] See Section 8.

As in Table E.1, the sum of transactions in each individual currency in Table E.5 equals twice the total transactions because two currencies figure in every deal. Because the data in Tables E.6 to E.9 relate to currency pairs, the total for all transactions sums to the total for the currency, not to twice the total.

Tables E.10 to E.15 contain information on reported foreign exchange market turnover by country, counterparty and market segment, and on the maturity breakdown of reported outright forward and foreign exchange swap transactions by country net of local double-counting. No adjustment was made for cross-border inter-dealer double-counting.

Tables E.16 and E.17 contain information on the maturity breakdown of reported outright forward and foreign exchange swap transactions by currency net of local and cross-border inter-dealer double-counting.

Tables E.18 to E.23 provide an intertemporal comparison of reported foreign exchange turnover net of local inter-dealer double-counting by country and market segment.

Table E.24 provides information on reported turnover of foreign exchange contracts by execution method. The data broken down by instrument are calculated net of both local and cross-border double-counting.

### *12.2 Positions (amounts outstanding) on derivatives markets (Section E.2)*

Table E.25 contains detailed data on reported notional amounts outstanding of foreign exchange derivatives, broken down by instrument, counterparty and market risk factor (ie mainly currency). The data are adjusted for inter-dealer double-counting.

Table E.26 contains detailed data on reported gross positive and negative market values of foreign exchange derivatives by instrument, counterparty and market risk factor (ie mainly currency). The data are not adjusted for inter-dealer double-counting.

Table E.27 provides information on the maturity breakdown of notional amounts outstanding of foreign exchange derivatives by instrument and counterparty. The data are adjusted for inter-dealer double-counting.

Table E.28 provides an intertemporal comparison of reported notional amounts outstanding and gross market values of foreign exchange derivatives by instrument and counterparty. The data are adjusted for inter-dealer double-counting.

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***Conventions used in the tables***

0 = Value close to zero.

... = Reported to be nil, not reported, not shown for reasons of confidentiality, not meaningful or not applicable.

Owing to rounding and incomplete reporting of various breakdowns, the component items do not always sum to the total for the category in question.

"Gross" refers to data for which no adjustment has been made for estimated double-counting; "net-gross" refers to data for which adjustments have been made for estimated local double-counting; and "net-net", or "net", refers to data adjusted for both local and cross-border double-counting.

# 1. Turnover in April 2010

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| | Total | Specified currency against all other currencies[2] | | | | | |
|---|---|---|---|---|---|---|---|
| | | US dollar | Euro | Yen | Pound sterling | Swiss franc | Canadian dollar |
| **Spot** | **1,490,205** | **1,187,699** | **691,210** | **300,214** | **212,976** | **92,090** | **77,831** |
| with reporting dealers | 517,996 | 421,171 | 232,767 | 97,655 | 70,395 | 28,203 | 23,825 |
| local | 175,900 | 145,414 | 68,722 | 27,309 | 23,949 | 8,915 | 6,413 |
| cross-border | 342,096 | 275,757 | 164,045 | 70,346 | 46,446 | 19,288 | 17,413 |
| with other financial institutions | 755,203 | 598,504 | 361,401 | 152,144 | 115,907 | 52,433 | 41,628 |
| local | 301,247 | 242,285 | 147,602 | 60,048 | 43,739 | 22,773 | 14,878 |
| cross-border | 453,955 | 356,217 | 213,799 | 92,096 | 72,168 | 29,661 | 26,751 |
| with non-financial customers | 217,006 | 168,025 | 97,042 | 50,415 | 26,674 | 11,454 | 12,378 |
| local | 91,339 | 67,744 | 30,137 | 24,425 | 9,389 | 3,354 | 6,836 |
| cross-border | 125,667 | 100,281 | 66,905 | 25,991 | 17,285 | 8,100 | 5,542 |
| **Outright forwards** | **475,007** | **391,501** | **149,687** | **115,111** | **54,844** | **19,076** | **26,332** |
| with reporting dealers | 112,510 | 96,325 | 34,039 | 12,039 | 11,275 | 5,203 | 4,545 |
| local | 28,634 | 23,950 | 8,558 | 3,157 | 3,127 | 1,627 | 1,345 |
| cross-border | 83,875 | 72,375 | 25,481 | 8,882 | 8,148 | 3,576 | 3,199 |
| with other financial institutions | 254,172 | 207,497 | 83,368 | 57,319 | 34,405 | 10,315 | 17,277 |
| local | 99,098 | 74,530 | 36,704 | 19,816 | 17,457 | 3,773 | 7,156 |
| cross-border | 155,073 | 132,967 | 46,664 | 37,503 | 16,947 | 6,542 | 10,122 |
| with non-financial customers | 108,326 | 87,680 | 32,279 | 45,752 | 9,164 | 3,558 | 4,510 |
| local | 54,062 | 39,901 | 19,187 | 15,061 | 5,864 | 2,210 | 2,963 |
| cross-border | 54,265 | 47,778 | 13,092 | 30,691 | 3,300 | 1,348 | 1,547 |
| Up to 7 days | 218,778 | 181,689 | 69,926 | 75,000 | 27,281 | 10,058 | 13,847 |
| Over 7 days and up to 1 year | 244,894 | 200,687 | 76,244 | 39,145 | 26,406 | 8,847 | 12,138 |
| Over 1 year | 11,335 | 9,123 | 3,516 | 966 | 1,157 | 172 | 347 |
| **Foreign exchange swaps** | **1,765,210** | **1,600,101** | **609,801** | **278,897** | **222,214** | **127,078** | **97,049** |
| with reporting dealers | 837,004 | 775,490 | 273,064 | 125,552 | 96,787 | 65,017 | 38,061 |
| local | 241,165 | 229,167 | 61,008 | 35,164 | 32,611 | 11,919 | 11,289 |
| cross-border | 595,838 | 546,323 | 212,055 | 90,388 | 64,176 | 53,098 | 26,772 |
| with other financial institutions | 757,769 | 685,372 | 267,399 | 126,072 | 102,805 | 49,334 | 49,426 |
| local | 221,017 | 196,326 | 77,799 | 32,917 | 41,028 | 14,306 | 13,930 |
| cross-border | 536,752 | 489,047 | 189,601 | 93,155 | 61,777 | 35,029 | 35,496 |
| with non-financial customers | 170,437 | 139,238 | 69,338 | 27,273 | 22,621 | 12,726 | 9,562 |
| local | 71,757 | 53,033 | 27,758 | 16,222 | 10,018 | 3,852 | 4,313 |
| cross-border | 98,680 | 86,205 | 41,580 | 11,051 | 12,604 | 8,875 | 5,250 |
| Up to 7 days | 1,303,954 | 1,208,255 | 419,682 | 201,122 | 161,342 | 90,265 | 72,330 |
| Over 7 days and up to 1 year | 444,209 | 376,210 | 186,218 | 75,844 | 58,828 | 35,430 | 23,815 |
| Over 1 year | 14,522 | 13,039 | 3,903 | 1,932 | 2,043 | 1,382 | 904 |

For footnotes, see facing page.

Table E.1

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| Specified currency against all other currencies[2] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Australian dollar** | **Swedish krona** | **Brazilian real** | **Renminbi** | **Czech koruna** | **Danish krone** | **Hong Kong dollar** | **Forint** | |
| **111,107** | **18,787** | **8,518** | **8,123** | **1,330** | **4,785** | **18,713** | **4,144** | **Spot** |
| 37,564 | 6,799 | 2,275 | 6,415 | 657 | 1,989 | 8,862 | 1,780 | with reporting dealers |
| 12,028 | 1,751 | 1,602 | 4,723 | 95 | 301 | 3,759 | 665 | local |
| 25,536 | 5,049 | 673 | 1,692 | 563 | 1,688 | 5,103 | 1,115 | cross-border |
| 56,135 | 9,641 | 4,672 | 1,419 | 413 | 1,627 | 6,448 | 2,008 | with other financial institutions |
| 19,953 | 2,456 | 2,446 | 385 | 117 | 293 | 1,951 | 730 | local |
| 36,182 | 7,185 | 2,226 | 1,034 | 296 | 1,334 | 4,497 | 1,278 | cross-border |
| 17,408 | 2,347 | 1,571 | 289 | 260 | 1,169 | 3,402 | 356 | with non-financial customers |
| 9,994 | 1,096 | 1,460 | 144 | 198 | 858 | 2,271 | 189 | local |
| 7,414 | 1,251 | 111 | 145 | 62 | 311 | 1,132 | 167 | cross-border |
| **28,836** | **8,578** | **12,866** | **14,248** | **612** | **2,794** | **3,725** | **1,816** | **Outright forwards** |
| 6,951 | 2,544 | 2,538 | 6,052 | 103 | 777 | 1,090 | 360 | with reporting dealers |
| 1,702 | 643 | 703 | 1,235 | 16 | 297 | 428 | 135 | local |
| 5,249 | 1,901 | 1,835 | 4,817 | 87 | 480 | 661 | 224 | cross-border |
| 17,197 | 4,123 | 8,585 | 5,467 | 213 | 865 | 1,505 | 1,052 | with other financial institutions |
| 8,274 | 1,788 | 2,574 | 1,332 | 107 | 599 | 673 | 394 | local |
| 8,923 | 2,335 | 6,011 | 4,135 | 106 | 266 | 831 | 658 | cross-border |
| 4,688 | 1,911 | 1,743 | 2,729 | 296 | 1,152 | 1,131 | 404 | with non-financial customers |
| 3,295 | 1,379 | 1,063 | 1,959 | 189 | 1,049 | 859 | 254 | local |
| 1,393 | 532 | 681 | 769 | 107 | 103 | 272 | 150 | cross-border |
| 12,607 | 4,420 | 3,875 | 1,849 | 174 | 1,521 | 1,887 | 549 | Up to 7 days |
| 15,912 | 4,080 | 8,343 | 10,377 | 421 | 1,215 | 1,564 | 1,249 | Over 7 days and up to 1 year |
| 316 | 78 | 649 | 2,022 | 17 | 58 | 274 | 18 | Over 1 year |
| **140,794** | **56,198** | **791** | **6,825** | **5,446** | **14,681** | **69,538** | **9,937** | **Foreign exchange swaps** |
| 71,439 | 28,866 | 187 | 2,879 | 3,474 | 8,103 | 36,484 | 3,418 | with reporting dealers |
| 20,111 | 2,717 | 53 | 2,566 | 543 | 1,207 | 14,982 | 1,209 | local |
| 51,328 | 26,149 | 134 | 313 | 2,931 | 6,896 | 21,502 | 2,209 | cross-border |
| 59,520 | 18,096 | 419 | 3,163 | 1,303 | 3,217 | 30,227 | 4,442 | with other financial institutions |
| 14,844 | 5,814 | 166 | 3,028 | 483 | 1,441 | 3,247 | 1,120 | local |
| 44,676 | 12,282 | 253 | 134 | 820 | 1,776 | 26,980 | 3,322 | cross-border |
| 9,835 | 9,236 | 184 | 784 | 669 | 3,361 | 2,827 | 2,076 | with non-financial customers |
| 4,049 | 4,701 | 142 | 748 | 367 | 2,749 | 2,138 | 212 | local |
| 5,786 | 4,534 | 43 | 36 | 302 | 613 | 690 | 1,865 | cross-border |
| 112,494 | 39,596 | 278 | 4,130 | 4,370 | 9,843 | 55,821 | 8,088 | Up to 7 days |
| 27,942 | 16,180 | 404 | 2,603 | 1,070 | 4,814 | 12,285 | 1,713 | Over 7 days and up to 1 year |
| 357 | 418 | 110 | 93 | 6 | 24 | 1,432 | 136 | Over 1 year |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. [2] Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover.

Table E.1 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| | Specified currency against all other currencies[2] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Indian rupee** | **Rupiah** | **Won** | **Mexican peso** | **Norwegian krone** | **New Zealand dollar** | **Philippine peso** | **Zloty** |
| **Spot** | **13,527** | **2,464** | **21,144** | **18,158** | **12,335** | **21,643** | **2,249** | **7,193** |
| with reporting dealers | 7,081 | 1,436 | 12,821 | 6,925 | 4,475 | 7,798 | 1,679 | 3,108 |
| local | 5,544 | 803 | 9,769 | 2,125 | 1,156 | 2,636 | 1,123 | 960 |
| cross-border | 1,537 | 633 | 3,052 | 4,800 | 3,319 | 5,162 | 556 | 2,148 |
| with other financial institutions | 2,947 | 621 | 6,229 | 8,366 | 6,105 | 11,299 | 375 | 3,176 |
| local | 878 | 176 | 3,183 | 2,812 | 1,285 | 3,416 | 201 | 950 |
| cross-border | 2,070 | 445 | 3,046 | 5,555 | 4,820 | 7,883 | 174 | 2,226 |
| with non-financial customers | 3,498 | 407 | 2,094 | 2,867 | 1,755 | 2,546 | 195 | 909 |
| local | 2,881 | 350 | 1,714 | 1,599 | 830 | 1,330 | 159 | 604 |
| cross-border | 618 | 56 | 380 | 1,268 | 925 | 1,216 | 36 | 305 |
| **Outright forwards** | **13,620** | **2,659** | **18,018** | **5,392** | **6,153** | **5,076** | **2,396** | **3,559** |
| with reporting dealers | 4,811 | 1,368 | 11,002 | 1,425 | 1,619 | 1,324 | 1,248 | 693 |
| local | 1,466 | 337 | 1,667 | 434 | 366 | 380 | 170 | 201 |
| cross-border | 3,345 | 1,031 | 9,335 | 992 | 1,253 | 944 | 1,079 | 492 |
| with other financial institutions | 5,059 | 1,070 | 5,639 | 3,014 | 3,301 | 2,976 | 891 | 2,159 |
| local | 1,513 | 322 | 1,865 | 1,140 | 1,649 | 1,354 | 217 | 923 |
| cross-border | 3,546 | 749 | 3,774 | 1,874 | 1,652 | 1,621 | 674 | 1,236 |
| with non-financial customers | 3,750 | 221 | 1,377 | 952 | 1,233 | 776 | 257 | 707 |
| local | 3,259 | 175 | 942 | 318 | 941 | 457 | 213 | 430 |
| cross-border | 491 | 45 | 435 | 634 | 292 | 319 | 44 | 277 |
| Up to 7 days | 3,263 | 552 | 2,590 | 2,117 | 3,102 | 2,621 | 370 | 1,160 |
| Over 7 days and up to 1 year | 9,458 | 2,071 | 14,808 | 3,164 | 2,986 | 2,398 | 1,983 | 2,334 |
| Over 1 year | 899 | 37 | 620 | 111 | 64 | 57 | 43 | 65 |
| **Foreign exchange swaps** | **6,789** | **667** | **16,597** | **23,735** | **31,602** | **33,148** | **1,188** | **19,074** |
| with reporting dealers | 6,030 | 569 | 13,823 | 10,683 | 14,863 | 16,028 | 1,004 | 7,083 |
| local | 5,243 | 417 | 12,908 | 2,302 | 2,269 | 4,894 | 841 | 1,986 |
| cross-border | 787 | 152 | 915 | 8,382 | 12,594 | 11,134 | 163 | 5,097 |
| with other financial institutions | 637 | 68 | 1,781 | 9,742 | 11,984 | 14,450 | 171 | 7,653 |
| local | 381 | 54 | 1,046 | 3,270 | 3,077 | 3,700 | 170 | 1,900 |
| cross-border | 257 | 13 | 736 | 6,472 | 8,906 | 10,750 | 1 | 5,753 |
| with non-financial customers | 121 | 30 | 992 | 3,310 | 4,755 | 2,670 | 14 | 4,338 |
| local | 99 | 26 | 908 | 767 | 2,216 | 872 | 14 | 632 |
| cross-border | 22 | 4 | 84 | 2,543 | 2,539 | 1,799 | ... | 3,706 |
| Up to 7 days | 3,290 | 447 | 7,387 | 20,278 | 22,222 | 28,699 | 555 | 15,680 |
| Over 7 days and up to 1 year | 2,931 | 220 | 8,329 | 3,359 | 9,231 | 4,296 | 628 | 3,280 |
| Over 1 year | 568 | 1 | 881 | 98 | 149 | 162 | 4 | 113 |

For footnotes, see facing page.

Table E.1 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| Specified currency against all other currencies[2] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Rouble** | **Rand** | **Singapore dollar** | **New Taiwan dollar** | **Baht** | **Turkish lira** | **Currencies of other reporting countries[3]** | **Residual currencies[4]** | |
| **18,139** | **9,111** | **15,616** | **6,064** | **2,836** | **7,955** | **15,092** | **69,356** | **Spot** |
| 5,936 | 4,040 | 6,746 | 2,102 | 1,096 | 4,328 | 5,664 | 20,399 | with reporting dealers |
| 4,610 | 1,344 | 1,868 | 1,201 | 445 | 1,750 | 3,667 | 7,151 | local |
| 1,325 | 2,696 | 4,878 | 901 | 650 | 2,578 | 1,997 | 13,248 | cross-border |
| 6,342 | 4,059 | 6,227 | 1,952 | 617 | 3,234 | 5,028 | 39,448 | with other financial institutions |
| 4,428 | 1,026 | 2,235 | 1,126 | 97 | 1,017 | 2,909 | 17,101 | local |
| 1,913 | 3,033 | 3,992 | 826 | 520 | 2,218 | 2,119 | 22,347 | cross-border |
| 5,861 | 1,011 | 2,643 | 2,010 | 1,123 | 392 | 4,400 | 9,510 | with non-financial customers |
| 2,103 | 733 | 758 | 1,463 | 1,051 | 301 | 4,213 | 4,497 | local |
| 3,759 | 277 | 1,885 | 548 | 72 | 91 | 187 | 5,013 | cross-border |
| **2,262** | **2,856** | **4,416** | **6,820** | **1,107** | **3,032** | **9,837** | **32,787** | **Outright forwards** |
| 699 | 689 | 1,093 | 3,456 | 80 | 964 | 4,235 | 6,471 | with reporting dealers |
| 361 | 320 | 283 | 641 | 20 | 498 | 1,106 | 2,097 | local |
| 339 | 370 | 810 | 2,815 | 59 | 466 | 3,129 | 4,375 | cross-border |
| 1,261 | 1,588 | 2,359 | 2,584 | 134 | 1,786 | 4,313 | 21,022 | with other financial institutions |
| 449 | 635 | 987 | 630 | 55 | 690 | 1,767 | 8,823 | local |
| 812 | 954 | 1,371 | 1,955 | 79 | 1,095 | 2,546 | 12,198 | cross-border |
| 301 | 578 | 965 | 779 | 894 | 282 | 1,289 | 5,295 | with non-financial customers |
| 167 | 413 | 613 | 457 | 870 | 204 | 1,110 | 2,320 | local |
| 134 | 165 | 352 | 323 | 24 | 78 | 179 | 2,975 | cross-border |
| 704 | 1,144 | 1,708 | 1,547 | 268 | 1,820 | 2,687 | 7,220 | Up to 7 days |
| 1,472 | 1,673 | 2,614 | 5,196 | 826 | 1,182 | 6,786 | 24,208 | Over 7 days and up to 1 year |
| 85 | 39 | 94 | 77 | 13 | 29 | 364 | 1,360 | Over 1 year |
| **14,240** | **15,628** | **33,594** | **4,761** | **3,503** | **12,634** | **10,324** | **63,590** | **Foreign exchange swaps** |
| 5,817 | 9,622 | 20,726 | 929 | 2,675 | 6,034 | 4,501 | 24,800 | with reporting dealers |
| 3,215 | 3,669 | 7,481 | 830 | 1,914 | 1,837 | 1,721 | 6,259 | local |
| 2,602 | 5,953 | 13,245 | 99 | 761 | 4,198 | 2,779 | 18,542 | cross-border |
| 7,556 | 5,031 | 11,032 | 3,184 | 636 | 6,310 | 4,461 | 30,045 | with other financial institutions |
| 4,224 | 1,131 | 3,841 | 3,112 | 303 | 2,103 | 1,195 | 6,078 | local |
| 3,332 | 3,900 | 7,191 | 72 | 333 | 4,207 | 3,266 | 23,968 | cross-border |
| 866 | 974 | 1,835 | 648 | 192 | 289 | 1,363 | 8,744 | with non-financial customers |
| 343 | 677 | 721 | 647 | 131 | 183 | 941 | 4,039 | local |
| 524 | 298 | 1,115 | 0 | 61 | 106 | 423 | 4,705 | cross-border |
| 13,047 | 12,112 | 26,598 | 347 | 1,914 | 9,886 | 7,690 | 50,139 | Up to 7 days |
| 1,067 | 3,400 | 6,795 | 4,159 | 1,511 | 2,696 | 2,532 | 10,628 | Over 7 days and up to 1 year |
| 126 | 117 | 201 | 254 | 78 | 52 | 103 | 359 | Over 1 year |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. [2] Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover. [3] Includes all participating countries' currencies other than the ones listed. [4] Calculated as the difference between the total and the sum of the listed components.

Table E.1 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| | Total | Specified currency against all other currencies[2] | | | | | |
|---|---|---|---|---|---|---|---|
| | | US dollar | Euro | Yen | Pound sterling | Swiss franc | Canadian dollar |
| **Currency swaps** | **42,866** | **38,313** | **17,673** | **6,597** | **2,575** | **1,681** | **2,839** |
| with reporting dealers | 20,056 | 18,490 | 6,787 | 2,707 | 1,482 | 592 | 996 |
| local | 5,944 | 5,405 | 1,431 | 491 | 639 | 59 | 152 |
| cross-border | 14,112 | 13,085 | 5,356 | 2,216 | 843 | 533 | 844 |
| with other financial institutions | 19,255 | 16,771 | 9,498 | 3,320 | 878 | 904 | 1,309 |
| local | 7,488 | 6,522 | 4,376 | 1,169 | 388 | 216 | 259 |
| cross-border | 11,767 | 10,250 | 5,121 | 2,151 | 490 | 688 | 1,050 |
| with non-financial customers | 3,555 | 3,052 | 1,389 | 569 | 215 | 185 | 533 |
| local | 1,764 | 1,457 | 584 | 279 | 122 | 110 | 297 |
| cross-border | 1,791 | 1,594 | 805 | 290 | 93 | 75 | 236 |
| **Options sold** | **136,882** | **105,529** | **57,445** | **34,497** | **12,866** | **9,197** | **4,189** |
| with reporting dealers | 60,904 | 47,216 | 24,812 | 12,229 | 6,239 | 4,126 | 2,189 |
| local | 21,195 | 16,349 | 8,887 | 4,990 | 2,524 | 1,682 | 642 |
| cross-border | 39,708 | 30,867 | 15,924 | 7,239 | 3,715 | 2,444 | 1,548 |
| with other financial institutions | 60,448 | 47,221 | 25,850 | 19,399 | 5,280 | 3,575 | 1,621 |
| local | 33,423 | 27,862 | 12,117 | 14,411 | 2,449 | 1,671 | 713 |
| cross-border | 27,026 | 19,359 | 13,733 | 4,988 | 2,831 | 1,904 | 908 |
| with non-financial customers | 15,530 | 11,092 | 6,784 | 2,869 | 1,347 | 1,496 | 379 |
| local | 6,241 | 4,552 | 2,864 | 1,386 | 442 | 582 | 151 |
| cross-border | 9,289 | 6,540 | 3,919 | 1,482 | 905 | 914 | 227 |
| **Options bought** | **130,788** | **101,003** | **54,981** | **31,397** | **13,423** | **8,373** | **4,055** |
| with reporting dealers | 59,909 | 45,459 | 26,633 | 10,629 | 6,435 | 4,224 | 2,105 |
| local | 20,434 | 15,463 | 9,198 | 3,171 | 2,443 | 1,422 | 640 |
| cross-border | 39,475 | 29,996 | 17,434 | 7,458 | 3,991 | 2,802 | 1,465 |
| with other financial institutions | 53,027 | 42,385 | 21,329 | 17,678 | 4,909 | 2,709 | 1,419 |
| local | 27,812 | 23,627 | 8,879 | 13,282 | 1,898 | 1,069 | 587 |
| cross-border | 25,215 | 18,758 | 12,450 | 4,396 | 3,011 | 1,640 | 832 |
| with non-financial customers | 17,852 | 13,159 | 7,020 | 3,090 | 2,080 | 1,440 | 531 |
| local | 7,152 | 5,402 | 2,750 | 1,343 | 607 | 455 | 222 |
| cross-border | 10,700 | 7,757 | 4,270 | 1,748 | 1,473 | 985 | 309 |
| **Total options** | **207,264** | **160,194** | **86,705** | **54,465** | **19,952** | **13,395** | **6,097** |
| **Other products** | **150** | **...** | **...** | **...** | **...** | **...** | **...** |
| **Total foreign exchange contracts** | **3,980,703** | **3,377,809** | **1,555,076** | **755,283** | **512,560** | **253,321** | **210,148** |

For footnotes, see facing page.

Table E.1 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| Specified currency against all other currencies[2] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Australian dollar** | **Swedish krona** | **Brazilian real** | **Renminbi** | **Czech koruna** | **Danish krone** | **Hong Kong dollar** | **Forint** | |
| **5,649** | **699** | **391** | **65** | **30** | **117** | **347** | **45** | **Currency swaps** |
| 2,984 | 466 | 39 | 31 | 19 | 22 | 215 | 44 | with reporting dealers |
| 441 | 286 | 22 | 3 | 2 | 8 | 32 | 3 | local |
| 2,543 | 180 | 17 | 28 | 17 | 14 | 184 | 41 | cross-border |
| 2,406 | 219 | 155 | 22 | 10 | 87 | 56 | 0 | with other financial institutions |
| 714 | 126 | 142 | 1 | 1 | 74 | 11 | ... | local |
| 1,691 | 93 | 13 | 21 | 9 | 13 | 45 | 0 | cross-border |
| 259 | 14 | 198 | 12 | 1 | 9 | 76 | 1 | with non-financial customers |
| 55 | 10 | 197 | 6 | 0 | 9 | 25 | 1 | local |
| 204 | 4 | 1 | 6 | 1 | ... | 52 | ... | cross-border |
| **10,444** | **1,808** | **3,040** | **3,164** | **148** | **186** | **1,156** | **825** | **Options sold** |
| 5,713 | 795 | 1,506 | 1,626 | 69 | 167 | 513 | 360 | with reporting dealers |
| 1,561 | 261 | 637 | 447 | 12 | 0 | 96 | 136 | local |
| 4,152 | 534 | 869 | 1,179 | 57 | 167 | 416 | 223 | cross-border |
| 3,755 | 723 | 1,389 | 1,197 | 47 | 4 | 303 | 366 | with other financial institutions |
| 1,752 | 243 | 457 | 668 | 6 | ... | 125 | 147 | local |
| 2,003 | 479 | 932 | 529 | 41 | 4 | 178 | 218 | cross-border |
| 976 | 290 | 145 | 342 | 32 | 15 | 340 | 100 | with non-financial customers |
| 432 | 158 | 59 | 107 | 10 | 13 | 185 | 30 | local |
| 545 | 133 | 86 | 234 | 22 | 2 | 155 | 70 | cross-border |
| **10,663** | **1,972** | **3,187** | **3,517** | **127** | **110** | **1,123** | **804** | **Options bought** |
| 5,832 | 865 | 1,634 | 1,736 | 49 | 19 | 662 | 413 | with reporting dealers |
| 1,524 | 300 | 631 | 399 | 0 | 0 | 154 | 210 | local |
| 4,308 | 565 | 1,004 | 1,337 | 49 | 19 | 508 | 204 | cross-border |
| 3,151 | 669 | 1,456 | 1,280 | 28 | 32 | 180 | 305 | with other financial institutions |
| 1,415 | 193 | 426 | 673 | 12 | 23 | 51 | 100 | local |
| 1,735 | 476 | 1,030 | 607 | 16 | 8 | 129 | 204 | cross-border |
| 1,680 | 438 | 97 | 501 | 50 | 60 | 281 | 86 | with non-financial customers |
| 756 | 239 | 41 | 213 | 15 | 31 | 182 | 27 | local |
| 924 | 200 | 56 | 288 | 35 | 29 | 99 | 59 | cross-border |
| **15,334** | **2,950** | **4,657** | **5,000** | **216** | **203** | **1,692** | **1,243** | **Total options** |
| **...** | **...** | **...** | **...** | **...** | **...** | **...** | **...** | **Other products** |
| **301,719** | **87,212** | **27,224** | **34,261** | **7,634** | **22,581** | **94,015** | **17,184** | **Total foreign exchange contracts** |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. [2] Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover.

Table E.1 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| | Specified currency against all other currencies[2] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Indian rupee** | **Rupiah** | **Won** | **Mexican peso** | **Norwegian krone** | **New Zealand dollar** | **Philippine peso** | **Zloty** |
| **Currency swaps** | **50** | **68** | **951** | **353** | **643** | **664** | **187** | **181** |
| with reporting dealers | 14 | 9 | 625 | 190 | 208 | 380 | 184 | 84 |
| local | 3 | 2 | 348 | 83 | 136 | 36 | 183 | 15 |
| cross-border | 11 | 7 | 277 | 107 | 72 | 344 | 1 | 69 |
| with other financial institutions | 19 | 57 | 264 | 136 | 389 | 280 | 3 | 82 |
| local | 10 | 53 | 62 | 30 | 214 | 62 | ... | 6 |
| cross-border | 9 | 4 | 202 | 106 | 175 | 218 | 3 | 76 |
| with non-financial customers | 17 | 2 | 62 | 28 | 46 | 4 | 0 | 15 |
| local | 17 | 2 | 58 | 6 | 18 | 1 | 0 | 1 |
| cross-border | ... | ... | 4 | 22 | 28 | 3 | ... | 14 |
| **Options sold** | **2,194** | **120** | **2,521** | **1,595** | **1,208** | **1,873** | **102** | **1,371** |
| with reporting dealers | 793 | 70 | 1,467 | 839 | 497 | 1,012 | 41 | 616 |
| local | 297 | 8 | 525 | 231 | 160 | 379 | 6 | 201 |
| cross-border | 496 | 62 | 942 | 608 | 337 | 634 | 35 | 415 |
| with other financial institutions | 877 | 38 | 836 | 613 | 501 | 587 | 37 | 570 |
| local | 470 | 1 | 341 | 225 | 252 | 210 | 7 | 235 |
| cross-border | 408 | 37 | 495 | 387 | 249 | 377 | 30 | 335 |
| with non-financial customers | 523 | 12 | 217 | 144 | 210 | 274 | 24 | 186 |
| local | 355 | 0 | 81 | 44 | 77 | 64 | 1 | 58 |
| cross-border | 168 | 12 | 136 | 100 | 133 | 210 | 23 | 128 |
| **Options bought** | **2,429** | **107** | **2,438** | **1,531** | **1,205** | **1,979** | **1,160** | **1,337** |
| with reporting dealers | 948 | 64 | 1,341 | 783 | 529 | 1,114 | 1,109 | 634 |
| local | 429 | 8 | 484 | 253 | 141 | 333 | 1,056 | 221 |
| cross-border | 520 | 56 | 857 | 530 | 388 | 780 | 54 | 413 |
| with other financial institutions | 781 | 24 | 838 | 609 | 411 | 520 | 26 | 543 |
| local | 332 | 5 | 467 | 253 | 144 | 192 | 7 | 187 |
| cross-border | 449 | 20 | 371 | 356 | 266 | 327 | 18 | 356 |
| with non-financial customers | 699 | 19 | 260 | 139 | 265 | 346 | 25 | 160 |
| local | 477 | 1 | 117 | 36 | 113 | 119 | 1 | 76 |
| cross-border | 222 | 18 | 143 | 104 | 152 | 227 | 24 | 85 |
| **Total options** | **3,752** | **160** | **3,555** | **2,316** | **1,899** | **2,790** | **687** | **2,083** |
| **Other products** | **...** | **...** | **...** | **...** | **...** | **...** | **...** | **...** |
| **Total foreign exchange contracts** | **37,738** | **6,019** | **60,265** | **49,954** | **52,632** | **63,321** | **6,707** | **32,089** |

For footnotes, see facing page.

Table E.1 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| Specified currency against all other currencies[2] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Rouble** | **Rand** | **Singapore dollar** | **New Taiwan dollar** | **Baht** | **Turkish lira** | **Currencies of other reporting countries[3]** | **Residual currencies[4]** | |
| **182** | **150** | **67** | **103** | **111** | **1,908** | **1,692** | **1,400** | **Currency swaps** |
| 65 | 91 | 44 | 34 | 62 | 1,238 | 1,369 | 640 | with reporting dealers |
| 29 | 9 | 1 | 21 | 59 | 692 | 1,255 | 43 | local |
| 36 | 82 | 42 | 13 | 3 | 546 | 114 | 597 | cross-border |
| 102 | 49 | 19 | 26 | 20 | 589 | 192 | 651 | with other financial institutions |
| 33 | 7 | 6 | 17 | 18 | 283 | 61 | 114 | local |
| 69 | 43 | 13 | 9 | 2 | 305 | 131 | 536 | cross-border |
| 15 | 10 | 4 | 43 | 29 | 81 | 131 | 110 | with non-financial customers |
| 12 | 3 | 4 | 37 | 29 | 16 | 119 | 53 | local |
| 3 | 7 | 0 | 5 | ... | 65 | 12 | 56 | cross-border |
| **766** | **775** | **1,750** | **914** | **50** | **2,559** | **572** | **10,901** | **Options sold** |
| 491 | 523 | 915 | 485 | 11 | 1,090 | 199 | 5,199 | with reporting dealers |
| 288 | 234 | 236 | 150 | 9 | 431 | 74 | 936 | local |
| 204 | 289 | 679 | 335 | 2 | 658 | 124 | 4,263 | cross-border |
| 208 | 201 | 633 | 349 | 1 | 1,286 | 276 | 3,156 | with other financial institutions |
| 89 | 56 | 362 | 138 | 0 | 714 | 68 | 1,054 | local |
| 119 | 145 | 271 | 211 | 1 | 572 | 208 | 2,101 | cross-border |
| 67 | 50 | 203 | 79 | 38 | 183 | 98 | 2,546 | with non-financial customers |
| 11 | 24 | 57 | 44 | 37 | 97 | 86 | 477 | local |
| 56 | 26 | 146 | 36 | 0 | 87 | 12 | 2,069 | cross-border |
| **761** | **782** | **1,846** | **862** | **55** | **2,260** | **602** | **7,486** | **Options bought** |
| 466 | 521 | 922 | 519 | 9 | 1,033 | 182 | 2,948 | with reporting dealers |
| 239 | 228 | 285 | 112 | 7 | 468 | 74 | 974 | local |
| 227 | 293 | 637 | 407 | 2 | 565 | 108 | 1,974 | cross-border |
| 223 | 195 | 662 | 250 | 2 | 820 | 331 | 2,290 | with other financial institutions |
| 91 | 59 | 345 | 96 | 1 | 192 | 79 | 937 | local |
| 133 | 136 | 317 | 154 | 1 | 628 | 252 | 1,353 | cross-border |
| 72 | 67 | 262 | 92 | 43 | 407 | 89 | 2,248 | with non-financial customers |
| 18 | 40 | 110 | 55 | 43 | 330 | 76 | 413 | local |
| 54 | 27 | 151 | 37 | 0 | 76 | 13 | 1,835 | cross-border |
| **1,049** | **1,035** | **2,678** | **1,273** | **95** | **3,757** | **984** | **14,313** | **Total options** |
| **...** | **...** | **...** | **...** | **...** | **...** | **...** | **300** | **Other products** |
| **35,870** | **28,780** | **56,371** | **19,021** | **7,652** | **29,285** | **37,929** | **181,746** | **Total foreign exchange contracts** |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. [2] Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover. [3] Includes all participating countries' currencies other than the ones listed. [4] Calculated as the difference between the total and the sum of the listed components.

Table E.1 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### US dollar against:

**Daily averages, in millions of US dollars**

| | Total | Euro | Yen | Pound sterling | Swiss franc | Canadian dollar | Australian dollar | Swedish krona |
|---|---|---|---|---|---|---|---|---|
| **Spot** | **1,187,699** | **468,891** | **183,108** | **139,582** | **50,793** | **65,148** | **83,869** | **5,441** |
| with reporting dealers | 421,171 | 159,180 | 66,429 | 47,249 | 14,637 | 19,816 | 28,888 | 1,975 |
| local | 145,414 | 46,591 | 17,329 | 16,797 | 5,064 | 5,395 | 9,268 | 697 |
| cross-border | 275,757 | 112,589 | 49,100 | 30,451 | 9,573 | 14,421 | 19,620 | 1,278 |
| with other financial institutions | 598,504 | 245,922 | 89,099 | 76,718 | 30,434 | 34,604 | 43,834 | 2,926 |
| local | 242,285 | 101,494 | 36,210 | 29,389 | 13,916 | 13,463 | 16,935 | 700 |
| cross-border | 356,217 | 144,429 | 52,888 | 47,328 | 16,518 | 21,141 | 26,898 | 2,226 |
| with non-financial customers | 168,025 | 63,789 | 27,579 | 15,616 | 5,722 | 10,728 | 11,147 | 540 |
| local | 67,744 | 16,085 | 13,105 | 4,441 | 1,451 | 5,891 | 5,435 | 233 |
| cross-border | 100,281 | 47,704 | 14,474 | 11,175 | 4,272 | 4,837 | 5,713 | 307 |
| **Outright forwards** | **391,501** | **92,085** | **89,205** | **33,599** | **10,715** | **20,295** | **20,494** | **3,468** |
| with reporting dealers | 96,325 | 23,568 | 7,287 | 7,463 | 2,894 | 3,436 | 5,177 | 1,292 |
| local | 23,950 | 5,397 | 2,142 | 2,170 | 786 | 897 | 1,323 | 330 |
| cross-border | 72,375 | 18,172 | 5,145 | 5,293 | 2,109 | 2,539 | 3,854 | 962 |
| with other financial institutions | 207,497 | 50,565 | 43,981 | 21,447 | 6,055 | 13,487 | 12,612 | 1,647 |
| local | 74,530 | 19,999 | 11,248 | 10,071 | 2,072 | 4,904 | 5,575 | 791 |
| cross-border | 132,967 | 30,566 | 32,733 | 11,375 | 3,983 | 8,583 | 7,037 | 856 |
| with non-financial customers | 87,680 | 17,951 | 37,937 | 4,689 | 1,765 | 3,372 | 2,705 | 529 |
| local | 39,901 | 9,730 | 8,853 | 2,970 | 1,084 | 2,173 | 2,001 | 297 |
| cross-border | 47,778 | 8,222 | 29,084 | 1,720 | 681 | 1,199 | 704 | 232 |
| Up to 7 days | 181,689 | 46,113 | 63,245 | 16,987 | 6,076 | 10,358 | 9,293 | 1,846 |
| Over 7 days and up to 1 year | 200,687 | 44,334 | 25,316 | 15,804 | 4,563 | 9,702 | 10,994 | 1,601 |
| Over 1 year | 9,123 | 1,637 | 644 | 808 | 76 | 235 | 206 | 21 |
| **Foreign exchange swaps** | **1,600,101** | **475,868** | **245,705** | **175,231** | **101,240** | **89,609** | **128,846** | **35,546** |
| with reporting dealers | 775,490 | 218,896 | 116,805 | 80,184 | 53,975 | 36,046 | 68,570 | 17,177 |
| local | 229,167 | 51,390 | 32,600 | 28,867 | 8,875 | 10,817 | 19,203 | 2,449 |
| cross-border | 546,323 | 167,506 | 84,204 | 51,317 | 45,100 | 25,229 | 49,367 | 14,728 |
| with other financial institutions | 685,372 | 211,629 | 109,094 | 80,627 | 37,513 | 45,214 | 52,998 | 13,405 |
| local | 196,326 | 59,711 | 27,084 | 34,027 | 10,283 | 12,109 | 12,513 | 3,519 |
| cross-border | 489,047 | 151,918 | 82,009 | 46,600 | 27,230 | 33,105 | 40,485 | 9,886 |
| with non-financial customers | 139,238 | 45,343 | 19,806 | 14,419 | 9,752 | 8,348 | 7,278 | 4,963 |
| local | 53,033 | 13,772 | 10,489 | 5,786 | 2,420 | 3,633 | 2,449 | 1,825 |
| cross-border | 86,205 | 31,571 | 9,317 | 8,633 | 7,332 | 4,716 | 4,829 | 3,138 |
| Up to 7 days | 1,208,255 | 346,362 | 180,217 | 135,846 | 77,198 | 68,014 | 105,574 | 25,573 |
| Over 7 days and up to 1 year | 376,210 | 126,990 | 63,746 | 37,945 | 22,806 | 20,731 | 22,965 | 9,710 |
| Over 1 year | 13,039 | 2,516 | 1,742 | 1,439 | 1,236 | 864 | 307 | 260 |

For footnotes, see facing page.

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### US dollar against:

**Daily averages, in millions of US dollars**

| Brazilian real | Renminbi | Hong Kong dollar | Indian rupee | Won | Rand | Currencies of other reporting countries[2] | Residual currencies[3] | |
|---|---|---|---|---|---|---|---|---|
| **8,223** | **6,173** | **13,440** | **12,525** | **20,280** | **7,023** | **46,038** | **77,163** | **Spot** |
| 2,267 | 4,546 | 6,121 | 6,970 | 12,433 | 3,460 | 18,494 | 28,705 | with reporting dealers |
| 1,601 | 2,887 | 1,795 | 5,528 | 9,635 | 1,159 | 12,394 | 9,277 | local |
| 666 | 1,660 | 4,327 | 1,442 | 2,799 | 2,301 | 6,101 | 19,428 | cross-border |
| 4,629 | 1,398 | 4,932 | 2,821 | 6,038 | 3,050 | 12,384 | 39,714 | with other financial institutions |
| 2,442 | 368 | 1,640 | 825 | 3,117 | 890 | 8,490 | 12,407 | local |
| 2,187 | 1,030 | 3,293 | 1,997 | 2,921 | 2,160 | 3,894 | 27,308 | cross-border |
| 1,327 | 229 | 2,387 | 2,733 | 1,809 | 514 | 15,160 | 8,744 | with non-financial customers |
| 1,220 | 92 | 1,394 | 2,582 | 1,493 | 286 | 10,084 | 3,952 | local |
| 107 | 137 | 992 | 152 | 316 | 228 | 5,076 | 4,792 | cross-border |
| **12,219** | **13,433** | **2,489** | **13,037** | **17,179** | **2,424** | **8,926** | **51,934** | **Outright forwards** |
| 2,353 | 5,886 | 816 | 4,673 | 10,704 | 594 | 2,799 | 17,383 | with reporting dealers |
| 684 | 1,230 | 327 | 1,441 | 1,619 | 273 | 965 | 4,365 | local |
| 1,669 | 4,656 | 488 | 3,233 | 9,084 | 321 | 1,834 | 13,018 | cross-border |
| 8,383 | 5,396 | 1,137 | 4,835 | 5,250 | 1,428 | 2,605 | 28,668 | with other financial institutions |
| 2,510 | 1,308 | 448 | 1,416 | 1,666 | 564 | 1,928 | 10,029 | local |
| 5,872 | 4,088 | 689 | 3,419 | 3,584 | 865 | 677 | 18,639 | cross-border |
| 1,483 | 2,150 | 537 | 3,528 | 1,225 | 401 | 3,523 | 5,883 | with non-financial customers |
| 936 | 1,444 | 336 | 3,084 | 819 | 273 | 3,362 | 2,541 | local |
| 547 | 707 | 200 | 445 | 407 | 128 | 161 | 3,342 | cross-border |
| 3,660 | 1,721 | 1,411 | 3,145 | 2,390 | 909 | 3,168 | 11,367 | Up to 7 days |
| 7,949 | 9,802 | 875 | 9,031 | 14,187 | 1,489 | 5,623 | 39,418 | Over 7 days and up to 1 year |
| 609 | 1,909 | 203 | 862 | 601 | 26 | 136 | 1,149 | Over 1 year |
| **782** | **6,741** | **67,278** | **6,776** | **16,421** | **13,747** | **66,605** | **169,706** | **Foreign exchange swaps** |
| 183 | 2,860 | 35,348 | 6,024 | 13,790 | 9,017 | 37,638 | 78,976 | with reporting dealers |
| 53 | 2,548 | 14,740 | 5,238 | 12,877 | 3,415 | 15,106 | 20,988 | local |
| 130 | 312 | 20,608 | 786 | 913 | 5,602 | 22,533 | 57,988 | cross-border |
| 416 | 3,158 | 29,476 | 635 | 1,722 | 4,159 | 24,554 | 70,772 | with other financial institutions |
| 163 | 3,024 | 3,044 | 379 | 994 | 828 | 12,225 | 16,423 | local |
| 253 | 134 | 26,432 | 256 | 728 | 3,331 | 12,329 | 54,349 | cross-border |
| 183 | 723 | 2,454 | 118 | 909 | 570 | 4,413 | 19,958 | with non-financial customers |
| 141 | 700 | 1,920 | 96 | 879 | 376 | 3,105 | 5,444 | local |
| 43 | 24 | 534 | 22 | 30 | 194 | 1,308 | 14,514 | cross-border |
| 274 | 4,074 | 54,422 | 3,288 | 7,283 | 10,529 | 48,902 | 140,700 | Up to 7 days |
| 397 | 2,575 | 11,427 | 2,924 | 8,265 | 3,105 | 17,066 | 25,558 | Over 7 days and up to 1 year |
| 111 | 92 | 1,429 | 564 | 873 | 113 | 637 | 855 | Over 1 year |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. [2] Includes all participating countries' currencies other than the ones listed. [3] Calculated as the difference between the total and the sum of the listed components.

Table E.2 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### US dollar against:

**Daily averages, in millions of US dollars**

| | Total | Euro | Yen | Pound sterling | Swiss franc | Canadian dollar | Australian dollar | Swedish Krona |
|---|---|---|---|---|---|---|---|---|
| **Currency swaps** | **38,313** | **13,507** | **5,646** | **1,831** | **927** | **2,683** | **5,333** | **365** |
| with reporting dealers | 18,490 | 5,323 | 2,576 | 1,141 | 356 | 991 | 2,885 | 204 |
| local | 5,405 | 910 | 467 | 545 | 42 | 151 | 438 | 90 |
| cross-border | 13,085 | 4,414 | 2,109 | 595 | 314 | 839 | 2,447 | 114 |
| with other financial institutions | 16,771 | 7,185 | 2,572 | 573 | 527 | 1,247 | 2,200 | 156 |
| local | 6,522 | 3,438 | 677 | 258 | 122 | 248 | 704 | 123 |
| cross-border | 10,250 | 3,747 | 1,894 | 316 | 405 | 999 | 1,496 | 33 |
| with non-financial customers | 3,052 | 999 | 499 | 117 | 44 | 445 | 248 | 5 |
| local | 1,457 | 376 | 216 | 46 | 3 | 279 | 50 | 5 |
| cross-border | 1,594 | 623 | 282 | 71 | 41 | 166 | 198 | ... |
| **Options sold** | **105,529** | **33,397** | **27,545** | **6,682** | **3,265** | **3,001** | **7,000** | **177** |
| with reporting dealers | 47,216 | 14,664 | 9,130 | 3,293 | 1,574 | 1,652 | 3,812 | 86 |
| local | 16,349 | 5,211 | 3,983 | 1,220 | 686 | 430 | 957 | 18 |
| cross-border | 30,867 | 9,454 | 5,147 | 2,073 | 888 | 1,222 | 2,855 | 68 |
| with other financial institutions | 47,221 | 15,230 | 16,315 | 2,694 | 1,188 | 1,074 | 2,560 | 60 |
| local | 27,862 | 7,567 | 13,298 | 1,206 | 599 | 505 | 1,233 | 12 |
| cross-border | 19,359 | 7,662 | 3,017 | 1,488 | 589 | 569 | 1,327 | 48 |
| with non-financial customers | 11,092 | 3,503 | 2,099 | 695 | 502 | 275 | 628 | 31 |
| local | 4,552 | 1,410 | 1,023 | 209 | 152 | 116 | 296 | 15 |
| cross-border | 6,540 | 2,093 | 1,076 | 486 | 350 | 160 | 332 | 16 |
| **Options bought** | **101,003** | **32,624** | **24,865** | **6,832** | **2,207** | **2,893** | **7,121** | **192** |
| with reporting dealers | 45,459 | 15,573 | 7,550 | 3,259 | 1,038 | 1,599 | 3,967 | 90 |
| local | 15,463 | 5,362 | 2,252 | 1,093 | 336 | 409 | 963 | 21 |
| cross-border | 29,996 | 10,212 | 5,299 | 2,166 | 702 | 1,190 | 3,004 | 69 |
| with other financial institutions | 42,385 | 13,270 | 15,048 | 2,458 | 783 | 901 | 2,022 | 51 |
| local | 23,627 | 5,675 | 12,199 | 903 | 321 | 365 | 915 | 8 |
| cross-border | 18,758 | 7,595 | 2,849 | 1,554 | 462 | 536 | 1,107 | 43 |
| with non-financial customers | 13,159 | 3,782 | 2,267 | 1,115 | 387 | 393 | 1,132 | 50 |
| local | 5,402 | 1,487 | 1,007 | 320 | 92 | 168 | 482 | 29 |
| cross-border | 7,757 | 2,294 | 1,259 | 795 | 294 | 225 | 650 | 21 |
| **Total options** | **160,194** | **50,903** | **44,070** | **10,238** | **4,166** | **4,268** | **10,232** | **280** |
| **Other products** | ... | ... | ... | ... | ... | ... | ... | ... |
| **Total foreign exchange contracts** | 3,377,809 | 1,101,254 | 567,734 | 360,481 | 167,841 | 182,002 | 248,775 | 45,100 |

For footnotes, see facing page.

Table E.2 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### US dollar against:

**Daily averages, in millions of US dollars**

| Brazilian real | Renminbi | Hong Kong dollar | Indian rupee | Won | Rand | Currencies of other reporting countries[2] | Residual currencies[3] | |
|---|---|---|---|---|---|---|---|---|
| **381** | **58** | **313** | **45** | **918** | **134** | **1,436** | **4,735** | **Currency swaps** |
| 39 | 31 | 195 | 13 | 615 | 89 | 852 | 3,180 | with reporting dealers |
| 22 | 3 | 27 | 3 | 340 | 9 | 300 | 2,058 | local |
| 17 | 28 | 168 | 10 | 275 | 80 | 552 | 1,122 | cross-border |
| 155 | 22 | 49 | 18 | 243 | 37 | 423 | 1,365 | with other financial institutions |
| 142 | 1 | 11 | 9 | 42 | 5 | 265 | 477 | local |
| 13 | 21 | 38 | 9 | 202 | 32 | 158 | 888 | cross-border |
| 188 | 6 | 69 | 14 | 60 | 8 | 160 | 190 | with non-financial customers |
| 187 | 3 | 19 | 14 | 56 | 2 | 148 | 53 | local |
| 1 | 3 | 50 | ... | 4 | 6 | 12 | 137 | cross-border |
| **2,407** | **3,089** | **1,031** | **2,004** | **2,183** | **572** | **1,349** | **11,826** | **Options sold** |
| 1,193 | 1,601 | 437 | 724 | 1,269 | 423 | 711 | 6,646 | with reporting dealers |
| 546 | 447 | 85 | 287 | 512 | 181 | 126 | 1,661 | local |
| 647 | 1,154 | 351 | 437 | 756 | 242 | 586 | 4,986 | cross-border |
| 1,086 | 1,185 | 289 | 844 | 781 | 124 | 302 | 3,489 | with other financial institutions |
| 376 | 668 | 120 | 450 | 319 | 32 | 84 | 1,393 | local |
| 710 | 517 | 170 | 394 | 463 | 92 | 218 | 2,096 | cross-border |
| 128 | 303 | 305 | 436 | 133 | 25 | 337 | 1,691 | with non-financial customers |
| 59 | 90 | 152 | 347 | 79 | 19 | 273 | 313 | local |
| 69 | 213 | 153 | 90 | 55 | 6 | 64 | 1,378 | cross-border |
| **2,611** | **3,442** | **884** | **2,230** | **2,156** | **571** | **2,419** | **9,954** | **Options bought** |
| 1,336 | 1,706 | 532 | 874 | 1,208 | 430 | 1,569 | 4,728 | with reporting dealers |
| 526 | 399 | 147 | 408 | 462 | 186 | 1,170 | 1,730 | local |
| 809 | 1,307 | 385 | 465 | 747 | 244 | 399 | 2,999 | cross-border |
| 1,181 | 1,267 | 165 | 750 | 771 | 102 | 321 | 3,294 | with other financial institutions |
| 367 | 673 | 48 | 310 | 446 | 28 | 88 | 1,282 | local |
| 814 | 593 | 118 | 440 | 325 | 75 | 233 | 2,013 | cross-border |
| 94 | 469 | 187 | 607 | 177 | 39 | 529 | 1,931 | with non-financial customers |
| 40 | 195 | 98 | 466 | 102 | 29 | 471 | 414 | local |
| 54 | 274 | 89 | 141 | 75 | 10 | 58 | 1,517 | cross-border |
| **3,754** | **4,877** | **1,431** | **3,436** | **3,101** | **717** | **2,629** | **16,092** | **Total options** |
| ... | ... | ... | ... | ... | ... | ... | ... | **Other products** |
| **25,359** | **31,283** | **84,951** | **35,820** | **57,900** | **24,045** | **125,634** | **319,631** | **Total foreign exchange contracts** |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. [2] Includes all participating countries' currencies other than the ones listed. [3] Calculated as the difference between the total and the sum of the listed components.

Table E.2 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Euro against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Yen | Pound sterling | Swiss franc |
|---|---|---|---|---|---|
| **Spot** | **691,210** | **468,891** | **73,103** | **50,235** | **34,799** |
| with reporting dealers | 232,767 | 159,180 | 20,396 | 16,847 | 11,570 |
| local | 68,722 | 46,591 | 6,336 | 5,341 | 3,424 |
| cross-border | 164,045 | 112,589 | 14,060 | 11,506 | 8,146 |
| with other financial institutions | 361,401 | 245,922 | 40,290 | 27,121 | 18,407 |
| local | 147,602 | 101,494 | 17,332 | 11,192 | 8,222 |
| cross-border | 213,799 | 144,429 | 22,958 | 15,930 | 10,186 |
| with non-financial customers | 97,042 | 63,789 | 12,417 | 6,267 | 4,821 |
| local | 30,137 | 16,085 | 4,814 | 1,944 | 1,506 |
| cross-border | 66,905 | 47,704 | 7,603 | 4,323 | 3,315 |
| **Outright forwards** | **149,687** | **92,085** | **13,832** | **13,878** | **6,009** |
| with reporting dealers | 34,039 | 23,568 | 2,251 | 2,461 | 1,460 |
| local | 8,558 | 5,397 | 570 | 664 | 582 |
| cross-border | 25,481 | 18,172 | 1,682 | 1,798 | 878 |
| with other financial institutions | 83,368 | 50,565 | 7,255 | 8,820 | 3,273 |
| local | 36,704 | 19,999 | 4,906 | 4,731 | 1,252 |
| cross-border | 46,664 | 30,566 | 2,349 | 4,089 | 2,021 |
| with non-financial customers | 32,279 | 17,951 | 4,326 | 2,596 | 1,276 |
| local | 19,187 | 9,730 | 3,470 | 1,380 | 714 |
| cross-border | 13,092 | 8,222 | 856 | 1,216 | 562 |
| Up to 7 days | 69,926 | 46,113 | 5,922 | 6,322 | 2,666 |
| Over 7 days and up to 1 year | 76,244 | 44,334 | 7,732 | 7,326 | 3,279 |
| Over 1 year | 3,516 | 1,637 | 178 | 230 | 64 |
| **Foreign exchange swaps** | **609,801** | **475,868** | **17,028** | **37,130** | **22,129** |
| with reporting dealers | 273,064 | 218,896 | 4,866 | 14,185 | 9,814 |
| local | 61,008 | 51,390 | 1,120 | 2,971 | 2,452 |
| cross-border | 212,055 | 167,506 | 3,747 | 11,214 | 7,362 |
| with other financial institutions | 267,399 | 211,629 | 8,135 | 17,225 | 10,081 |
| local | 77,799 | 59,711 | 2,760 | 4,683 | 3,043 |
| cross-border | 189,601 | 151,918 | 5,374 | 12,542 | 7,038 |
| with non-financial customers | 69,338 | 45,343 | 4,027 | 5,720 | 2,234 |
| local | 27,758 | 13,772 | 3,174 | 2,687 | 1,038 |
| cross-border | 41,580 | 31,571 | 853 | 3,033 | 1,196 |
| Up to 7 days | 419,682 | 346,362 | 9,066 | 20,229 | 11,301 |
| Over 7 days and up to 1 year | 186,218 | 126,990 | 7,857 | 16,306 | 10,700 |
| Over 1 year | 3,903 | 2,516 | 106 | 595 | 128 |

For footnotes, see facing page.

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Euro against:

**Daily averages, in millions of US dollars**

| Canadian dollar | Australian dollar | Swedish krona | Currencies of other reporting countries[2] | Residual currencies[3] | |
|---|---|---|---|---|---|
| **4,917** | **5,316** | **11,052** | **7,559** | **35,338** | **Spot** |
| 1,651 | 1,631 | 4,189 | 2,552 | 14,752 | with reporting dealers |
| 493 | 419 | 908 | 834 | 4,376 | local |
| 1,157 | 1,211 | 3,281 | 1,718 | 10,376 | cross-border |
| 2,611 | 2,383 | 5,350 | 2,119 | 17,197 | with other financial institutions |
| 714 | 748 | 1,540 | 1,198 | 5,163 | local |
| 1,897 | 1,635 | 3,810 | 920 | 12,035 | cross-border |
| 655 | 1,303 | 1,513 | 2,888 | 3,389 | with non-financial customers |
| 300 | 871 | 651 | 2,621 | 1,345 | local |
| 356 | 432 | 862 | 267 | 2,044 | cross-border |
| **3,072** | **2,101** | **3,253** | **2,485** | **12,972** | **Outright forwards** |
| 389 | 416 | 589 | 374 | 2,530 | with reporting dealers |
| 151 | 84 | 151 | 113 | 847 | local |
| 239 | 332 | 437 | 261 | 1,683 | cross-border |
| 2,065 | 1,313 | 1,605 | 565 | 7,907 | with other financial institutions |
| 1,395 | 686 | 646 | 441 | 2,648 | local |
| 669 | 627 | 960 | 125 | 5,258 | cross-border |
| 618 | 372 | 1,058 | 1,545 | 2,536 | with non-financial customers |
| 409 | 210 | 808 | 1,454 | 1,014 | local |
| 210 | 162 | 251 | 91 | 1,522 | cross-border |
| 1,742 | 858 | 1,180 | 981 | 4,142 | Up to 7 days |
| 1,265 | 1,187 | 2,024 | 1,370 | 7,726 | Over 7 days and up to 1 year |
| 65 | 55 | 49 | 134 | 1,104 | Over 1 year |
| **4,908** | **3,592** | **18,020** | **9,468** | **21,658** | **Foreign exchange swaps** |
| 1,321 | 1,034 | 11,378 | 4,510 | 7,060 | with reporting dealers |
| 263 | 208 | 204 | 1,420 | 981 | local |
| 1,059 | 826 | 11,174 | 3,089 | 6,078 | cross-border |
| 3,023 | 1,727 | 3,451 | 2,363 | 9,765 | with other financial institutions |
| 1,091 | 527 | 1,536 | 1,659 | 2,789 | local |
| 1,933 | 1,200 | 1,915 | 704 | 6,976 | cross-border |
| 563 | 830 | 3,192 | 2,595 | 4,834 | with non-financial customers |
| 242 | 346 | 1,998 | 2,348 | 2,153 | local |
| 321 | 484 | 1,193 | 247 | 2,681 | cross-border |
| 3,132 | 1,198 | 12,941 | 4,714 | 10,738 | Up to 7 days |
| 1,742 | 2,360 | 4,930 | 4,695 | 10,638 | Over 7 days and up to 1 year |
| 34 | 33 | 149 | 59 | 282 | Over 1 year |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. [2] Includes all participating countries' currencies other than the ones listed. [3] Calculated as the difference between the total and the sum of the listed components. [4] Due to incomplete reporting, the maturity breakdown does not always sum to totals.

Table E.3 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Euro against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Yen | Pound sterling | Swiss franc |
|---|---|---|---|---|---|
| **Currency swaps** | **17,673** | **13,507** | **770** | **651** | **710** |
| with reporting dealers | 6,787 | 5,323 | 95 | 320 | 222 |
| local | 1,431 | 910 | 18 | 89 | 15 |
| cross-border | 5,356 | 4,414 | 78 | 231 | 207 |
| with other financial institutions | 9,498 | 7,185 | 664 | 279 | 348 |
| local | 4,376 | 3,438 | 478 | 119 | 90 |
| cross-border | 5,121 | 3,747 | 186 | 160 | 258 |
| with non-financial customers | 1,389 | 999 | 11 | 53 | 140 |
| local | 584 | 376 | 4 | 39 | 106 |
| cross-border | 805 | 623 | 7 | 14 | 34 |
| **Options sold** | **57,445** | **33,397** | **4,070** | **4,565** | **5,213** |
| with reporting dealers | 24,812 | 14,664 | 1,606 | 2,159 | 2,190 |
| local | 8,887 | 5,211 | 551 | 940 | 840 |
| cross-border | 15,924 | 9,454 | 1,056 | 1,220 | 1,350 |
| with other financial institutions | 25,850 | 15,230 | 1,935 | 1,900 | 2,098 |
| local | 12,117 | 7,567 | 655 | 969 | 1,001 |
| cross-border | 13,733 | 7,662 | 1,280 | 931 | 1,098 |
| with non-financial customers | 6,784 | 3,503 | 529 | 506 | 925 |
| local | 2,864 | 1,410 | 310 | 175 | 414 |
| cross-border | 3,919 | 2,093 | 219 | 331 | 511 |
| **Options bought** | **54,981** | **32,624** | **3,492** | **4,881** | **5,296** |
| with reporting dealers | 26,633 | 15,573 | 1,619 | 2,398 | 2,821 |
| local | 9,198 | 5,362 | 509 | 1,018 | 904 |
| cross-border | 17,434 | 10,212 | 1,110 | 1,380 | 1,916 |
| with other financial institutions | 21,329 | 13,270 | 1,420 | 1,811 | 1,584 |
| local | 8,879 | 5,675 | 610 | 753 | 666 |
| cross-border | 12,450 | 7,595 | 810 | 1,058 | 918 |
| with non-financial customers | 7,020 | 3,782 | 453 | 671 | 891 |
| local | 2,750 | 1,487 | 226 | 186 | 301 |
| cross-border | 4,270 | 2,294 | 227 | 485 | 590 |
| **Total options** | **86,705** | **50,903** | **5,950** | **7,167** | **8,004** |
| **Other products** | **...** | **...** | **...** | **...** | **...** |
| **Total foreign exchange contracts** | **1,555,076** | **1,101,254** | **110,684** | **109,061** | **71,650** |

For footnotes, see facing page.

Table E.3 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Euro against:

**Daily averages, in millions of US dollars**

| Canadian dollar | Australian dollar | Swedish krona | Currencies of other reporting countries[2] | Residual currencies[3] | |
|---|---|---|---|---|---|
| **148** | **215** | **314** | **433** | **925** | **Currency swaps** |
| 5 | 73 | 255 | 202 | 292 | with reporting dealers |
| 1 | 2 | 196 | 166 | 35 | local |
| 4 | 71 | 59 | 36 | 258 | cross-border |
| 63 | 136 | 57 | 203 | 564 | with other financial institutions |
| 11 | 10 | 4 | 169 | 57 | local |
| 51 | 126 | 53 | 34 | 506 | cross-border |
| 81 | 6 | 2 | 29 | 69 | with non-financial customers |
| 11 | ... | 2 | 29 | 18 | local |
| 70 | 6 | 1 | ... | 51 | cross-border |
| **390** | **605** | **1,430** | **577** | **7,197** | **Options sold** |
| 135 | 334 | 636 | 330 | 2,757 | with reporting dealers |
| 42 | 105 | 221 | 19 | 959 | local |
| 93 | 229 | 415 | 311 | 1,797 | cross-border |
| 210 | 222 | 575 | 161 | 3,519 | with other financial institutions |
| 56 | 96 | 222 | 4 | 1,547 | local |
| 154 | 126 | 352 | 157 | 1,972 | cross-border |
| 44 | 49 | 220 | 86 | 921 | with non-financial customers |
| 17 | 24 | 119 | 86 | 309 | local |
| 27 | 25 | 101 | 0 | 613 | cross-border |
| **335** | **567** | **1,544** | **454** | **5,789** | **Options bought** |
| 109 | 306 | 669 | 142 | 2,995 | with reporting dealers |
| 46 | 72 | 237 | 23 | 1,028 | local |
| 64 | 234 | 432 | 119 | 1,968 | cross-border |
| 176 | 190 | 539 | 142 | 2,197 | with other financial institutions |
| 79 | 92 | 171 | 28 | 805 | local |
| 97 | 98 | 368 | 115 | 1,392 | cross-border |
| 49 | 71 | 336 | 170 | 597 | with non-financial customers |
| 20 | 24 | 180 | 140 | 185 | local |
| 30 | 46 | 156 | 30 | 412 | cross-border |
| **602** | **852** | **2,321** | **795** | **10,110** | **Total options** |
| **...** | **...** | **...** | **...** | **...** | **Other products** |
| **13,648** | **12,076** | **34,960** | **20,740** | **81,004** | **Total foreign exchange contracts** |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. [2] Includes all participating countries' currencies other than the ones listed. [3] Calculated as the difference between the total and the sum of the listed components.

Table E.3 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Yen against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Euro | Australian dollar | New Zealand dollar | Currencies of other reporting countries[2] | Residual currencies[3] |
|---|---|---|---|---|---|---|---|
| **Spot** | **300,214** | **183,108** | **73,103** | **12,980** | **2,051** | **12,326** | **16,646** |
| with reporting dealers | 97,655 | 66,429 | 20,396 | 3,724 | 310 | 2,930 | 3,865 |
| local | 27,309 | 17,329 | 6,336 | 1,363 | 134 | 1,093 | 1,053 |
| cross-border | 70,346 | 49,100 | 14,060 | 2,361 | 176 | 1,837 | 2,812 |
| with other financial institutions | 152,144 | 89,099 | 40,290 | 6,044 | 1,082 | 5,928 | 9,700 |
| local | 60,048 | 36,210 | 17,332 | 1,539 | 133 | 1,290 | 3,544 |
| cross-border | 92,096 | 52,888 | 22,958 | 4,505 | 949 | 4,638 | 6,157 |
| with non-financial customers | 50,415 | 27,579 | 12,417 | 3,211 | 659 | 3,468 | 3,081 |
| local | 24,425 | 13,105 | 4,814 | 2,324 | 577 | 2,867 | 738 |
| cross-border | 25,991 | 14,474 | 7,603 | 887 | 82 | 601 | 2,343 |
| **Outright forwards** | **115,111** | **89,205** | **13,832** | **3,869** | **360** | **4,775** | **3,069** |
| with reporting dealers | 12,039 | 7,287 | 2,251 | 911 | 89 | 671 | 830 |
| local | 3,157 | 2,142 | 570 | 128 | 15 | 81 | 220 |
| cross-border | 8,882 | 5,145 | 1,682 | 783 | 74 | 590 | 610 |
| with other financial institutions | 57,319 | 43,981 | 7,255 | 1,826 | 196 | 2,416 | 1,645 |
| local | 19,816 | 11,248 | 4,906 | 1,221 | 91 | 1,778 | 573 |
| cross-border | 37,503 | 32,733 | 2,349 | 606 | 105 | 638 | 1,072 |
| with non-financial customers | 45,752 | 37,937 | 4,326 | 1,132 | 75 | 1,688 | 594 |
| local | 15,061 | 8,853 | 3,470 | 751 | 58 | 1,574 | 355 |
| cross-border | 30,691 | 29,084 | 856 | 381 | 17 | 114 | 238 |
| Up to 7 days | 75,000 | 63,245 | 5,922 | 1,383 | 201 | 2,508 | 1,741 |
| Over 7 days and up to 1 year | 39,145 | 25,316 | 7,732 | 2,440 | 156 | 2,199 | 1,302 |
| Over 1 year | 966 | 644 | 178 | 47 | 3 | 69 | 25 |
| **Foreign exchange swaps** | **278,897** | **245,705** | **17,028** | **5,061** | **1,502** | **4,524** | **5,077** |
| with reporting dealers | 125,552 | 116,805 | 4,866 | 1,057 | 346 | 1,156 | 1,322 |
| local | 35,164 | 32,600 | 1,120 | 424 | 120 | 436 | 465 |
| cross-border | 90,388 | 84,204 | 3,747 | 633 | 226 | 721 | 857 |
| with other financial institutions | 126,072 | 109,094 | 8,135 | 2,924 | 911 | 2,020 | 2,987 |
| local | 32,917 | 27,084 | 2,760 | 1,019 | 274 | 1,113 | 667 |
| cross-border | 93,155 | 82,009 | 5,374 | 1,906 | 638 | 907 | 2,321 |
| with non-financial customers | 27,273 | 19,806 | 4,027 | 1,080 | 245 | 1,347 | 768 |
| local | 16,222 | 10,489 | 3,174 | 865 | 201 | 1,098 | 395 |
| cross-border | 11,051 | 9,317 | 853 | 214 | 44 | 249 | 373 |
| Up to 7 days | 201,122 | 180,217 | 9,066 | 4,005 | 1,322 | 2,295 | 4,217 |
| Over 7 days and up to 1 year | 75,844 | 63,746 | 7,857 | 1,044 | 180 | 2,217 | 801 |
| Over 1 year | 1,932 | 1,742 | 106 | 12 | 0 | 12 | 59 |

For footnotes, see facing page.

Table E.4

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Yen against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Euro | Australian dollar | New Zealand dollar | Currencies of other reporting countries[2] | Residual currencies[3] |
|---|---|---|---|---|---|---|---|
| **Currency swaps** | **6,597** | **5,646** | **770** | **73** | **...** | **68** | **40** |
| with reporting dealers | 2,707 | 2,576 | 95 | 8 | ... | 6 | 22 |
| local | 491 | 467 | 18 | 0 | ... | 2 | 4 |
| cross-border | 2,216 | 2,109 | 78 | 8 | ... | 4 | 18 |
| with other financial institutions | 3,320 | 2,572 | 664 | 61 | ... | 12 | 12 |
| local | 1,169 | 677 | 478 | ... | ... | 11 | 3 |
| cross-border | 2,151 | 1,894 | 186 | 61 | ... | 1 | 8 |
| with non-financial customers | 569 | 499 | 11 | 3 | ... | 50 | 6 |
| local | 279 | 216 | 4 | 3 | ... | 49 | 6 |
| cross-border | 290 | 282 | 7 | 0 | ... | 1 | 0 |
| **Options sold** | **34,497** | **27,545** | **4,070** | **1,374** | **99** | **469** | **940** |
| with reporting dealers | 12,229 | 9,130 | 1,606 | 683 | 56 | 256 | 498 |
| local | 4,990 | 3,983 | 551 | 157 | 18 | 138 | 143 |
| cross-border | 7,239 | 5,147 | 1,056 | 526 | 38 | 119 | 354 |
| with other financial institutions | 19,399 | 16,315 | 1,935 | 556 | 36 | 188 | 368 |
| local | 14,411 | 13,298 | 655 | 213 | 10 | 83 | 151 |
| cross-border | 4,988 | 3,017 | 1,280 | 343 | 26 | 106 | 216 |
| with non-financial customers | 2,869 | 2,099 | 529 | 134 | 7 | 24 | 75 |
| local | 1,386 | 1,023 | 310 | 21 | 3 | 14 | 15 |
| cross-border | 1,482 | 1,076 | 219 | 113 | 4 | 10 | 60 |
| **Options bought** | **31,397** | **24,865** | **3,492** | **1,375** | **163** | **454** | **1,047** |
| with reporting dealers | 10,629 | 7,550 | 1,619 | 701 | 116 | 211 | 431 |
| local | 3,171 | 2,252 | 509 | 154 | 17 | 101 | 138 |
| cross-border | 7,458 | 5,299 | 1,110 | 546 | 100 | 110 | 293 |
| with other financial institutions | 17,678 | 15,048 | 1,420 | 508 | 30 | 206 | 466 |
| local | 13,282 | 12,199 | 610 | 217 | 11 | 91 | 153 |
| cross-border | 4,396 | 2,849 | 810 | 291 | 19 | 114 | 312 |
| with non-financial customers | 3,090 | 2,267 | 453 | 166 | 17 | 37 | 150 |
| local | 1,343 | 1,007 | 226 | 38 | 6 | 22 | 42 |
| cross-border | 1,748 | 1,259 | 227 | 128 | 10 | 15 | 108 |
| **Total options** | **54,465** | **44,070** | **5,950** | **2,057** | **176** | **689** | **1,523** |
| **Other products** | **...** | **...** | **...** | **...** | **...** | **...** | **...** |
| **Total foreign exchange contracts** | **755,283** | **567,734** | **110,684** | **24,040** | **4,089** | **22,381** | **26,356** |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. [2] Includes all participating countries' currencies other than the ones listed. [3] Calculated as the difference between the total and the sum of the listed components.

Table E.4 (cont)

## OTC foreign exchange turnover by country and currency in April 2010[1]

**Daily averages, in millions of US dollars**

| | Total | Specified currency against all other currencies[2] | | | | |
|---|---|---|---|---|---|---|
| | | US dollar | Euro | Yen | Pound sterling | Swiss franc |
| Argentina | 1,613 | 1,515 | 331 | 1 | 1 | 1 |
| Australia | 192,052 | 173,577 | 46,744 | 25,215 | 18,205 | 3,117 |
| Austria | 19,549 | 12,153 | 14,325 | 1,795 | 729 | 3,803 |
| Bahrain | 4,543 | 4,113 | 879 | 168 | 288 | 15 |
| Belgium | 32,524 | 27,190 | 19,651 | 1,876 | 6,625 | 1,775 |
| Brazil | 14,094 | 12,851 | 3,280 | 1,544 | 102 | 169 |
| Bulgaria | 866 | 249 | 802 | 9 | 47 | 26 |
| Canada | 61,892 | 58,224 | 8,019 | 2,827 | 2,806 | 716 |
| Chile | 5,544 | 5,488 | 426 | 32 | 60 | 1 |
| China | 19,774 | 16,565 | 2,821 | 2,454 | 1,158 | 87 |
| Chinese Taipei | 17,983 | 17,169 | 3,186 | 1,754 | 863 | 72 |
| Colombia | 2,794 | 2,781 | 86 | 9 | 11 | 1 |
| Czech Republic | 5,110 | 3,096 | 3,146 | 71 | 50 | 31 |
| Denmark | 120,463 | 85,757 | 68,132 | 6,639 | 8,851 | 15,968 |
| Estonia | 1,059 | 70 | 1,046 | 4 | 5 | 0 |
| Finland | 31,254 | 19,456 | 21,612 | 258 | 893 | 8,302 |
| France | 151,621 | 130,191 | 83,245 | 22,119 | 21,059 | 11,100 |
| Germany | 108,598 | 85,305 | 69,003 | 13,163 | 14,436 | 11,661 |
| Greece | 5,164 | 3,022 | 4,381 | 647 | 285 | 641 |
| Hong Kong SAR | 237,568 | 227,015 | 38,346 | 30,960 | 11,970 | 2,401 |
| Hungary | 4,196 | 2,949 | 1,877 | 22 | 32 | 259 |
| India | 27,358 | 26,474 | 3,401 | 750 | 1,987 | 93 |
| Indonesia | 3,381 | 3,192 | 236 | 498 | 74 | 7 |
| Ireland | 14,578 | 9,793 | 10,220 | 1,259 | 4,553 | 665 |
| Israel | 10,017 | 9,715 | 211 | 31 | 15 | 21 |
| Italy | 28,601 | 23,969 | 21,405 | 2,256 | 3,206 | 1,738 |
| Japan | 312,326 | 254,353 | 58,970 | 248,863 | 18,378 | 3,174 |
| Korea | 43,824 | 43,149 | 2,897 | 2,105 | 393 | 57 |
| Latvia | 2,226 | 1,832 | 1,735 | 60 | 112 | 32 |
| Lithuania | 1,154 | 158 | 1,090 | 25 | 26 | 8 |
| Luxembourg | 33,363 | 27,856 | 21,553 | 4,516 | 4,161 | 1,672 |
| Malaysia | 7,262 | 6,693 | 789 | 422 | 361 | 14 |
| Mexico | 17,019 | 16,796 | 476 | 18 | 22 | 6 |
| Netherlands | 18,253 | 12,931 | 14,002 | 1,262 | 3,006 | 669 |
| New Zealand | 8,754 | 7,950 | 683 | 623 | 669 | 92 |
| Norway | 22,191 | 17,826 | 6,178 | 913 | 1,832 | 434 |
| Peru | 1,425 | 1,423 | 184 | 12 | 64 | 69 |
| Philippines | 5,017 | 4,813 | 674 | 114 | 51 | 8 |
| Poland | 7,847 | 4,887 | 3,916 | 48 | 164 | 378 |
| Portugal | 3,654 | 2,899 | 2,419 | 240 | 401 | 444 |
| Romania | 3,169 | 721 | 2,928 | 14 | 85 | 147 |
| Russia | 41,658 | 39,786 | 13,700 | 469 | 1,119 | 203 |
| Saudi Arabia | 5,291 | 4,430 | 967 | 305 | 774 | 44 |
| Singapore | 265,977 | 238,125 | 62,202 | 41,356 | 27,246 | 7,097 |
| Slovakia | 443 | 154 | 379 | 18 | 24 | 8 |
| South Africa | 14,375 | 13,946 | 1,887 | 308 | 800 | 108 |
| Spain | 29,322 | 24,608 | 15,578 | 1,775 | 7,518 | 954 |
| Sweden | 44,796 | 31,102 | 22,606 | 1,389 | 2,331 | 1,297 |
| Switzerland | 262,582 | 219,073 | 112,868 | 29,610 | 31,458 | 78,375 |
| Thailand | 7,390 | 6,869 | 617 | 855 | 174 | 16 |
| Turkey | 16,817 | 15,727 | 5,960 | 247 | 1,189 | 179 |
| United Kingdom | 1,853,594 | 1,570,573 | 820,234 | 342,118 | 330,748 | 112,685 |
| United States | 904,357 | 785,223 | 376,392 | 140,417 | 104,610 | 61,597 |
| **Total** | **5,056,282** | **4,315,781** | **1,978,693** | **934,464** | **636,027** | **332,439** |

For footnotes, see facing page.

Table E.5

## OTC foreign exchange turnover by country and currency in April 2010[1]

**Daily averages, in millions of US dollars**

| Specified currency against all other currencies[2] | | | | | |
|---|---|---|---|---|---|
| **Canadian dollar** | **Australian dollar** | **Swedish krona** | **Currencies of other reporting countries[3]** | **Residual currencies[4]** | |
| 1 | 0 | 0 | 1,375 | 0 | Argentina |
| 5,919 | 85,782 | 855 | 23,146 | 1,546 | Australia |
| 299 | 409 | 40 | 3,390 | 2,157 | Austria |
| 17 | 8 | 3 | 1,797 | 1,798 | Bahrain |
| 462 | 1,318 | 574 | 5,068 | 508 | Belgium |
| 119 | 119 | 28 | 9,955 | 20 | Brazil |
| 17 | 7 | 1 | 543 | 33 | Bulgaria |
| 42,699 | 2,090 | 557 | 5,735 | 110 | Canada |
| 24 | 1 | 1 | 5,055 | 0 | Chile |
| 136 | 630 | 14 | 15,683 | 0 | China |
| 250 | 1,580 | 18 | 11,069 | 6 | Chinese Taipei |
| 9 | 0 | 0 | 2,687 | 2 | Colombia |
| 6 | 6 | 10 | 3,800 | 4 | Czech Republic |
| 1,525 | 1,912 | 21,326 | 30,338 | 480 | Denmark |
| 0 | 0 | 5 | 987 | 0 | Estonia |
| 588 | 35 | 10,187 | 1,143 | 33 | Finland |
| 5,352 | 8,205 | 2,869 | 14,539 | 4,562 | France |
| 1,458 | 2,812 | 1,376 | 9,840 | 8,141 | Germany |
| 100 | 171 | 21 | 678 | 384 | Greece |
| 3,662 | 27,097 | ... | 121,895 | 11,790 | Hong Kong SAR |
| 3 | ... | 2 | 3,245 | 2 | Hungary |
| 120 | 180 | 17 | 21,403 | 292 | India |
| 3 | 88 | 0 | 2,553 | 111 | Indonesia |
| 352 | 671 | 392 | 662 | 589 | Ireland |
| 20 | 0 | 0 | 4,576 | 5,444 | Israel |
| 679 | 1,286 | 490 | 2,048 | 125 | Italy |
| 6,088 | 19,522 | 1,189 | 13,593 | 522 | Japan |
| 369 | 185 | 14 | 38,369 | 109 | Korea |
| 15 | 17 | 65 | 550 | 35 | Latvia |
| 0 | 2 | 2 | 998 | 1 | Lithuania |
| 362 | 1,906 | 1,250 | 3,304 | 146 | Luxembourg |
| 12 | 444 | 1 | 5,479 | 307 | Malaysia |
| 40 | 20 | 0 | 16,658 | 1 | Mexico |
| 314 | 317 | 218 | 632 | 3,157 | Netherlands |
| 114 | 1,324 | 4 | 6,047 | 3 | New Zealand |
| 119 | 1,643 | 1,067 | 14,368 | 2 | Norway |
| 20 | 0 | 0 | 1,077 | ... | Peru |
| 9 | 52 | 0 | 4,309 | 2 | Philippines |
| 6 | 10 | 21 | 6,226 | 38 | Poland |
| 109 | 65 | 40 | 683 | 7 | Portugal |
| 3 | 1 | 2 | 2,439 | 0 | Romania |
| 110 | 199 | 26 | 27,669 | 35 | Russia |
| 14 | 43 | 8 | 2,429 | 1,565 | Saudi Arabia |
| 10,086 | 33,186 | 1,837 | 108,660 | 2,159 | Singapore |
| 2 | 1 | 1 | 297 | 3 | Slovakia |
| 117 | 150 | 49 | 11,205 | 179 | South Africa |
| 239 | 1,018 | 139 | 3,022 | 3,794 | Spain |
| 800 | 641 | 22,344 | 6,955 | 127 | Sweden |
| 7,714 | 11,450 | 6,651 | 22,287 | 5,677 | Switzerland |
| 6 | 144 | 3 | 6,096 | 2 | Thailand |
| 32 | 45 | 7 | 10,155 | 93 | Turkey |
| 86,266 | 122,645 | 36,958 | 205,536 | 79,425 | United Kingdom |
| 83,095 | 61,166 | 10,358 | 99,626 | 86,230 | United States |
| **259,882** | **390,604** | **121,041** | **921,876** | **221,757** | **Total** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting. Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. [2] Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover. [3] Includes all participating countries' currencies other than the ones listed. [4] Difference between the total and the sum of the listed components. Table E.5 (cont)

## OTC foreign exchange turnover by country and currency in April 2010[1]

### US dollar against:

**Daily averages, in millions of US dollars**

| | Total | Euro | Yen | Pound sterling | Swiss franc | Canadian dollar | Australian dollar | Swedish krona |
|---|---|---|---|---|---|---|---|---|
| Argentina | 1,515 | 240 | 0 | 0 | 1 | 0 | 0 | 0 |
| Australia | 173,577 | 37,993 | 18,840 | 14,060 | 1,153 | 4,384 | 75,472 | 538 |
| Austria | 12,153 | 7,347 | 1,006 | 437 | 1,199 | 253 | 381 | 22 |
| Bahrain | 4,113 | 582 | 113 | 199 | 14 | 17 | 8 | 1 |
| Belgium | 27,190 | 15,122 | 821 | 5,030 | 1,132 | 225 | 1,061 | 390 |
| Brazil | 12,851 | 2,774 | 891 | 64 | 51 | 74 | 65 | 21 |
| Bulgaria | 249 | 205 | 4 | 19 | 0 | 0 | ... | ... |
| Canada | 58,224 | 5,980 | 1,996 | 2,133 | 477 | 40,205 | 1,745 | 319 |
| Chile | 5,488 | 382 | 28 | 58 | 1 | 23 | 1 | 1 |
| China | 16,565 | 2,460 | 1,608 | 383 | 73 | 132 | 610 | 4 |
| Chinese Taipei | 17,169 | 2,743 | 1,387 | 620 | 54 | 210 | 1,407 | 17 |
| Colombia | 2,781 | 76 | 7 | 11 | 1 | 9 | 0 | 0 |
| Czech Republic | 3,096 | 1,173 | 21 | 16 | 18 | 6 | 6 | 5 |
| Denmark | 85,757 | 38,501 | 2,928 | 5,135 | 12,562 | 1,096 | 1,404 | 6,169 |
| Estonia | 70 | 59 | 1 | 4 | ... | 0 | 0 | 0 |
| Finland | 19,456 | 9,859 | 188 | 316 | 8,261 | 350 | 7 | 15 |
| France | 130,191 | 63,910 | 18,765 | 11,509 | 7,930 | 4,608 | 6,246 | 2,176 |
| Germany | 85,305 | 48,063 | 8,938 | 8,842 | 5,405 | 962 | 2,108 | 791 |
| Greece | 3,022 | 2,412 | 110 | 127 | 103 | 53 | 70 | 4 |
| Hong Kong SAR | 227,015 | 33,103 | 27,078 | 10,049 | 2,401 | 3,239 | 24,641 | ... |
| Hungary | 2,949 | 670 | 15 | 21 | 148 | 1 | ... | ... |
| India | 26,474 | 2,760 | 574 | 1,800 | 84 | 110 | 158 | 14 |
| Indonesia | 3,192 | 202 | 364 | 68 | 7 | 2 | 79 | 0 |
| Ireland | 9,793 | 6,057 | 588 | 1,668 | 404 | 213 | 248 | 226 |
| Israel | 9,715 | ... | ... | ... | ... | ... | ... | ... |
| Italy | 23,969 | 17,314 | 955 | 1,570 | 1,024 | 242 | 1,117 | 371 |
| Japan | 254,353 | 28,699 | 195,835 | 8,630 | 1,726 | 3,424 | 8,163 | 385 |
| Korea | 43,149 | 2,526 | 1,831 | 343 | 53 | 339 | 170 | 13 |
| Latvia | 1,832 | 1,393 | 11 | 93 | 14 | 13 | 12 | 62 |
| Lithuania | 158 | 117 | 0 | 1 | 1 | 0 | 0 | 0 |
| Luxembourg | 27,856 | 16,652 | 3,370 | 2,444 | 1,092 | 160 | 1,262 | 485 |
| Malaysia | 6,693 | 484 | 244 | 269 | 12 | 10 | 354 | 1 |
| Mexico | 16,796 | 264 | 15 | 20 | 4 | 36 | 20 | 0 |
| Netherlands | 12,931 | 9,126 | 693 | 1,335 | 509 | 186 | 202 | 146 |
| New Zealand | 7,950 | 552 | 551 | 606 | 82 | 87 | 762 | 4 |
| Norway | 17,826 | 2,852 | 366 | 1,392 | 239 | 58 | 1,611 | 665 |
| Peru | 1,423 | 183 | 12 | 63 | 69 | 20 | 0 | 0 |
| Philippines | 4,813 | 486 | 87 | 49 | 6 | 9 | 45 | 0 |
| Poland | 4,887 | 1,125 | 20 | 81 | 181 | 2 | 3 | 2 |
| Portugal | 2,899 | 1,697 | 178 | 262 | 231 | 77 | 46 | 14 |
| Romania | 721 | 500 | 2 | 44 | 57 | 1 | 1 | 0 |
| Russia | 39,786 | 11,945 | 332 | 962 | 118 | 106 | 169 | 22 |
| Saudi Arabia | 4,430 | 786 | 246 | 633 | 26 | 14 | 20 | 7 |
| Singapore | 238,125 | 48,667 | 30,709 | 18,806 | 4,619 | 6,065 | 27,568 | 746 |
| Slovakia | 154 | 95 | 7 | 7 | 3 | 1 | 0 | 0 |
| South Africa | 13,946 | 1,572 | 258 | 677 | 101 | 99 | 138 | 47 |
| Spain | 24,608 | 12,194 | 1,053 | 6,160 | 745 | 145 | 932 | 82 |
| Sweden | 31,102 | 11,265 | 730 | 1,140 | 827 | 554 | 451 | 12,097 |
| Switzerland | 219,073 | 75,997 | 23,053 | 22,900 | 54,648 | 6,345 | 10,080 | 5,327 |
| Thailand | 6,869 | 441 | 579 | 139 | 10 | 4 | 107 | 2 |
| Turkey | 15,727 | 4,984 | 144 | 1,051 | 124 | 28 | 19 | 4 |
| United Kingdom | 1,570,573 | 595,230 | 250,348 | 232,509 | 71,464 | 74,938 | 101,968 | 24,150 |
| United States | 785,223 | 283,948 | 115,617 | 85,503 | 46,268 | 77,100 | 56,059 | 6,903 |
| **Total** | **4,315,781** | **1,413,767** | **713,515** | **450,257** | **225,732** | **226,236** | **326,993** | **62,252** |

For footnotes, see facing page.

Table E.6

## OTC foreign exchange turnover by country and currency in April 2010[1]

### US dollar against:

**Daily averages, in millions of US dollars**

| Brazilian real | Renminbi | Hong Kong dollar | Indian rupee | Won | Rand | Local currency | Residual currencies[2] | |
|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 1,271 | 0 | Argentina |
| 146 | 173 | 2,776 | 130 | 357 | 392 | ... | 17,162 | Australia |
| 1 | 1 | 49 | 1 | ... | 44 | ... | 1,413 | Austria |
| 0 | ... | ... | 0 | ... | 1 | 81 | 3,096 | Bahrain |
| ... | 39 | 421 | 4 | ... | 159 | ... | 2,786 | Belgium |
| 8,480 | 4 | ... | 1 | 8 | 24 | ... | 395 | Brazil |
| ... | ... | ... | ... | ... | ... | 17 | 4 | Bulgaria |
| 1,331 | 533 | 207 | 63 | 128 | 127 | ... | 2,982 | Canada |
| 14 | ... | 0 | ... | 0 | 0 | 4,887 | 94 | Chile |
| ... | 9,742 | 1,398 | ... | 2 | 19 | ... | 135 | China |
| 3 | 201 | 390 | 31 | 45 | 187 | 9,274 | 600 | Chinese Taipei |
| 3 | ... | ... | ... | ... | ... | 2,661 | 12 | Colombia |
| ... | ... | ... | ... | ... | 2 | 1,793 | 56 | Czech Republic |
| 8 | 12 | 179 | 11 | 1 | 74 | 11,028 | 6,650 | Denmark |
| ... | ... | ... | ... | ... | ... | 4 | 2 | Estonia |
| 1 | 6 | 0 | 2 | 1 | 1 | ... | 449 | Finland |
| 48 | 76 | 854 | 17 | 103 | 622 | ... | 13,327 | France |
| ... | ... | ... | ... | ... | ... | ... | 10,197 | Germany |
| ... | ... | 0 | ... | ... | 6 | ... | 138 | Greece |
| ... | 10,690 | 69,790 | 4,555 | 7,412 | ... | ... | 34,057 | Hong Kong SAR |
| ... | ... | ... | ... | ... | ... | 2,049 | 45 | Hungary |
| ... | ... | 2 | 20,879 | 0 | 12 | ... | 81 | India |
| ... | ... | 10 | 0 | ... | 0 | 2,394 | 65 | Indonesia |
| 1 | 0 | 56 | 6 | 11 | 10 | ... | 304 | Ireland |
| ... | ... | ... | ... | ... | ... | 4,274 | 5,441 | Israel |
| 0 | ... | 270 | 1 | ... | 183 | ... | 922 | Italy |
| 15 | 111 | 687 | 89 | 134 | 1,516 | ... | 4,937 | Japan |
| 13 | 12 | 188 | 8 | 37,391 | 7 | ... | 255 | Korea |
| ... | ... | ... | ... | ... | 0 | 15 | 221 | Latvia |
| ... | ... | ... | ... | ... | 0 | 11 | 27 | Lithuania |
| 1,065 | 19 | 98 | 11 | 15 | 248 | ... | 934 | Luxembourg |
| 0 | 2 | 23 | 0 | ... | 1 | 4,823 | 469 | Malaysia |
| 99 | ... | ... | ... | ... | 0 | 16,323 | 14 | Mexico |
| 0 | ... | 17 | 1 | ... | 10 | ... | 705 | Netherlands |
| ... | ... | 30 | 0 | 0 | 1 | 5,235 | 39 | New Zealand |
| 2 | 13 | 4 | 1 | 1 | 10 | 9,982 | 630 | Norway |
| 0 | ... | 0 | ... | ... | 0 | 1,072 | 3 | Peru |
| ... | 39 | 8 | ... | 0 | ... | 4,050 | 33 | Philippines |
| ... | ... | ... | ... | ... | 1 | 3,301 | 171 | Poland |
| 200 | ... | 18 | ... | 1 | 10 | ... | 165 | Portugal |
| ... | ... | ... | ... | ... | ... | 114 | 3 | Romania |
| ... | 0 | 1 | ... | ... | 1 | 26,081 | 47 | Russia |
| 0 | ... | 0 | 11 | 4 | 5 | 2,221 | 457 | Saudi Arabia |
| 305 | 7,447 | 14,226 | 6,728 | 15,072 | 386 | 29,388 | 27,393 | Singapore |
| ... | ... | ... | ... | ... | 0 | ... | 42 | Slovakia |
| ... | ... | 0 | ... | ... | 10,764 | ... | 291 | South Africa |
| 357 | 128 | 249 | 1 | 25 | 33 | ... | 2,505 | Spain |
| 2 | 9 | 35 | 1 | 4 | 48 | ... | 3,940 | Sweden |
| 272 | 117 | 479 | 185 | 298 | 3,071 | ... | 16,301 | Switzerland |
| ... | 0 | 13 | 0 | 1 | ... | 5,531 | 44 | Thailand |
| 0 | ... | 0 | ... | ... | 18 | 9,265 | 89 | Turkey |
| 5,481 | 6,772 | 13,462 | 5,141 | 7,877 | 11,874 | ... | 169,357 | United Kingdom |
| 10,722 | 3,025 | 4,965 | 3,866 | 2,832 | 2,723 | ... | 85,692 | United States |
| **28,570** | **39,170** | **110,910** | **41,742** | **71,722** | **32,592** | **157,145** | **415,179** | **Total** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.
[2] Calculated as the difference between the total and the sum of the listed components.

Table E.6 (cont)

## OTC foreign exchange turnover by country and currency in April 2010[1]

### Euro against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Yen | Pound sterling | Swiss franc |
|---|---|---|---|---|---|
| Argentina | 331 | 240 | ... | ... | ... |
| Australia | 46,744 | 37,993 | 2,213 | 1,365 | 216 |
| Austria | 14,325 | 7,347 | 468 | 259 | 2,502 |
| Bahrain | 879 | 582 | 2 | 7 | 0 |
| Belgium | 19,651 | 15,122 | 822 | 1,183 | 471 |
| Brazil | 3,280 | 2,774 | 2 | 14 | 12 |
| Bulgaria | 802 | 205 | 2 | 16 | 20 |
| Canada | 8,019 | 5,980 | 259 | 215 | 145 |
| Chile | 426 | 382 | ... | 0 | ... |
| China | 2,821 | 2,460 | 29 | 37 | 7 |
| Chinese Taipei | 3,186 | 2,743 | 146 | 143 | 5 |
| Colombia | 86 | 76 | ... | ... | ... |
| Czech Republic | 3,146 | 1,173 | 42 | 19 | 7 |
| Denmark | 68,132 | 38,501 | 2,471 | 1,705 | 1,797 |
| Estonia | 1,046 | 59 | 3 | 1 | 0 |
| Finland | 21,612 | 9,859 | 64 | 564 | 41 |
| France | 83,245 | 63,910 | 2,376 | 8,758 | 2,855 |
| Germany | 69,003 | 48,063 | 2,882 | 5,594 | 6,256 |
| Greece | 4,381 | 2,412 | 495 | 110 | 446 |
| Hong Kong SAR | 38,346 | 33,103 | 2,032 | 876 | ... |
| Hungary | 1,877 | 670 | 7 | 4 | 94 |
| India | 3,401 | 2,760 | 62 | 63 | 0 |
| Indonesia | 236 | 202 | 9 | 1 | 0 |
| Ireland | 10,220 | 6,057 | 533 | 2,620 | 184 |
| Israel | 211 | ... | ... | ... | ... |
| Italy | 21,405 | 17,314 | 963 | 1,329 | 594 |
| Japan | 58,970 | 28,699 | 27,211 | 970 | 604 |
| Korea | 2,897 | 2,526 | 120 | 1 | 0 |
| Latvia | 1,735 | 1,393 | 8 | 1 | 17 |
| Lithuania | 1,090 | 117 | 6 | 6 | 7 |
| Luxembourg | 21,553 | 16,652 | 668 | 1,601 | 508 |
| Malaysia | 789 | 484 | 44 | 36 | 1 |
| Mexico | 476 | 264 | ... | ... | ... |
| Netherlands | 14,002 | 9,126 | 126 | 1,656 | 155 |
| New Zealand | 683 | 552 | 13 | 16 | 3 |
| Norway | 6,178 | 2,852 | 322 | 131 | 61 |
| Peru | 184 | 183 | ... | ... | ... |
| Philippines | 674 | 486 | 21 | 0 | 1 |
| Poland | 3,916 | 1,125 | 15 | 49 | 135 |
| Portugal | 2,419 | 1,697 | 50 | 127 | 208 |
| Romania | 2,928 | 500 | 8 | 30 | 83 |
| Russia | 13,700 | 11,945 | 76 | 67 | 65 |
| Saudi Arabia | 967 | 786 | 4 | 98 | 9 |
| Singapore | 62,202 | 48,667 | 4,646 | 3,740 | 1,026 |
| Slovakia | 379 | 95 | 10 | 13 | 2 |
| South Africa | 1,887 | 1,572 | 9 | 79 | 2 |
| Spain | 15,578 | 12,194 | 366 | 1,247 | 181 |
| Sweden | 22,606 | 11,265 | 413 | 514 | 265 |
| Switzerland | 112,868 | 75,997 | 4,098 | 5,621 | 20,291 |
| Thailand | 617 | 441 | 23 | 8 | ... |
| Turkey | 5,960 | 4,984 | 76 | 35 | 47 |
| United Kingdom | 820,234 | 595,230 | 55,608 | 75,081 | 35,223 |
| United States | 376,392 | 283,948 | 21,513 | 19,098 | 15,329 |
| **Total** | **1,978,693** | **1,413,767** | **131,333** | **135,110** | **89,877** |

For footnotes, see facing page.

Table E.7

## OTC foreign exchange turnover by country and currency in April 2010[1]

### Euro against:

**Daily averages, in millions of US dollars**

| Canadian dollar | Australian dollar | Swedish krona | Local currency | Residual currencies[2] | |
|---|---|---|---|---|---|
| ... | ... | ... | 91 | 0 | Argentina |
| 303 | 3,041 | 190 | ... | 1,423 | Australia |
| 38 | 18 | 18 | ... | 3,675 | Austria |
| ... | ... | ... | 0 | 288 | Bahrain |
| 117 | 128 | 132 | ... | 1,676 | Belgium |
| 1 | 1 | 4 | 444 | 28 | Brazil |
| 7 | 7 | 1 | 517 | 27 | Bulgaria |
| 1,127 | 59 | 46 | ... | 188 | Canada |
| 0 | ... | ... | 43 | 0 | Chile |
| 0 | 8 | 0 | 265 | 14 | China |
| 8 | 41 | ... | 90 | 11 | Chinese Taipei |
| ... | ... | ... | 10 | 0 | Colombia |
| 0 | 0 | 5 | 1,694 | 205 | Czech Republic |
| 145 | 121 | 13,518 | 8,013 | 1,861 | Denmark |
| 0 | ... | 4 | 80 | 900 | Estonia |
| 226 | 26 | 10,151 | ... | 680 | Finland |
| 457 | 955 | 576 | ... | 3,360 | France |
| 495 | 438 | 584 | ... | 4,689 | Germany |
| 42 | 50 | 14 | ... | 812 | Greece |
| ... | ... | ... | 1,274 | 1,061 | Hong Kong SAR |
| 2 | ... | 2 | 1,030 | 69 | Hungary |
| 1 | 6 | 0 | 264 | 245 | India |
| 0 | 2 | 0 | 20 | 2 | Indonesia |
| 65 | 251 | 102 | ... | 409 | Ireland |
| ... | ... | ... | 211 | ... | Israel |
| 319 | 109 | 63 | ... | 714 | Italy |
| 381 | 364 | 174 | ... | 568 | Japan |
| 15 | 0 | ... | 234 | 1 | Korea |
| 2 | 3 | 2 | 231 | 77 | Latvia |
| 0 | 1 | 1 | 937 | 15 | Lithuania |
| 183 | 444 | 736 | ... | 761 | Luxembourg |
| ... | 17 | 0 | 67 | 140 | Malaysia |
| ... | ... | ... | 204 | 7 | Mexico |
| 127 | 110 | 71 | ... | 2,630 | Netherlands |
| 1 | 7 | 0 | 85 | 6 | New Zealand |
| 1 | 3 | 199 | 2,497 | 112 | Norway |
| ... | ... | ... | 1 | 0 | Peru |
| ... | 3 | ... | 162 | 1 | Philippines |
| 1 | 0 | 16 | 2,418 | 156 | Poland |
| 27 | 11 | 16 | ... | 282 | Portugal |
| 2 | 0 | 1 | 2,258 | 46 | Romania |
| 1 | 2 | 2 | 1,530 | 12 | Russia |
| 0 | 1 | 1 | 6 | 61 | Saudi Arabia |
| 974 | 971 | 351 | 238 | 1,589 | Singapore |
| 1 | 1 | 0 | ... | 257 | Slovakia |
| 7 | 1 | 1 | 204 | 12 | South Africa |
| 85 | 83 | 42 | ... | 1,379 | Spain |
| 65 | 37 | 8,266 | ... | 1,782 | Sweden |
| 607 | 464 | 973 | ... | 4,817 | Switzerland |
| ... | 1 | ... | 145 | 0 | Thailand |
| 3 | 1 | 0 | 797 | 18 | Turkey |
| 4,400 | 5,040 | 10,617 | ... | 39,034 | United Kingdom |
| 5,947 | 1,920 | 3,455 | ... | 25,182 | United States |
| **16,185** | **14,748** | **50,333** | **26,059** | **101,281** | **Total** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.
[2] Calculated as the difference between the total and the sum of the listed components.

Table E.7 (cont)

## OTC foreign exchange turnover by country and currency in April 2010[1]

### Yen against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Euro | Australian dollar | New Zealand dollar | Local currency | Residual currencies[2] |
|---|---|---|---|---|---|---|---|
| Argentina | 1 | 0 | ... | ... | ... | 1 | ... |
| Australia | 25,215 | 18,840 | 2,213 | 2,769 | 180 | ... | 1,211 |
| Austria | 1,795 | 1,006 | 468 | 6 | 1 | ... | 314 |
| Bahrain | 168 | 113 | 2 | ... | ... | 1 | 53 |
| Belgium | 1,876 | 821 | 822 | 25 | 7 | ... | 202 |
| Brazil | 1,544 | 891 | 2 | 52 | 98 | 63 | 439 |
| Bulgaria | 9 | 4 | 2 | ... | ... | 0 | 3 |
| Canada | 2,827 | 1,996 | 259 | 62 | 58 | ... | 452 |
| Chile | 32 | 28 | ... | ... | ... | 4 | 0 |
| China | 2,454 | 1,608 | 29 | 10 | ... | 73 | 735 |
| Chinese Taipei | 1,754 | 1,387 | 146 | 64 | 21 | 68 | 67 |
| Colombia | 9 | 7 | ... | ... | ... | 0 | 2 |
| Czech Republic | 71 | 21 | 42 | ... | ... | 7 | 1 |
| Denmark | 6,639 | 2,928 | 2,471 | 220 | 16 | 105 | 900 |
| Estonia | 4 | 1 | 3 | ... | ... | ... | 0 |
| Finland | 258 | 188 | 64 | 0 | ... | ... | 6 |
| France | 22,119 | 18,765 | 2,376 | 552 | 13 | ... | 413 |
| Germany | 13,163 | 8,938 | 2,882 | 266 | ... | ... | 1,078 |
| Greece | 647 | 110 | 495 | 28 | 1 | ... | 14 |
| Hong Kong SAR | 30,960 | 27,078 | 2,032 | 904 | 92 | 238 | 615 |
| Hungary | 22 | 15 | 7 | ... | ... | 0 | 0 |
| India | 750 | 574 | 62 | 1 | 0 | 37 | 77 |
| Indonesia | 498 | 364 | 9 | 2 | 0 | 63 | 60 |
| Ireland | 1,259 | 588 | 533 | 8 | 1 | ... | 128 |
| Israel | 31 | ... | ... | ... | ... | 31 | ... |
| Italy | 2,256 | 955 | 963 | 23 | 37 | ... | 278 |
| Japan | 248,863 | 195,835 | 27,211 | 10,336 | 2,025 | ... | 13,456 |
| Korea | 2,105 | 1,831 | 120 | 3 | 0 | 144 | 7 |
| Latvia | 60 | 11 | 8 | 1 | ... | ... | 40 |
| Lithuania | 25 | 0 | 6 | 0 | ... | 0 | 18 |
| Luxembourg | 4,516 | 3,370 | 668 | 179 | 94 | ... | 205 |
| Malaysia | 422 | 244 | 44 | 8 | 0 | 37 | 89 |
| Mexico | 18 | 15 | ... | ... | ... | 2 | 1 |
| Netherlands | 1,262 | 693 | 126 | 2 | ... | ... | 441 |
| New Zealand | 623 | 551 | 13 | 15 | 40 | ... | 4 |
| Norway | 913 | 366 | 322 | ... | ... | 198 | 26 |
| Peru | 12 | 12 | ... | ... | ... | ... | ... |
| Philippines | 114 | 87 | 21 | 1 | ... | 2 | 3 |
| Poland | 48 | 20 | 15 | 6 | ... | 6 | 1 |
| Portugal | 240 | 178 | 50 | ... | ... | ... | 12 |
| Romania | 14 | 2 | 8 | ... | ... | 1 | 2 |
| Russia | 469 | 332 | 76 | 2 | ... | 2 | 57 |
| Saudi Arabia | 305 | 246 | 4 | 10 | 2 | 4 | 39 |
| Singapore | 41,356 | 30,709 | 4,646 | 1,671 | 249 | 285 | 3,796 |
| Slovakia | 18 | 7 | 10 | ... | ... | ... | 2 |
| South Africa | 308 | 258 | 9 | 4 | ... | 14 | 23 |
| Spain | 1,775 | 1,053 | 366 | 3 | 0 | ... | 352 |
| Sweden | 1,389 | 730 | 413 | 12 | 2 | ... | 233 |
| Switzerland | 29,610 | 23,053 | 4,098 | 221 | 35 | ... | 2,204 |
| Thailand | 855 | 579 | 23 | 0 | ... | 246 | 8 |
| Turkey | 247 | 144 | 76 | 0 | ... | 22 | 5 |
| United Kingdom | 342,118 | 250,348 | 55,608 | 7,835 | 1,437 | ... | 26,890 |
| United States | 140,417 | 115,617 | 21,513 | 3,061 | 226 | ... | 0 |
| **Total** | **934,464** | **713,515** | **131,333** | **28,361** | **4,633** | **1,657** | **54,965** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. [2] Calculated as the difference between the total and the sum of the listed components.

Table E.8

## OTC foreign exchange turnover by country and currency in April 2010[1]

### Local currency against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Euro | Yen | Pound sterling |
|---|---|---|---|---|---|
| Argentina | 1,369 | 1,271 | 91 | 1 | 1 |
| Australia | 85,782 | 75,472 | 3,041 | 2,769 | 1,465 |
| Austria | 14,325 | 7,347 | ... | 468 | 259 |
| Bahrain | 162 | 81 | 0 | 1 | 79 |
| Belgium | 19,651 | 15,122 | ... | 822 | 1,183 |
| Brazil | 9,071 | 8,480 | 444 | 63 | 8 |
| Bulgaria | 536 | 17 | 517 | 0 | 1 |
| Canada | 42,699 | 40,205 | 1,127 | 383 | 395 |
| Chile | 4,942 | 4,887 | 43 | 4 | 1 |
| China | 12,110 | 9,742 | 265 | 73 | 10 |
| Chinese Taipei | 9,507 | 9,274 | 90 | 68 | 11 |
| Colombia | 2,672 | 2,661 | 10 | 0 | 0 |
| Czech Republic | 3,527 | 1,793 | 1,694 | 7 | 13 |
| Denmark | 20,805 | 11,028 | 8,013 | 105 | 349 |
| Estonia | 85 | 4 | 80 | ... | 0 |
| Finland | 21,612 | 9,859 | ... | 64 | 564 |
| France | 83,245 | 63,910 | ... | 2,376 | 8,758 |
| Germany | 69,003 | 48,063 | ... | 2,882 | 5,594 |
| Greece | 4,381 | 2,412 | ... | 495 | 110 |
| Hong Kong SAR | 72,604 | 69,790 | 1,274 | 238 | 324 |
| Hungary | 3,113 | 2,049 | 1,030 | 0 | 5 |
| India | 21,301 | 20,879 | 264 | 37 | 82 |
| Indonesia | 2,507 | 2,394 | 20 | 63 | 4 |
| Ireland | 10,220 | 6,057 | ... | 533 | 2,620 |
| Israel | 4,576 | 4,274 | 211 | 31 | 15 |
| Italy | 21,405 | 17,314 | ... | 963 | 1,329 |
| Japan | 248,863 | 195,835 | 27,211 | ... | 7,994 |
| Korea | 37,918 | 37,391 | 234 | 144 | 49 |
| Latvia | 255 | 15 | 231 | ... | 1 |
| Lithuania | 953 | 11 | 937 | 0 | 1 |
| Luxembourg | 21,553 | 16,652 | ... | 668 | 1,601 |
| Malaysia | 5,043 | 4,823 | 67 | 37 | 18 |
| Mexico | 16,537 | 16,323 | 204 | 2 | 1 |
| Netherlands | 14,002 | 9,126 | ... | 126 | 1,656 |
| New Zealand | 5,962 | 5,235 | 85 | 40 | 43 |
| Norway | 13,471 | 9,982 | 2,497 | 198 | 273 |
| Peru | 1,074 | 1,072 | 1 | ... | 1 |
| Philippines | 4,223 | 4,050 | 162 | 2 | 1 |
| Poland | 5,880 | 3,301 | 2,418 | 6 | 31 |
| Portugal | 2,419 | 1,697 | ... | 50 | 127 |
| Romania | 2,389 | 114 | 2,258 | 1 | 8 |
| Russia | 27,638 | 26,081 | 1,530 | 2 | 7 |
| Saudi Arabia | 2,381 | 2,221 | 6 | 4 | 1 |
| Singapore | 31,741 | 29,388 | 238 | 285 | 206 |
| South Africa | 11,056 | 10,764 | 204 | 14 | 35 |
| Spain | 15,578 | 12,194 | ... | 366 | 1,247 |
| Sweden | 22,344 | 12,097 | 8,266 | 131 | 533 |
| Switzerland | 78,375 | 54,648 | 20,291 | 664 | 1,578 |
| Thailand | 6,012 | 5,531 | 145 | 246 | 19 |
| Turkey | 10,117 | 9,265 | 797 | 22 | 28 |
| United Kingdom | 330,748 | 232,509 | 75,081 | 12,228 | ... |
| United States | 785,223 | ... | 283,948 | 115,617 | 85,503 |
| **Total** | **2,242,964** | **1,134,709** | **445,025** | **143,303** | **124,142** |

For footnotes, see facing page.

Table E.9

## OTC foreign exchange turnover by country and currency in April 2010[1]

### Local currency against:

**Daily averages, in millions of US dollars**

| Swiss franc | Canadian dollar | Australian dollar | Swedish krona | Residual currencies[2] | |
|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 5 | Argentina |
| 170 | 700 | ... | 61 | 2,104 | Australia |
| 2,502 | 38 | 18 | 18 | 3,675 | Austria |
| 0 | ... | ... | ... | 1 | Bahrain |
| 471 | 117 | 128 | 132 | 1,676 | Belgium |
| 23 | 13 | 2 | 3 | 36 | Brazil |
| 0 | 0 | 0 | 0 | 0 | Bulgaria |
| 90 | ... | 175 | 190 | 134 | Canada |
| 0 | 1 | 0 | 0 | 5 | Chile |
| 6 | 3 | 2 | 9 | 2,000 | China |
| 3 | 6 | 17 | 0 | 38 | Chinese Taipei |
| 0 | 0 | 0 | 0 | 0 | Colombia |
| 6 | 0 | 0 | 0 | 12 | Czech Republic |
| 494 | 20 | 35 | 450 | 311 | Denmark |
| 0 | ... | 0 | 0 | 0 | Estonia |
| 41 | 226 | 26 | 10,151 | 680 | Finland |
| 2,855 | 457 | 955 | 576 | 3,360 | France |
| 6,256 | 495 | 438 | 584 | 4,689 | Germany |
| 446 | 42 | 50 | 14 | 812 | Greece |
| ... | 90 | 517 | ... | 371 | Hong Kong SAR |
| 14 | ... | ... | 0 | 15 | Hungary |
| 7 | 4 | 8 | 2 | 16 | India |
| 0 | 0 | 4 | 0 | 22 | Indonesia |
| 184 | 65 | 251 | 102 | 409 | Ireland |
| 21 | 20 | 0 | 0 | 3 | Israel |
| 594 | 319 | 109 | 63 | 714 | Italy |
| 536 | 1,794 | 10,336 | 260 | 4,897 | Japan |
| 4 | 8 | 12 | 0 | 76 | Korea |
| ... | ... | ... | 0 | 9 | Latvia |
| 0 | 0 | 0 | 1 | 3 | Lithuania |
| 508 | 183 | 444 | 736 | 761 | Luxembourg |
| 1 | 0 | 23 | 0 | 73 | Malaysia |
| 1 | 4 | 0 | 0 | 0 | Mexico |
| 155 | 127 | 110 | 71 | 2,630 | Netherlands |
| 7 | 15 | 530 | 0 | 8 | New Zealand |
| 126 | 59 | 28 | 189 | 119 | Norway |
| ... | ... | ... | ... | 0 | Peru |
| 0 | 0 | 0 | ... | 6 | Philippines |
| 62 | 3 | 0 | 3 | 56 | Poland |
| 208 | 27 | 11 | 16 | 282 | Portugal |
| 5 | 0 | 0 | 0 | 2 | Romania |
| 12 | 0 | 0 | 2 | 4 | Russia |
| 0 | 0 | 1 | 0 | 147 | Saudi Arabia |
| 74 | 106 | 395 | 24 | 1,025 | Singapore |
| 6 | 7 | 7 | 1 | 18 | South Africa |
| 181 | 85 | 83 | 42 | 1,379 | Spain |
| 141 | 88 | 89 | ... | 1,000 | Sweden |
| ... | 375 | 314 | 86 | 420 | Switzerland |
| 5 | 2 | 37 | 1 | 27 | Thailand |
| 1 | 0 | 0 | 2 | 3 | Turkey |
| 2,544 | 1,745 | 2,799 | 645 | 3,197 | United Kingdom |
| 46,268 | 77,100 | 56,059 | 6,903 | 113,825 | United States |
| **65,031** | **84,346** | **74,015** | **21,339** | **151,054** | **Total** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.
[2] Calculated as the difference between the total and the sum of the listed components.

Table E.9 (cont)

## Foreign exchange turnover by country and counterparty in April 2010[1]

**Daily averages, in millions of US dollars**

| | Gross turnover[2] | Net turnover[3] | | | | |
|---|---|---|---|---|---|---|
| | | Total | With reporting local dealers | With reporting dealers abroad | With other financial institutions | With non-financial customers |
| Argentina | 1,895 | 1,613 | 282 | ... | 349 | 982 |
| Australia | 218,158 | 192,052 | 26,106 | 91,598 | 61,045 | 13,304 |
| Austria | 20,039 | 19,549 | 490 | 13,029 | 5,327 | 704 |
| Bahrain | 4,619 | 4,543 | 76 | 2,881 | 1,476 | 110 |
| Belgium | 32,770 | 32,524 | 247 | 19,824 | 10,832 | 1,621 |
| Brazil | 15,609 | 14,094 | 1,516 | 3,854 | 5,951 | 2,773 |
| Bulgaria | 874 | 866 | 9 | 288 | 411 | 158 |
| Canada | 68,546 | 61,892 | 6,654 | 27,090 | 22,765 | 5,383 |
| Chile | 7,229 | 5,544 | 1,684 | 1,428 | 1,430 | 1,001 |
| China | 27,486 | 19,774 | 7,712 | 2,411 | 5,738 | 3,913 |
| Chinese Taipei | 20,034 | 17,983 | 2,050 | 6,060 | 5,740 | 4,132 |
| Colombia | 3,822 | 2,794 | 1,028 | 403 | 721 | 641 |
| Czech Republic | 5,489 | 5,110 | 379 | 3,822 | 168 | 742 |
| Denmark | 123,231 | 120,463 | 2,767 | 82,165 | 12,189 | 23,342 |
| Estonia | 1,063 | 1,059 | 4 | 997 | 10 | 48 |
| Finland | 31,316 | 31,254 | 62 | 28,911 | 507 | 1,775 |
| France | 162,906 | 151,509 | 11,397 | 90,000 | 39,438 | 10,674 |
| Germany | 115,740 | 108,598 | 7,142 | 58,985 | 34,452 | 8,019 |
| Greece | 5,244 | 5,164 | 79 | 3,702 | 812 | 571 |
| Hong Kong SAR | 257,327 | 237,542 | 19,785 | 160,049 | 44,587 | 13,121 |
| Hungary | 4,763 | 4,196 | 567 | 2,172 | 1,077 | 379 |
| India | 38,857 | 27,358 | 11,499 | 5,413 | 2,340 | 8,106 |
| Indonesia | 4,632 | 3,381 | 1,251 | 1,197 | 387 | 546 |
| Ireland | 14,994 | 14,578 | 416 | 7,305 | 6,003 | 854 |
| Israel | 10,333 | 10,017 | 317 | ... | 7,771 | 1,929 |
| Italy | 29,695 | 28,601 | 1,093 | 23,328 | 2,877 | 1,303 |
| Japan | 337,389 | 312,326 | 25,063 | 163,998 | 77,739 | 45,526 |
| Korea | 67,241 | 43,824 | 23,417 | 10,470 | 5,840 | 4,096 |
| Latvia | 2,359 | 2,226 | 133 | 340 | 804 | 950 |
| Lithuania | 1,183 | 1,154 | 29 | 903 | 88 | 134 |
| Luxembourg | 34,408 | 33,363 | 1,045 | 22,581 | 8,426 | 1,313 |
| Malaysia | 8,262 | 7,262 | 1,000 | 1,736 | 2,130 | 2,396 |
| Mexico | 18,156 | 17,019 | 1,137 | 12,594 | 2,005 | 1,282 |
| Netherlands | 18,626 | 18,253 | 372 | 9,892 | 6,690 | 1,300 |
| New Zealand | 9,460 | 8,754 | 706 | 2,557 | 4,811 | 680 |
| Norway | 22,450 | 22,191 | 260 | 13,078 | 5,363 | 3,490 |
| Peru | 1,856 | 1,425 | 431 | 455 | 200 | 338 |
| Philippines | 7,649 | 5,017 | 2,632 | 1,491 | 514 | 379 |
| Poland | 8,632 | 7,847 | 785 | 4,812 | 1,479 | 771 |
| Portugal | 3,831 | 3,654 | 177 | 1,976 | 1,090 | 411 |
| Romania | 3,518 | 3,169 | 349 | 2,063 | 375 | 383 |
| Russia | 49,217 | 41,658 | 7,559 | 10,793 | 15,520 | 7,785 |
| Saudi Arabia | 6,136 | 5,291 | 845 | 3,082 | 597 | 766 |
| Singapore | 278,929 | 265,899 | 13,030 | 161,046 | 72,693 | 19,131 |
| Slovakia | 445 | 443 | 1 | 297 | 50 | 95 |
| South Africa | 17,092 | 14,375 | 2,717 | 9,994 | 799 | 865 |
| Spain | 29,794 | 29,322 | 472 | 17,662 | 2,061 | 9,127 |
| Sweden | 45,640 | 44,796 | 844 | 16,548 | 17,529 | 9,874 |
| Switzerland | 273,640 | 262,582 | 11,058 | 149,097 | 79,536 | 22,890 |
| Thailand | 9,649 | 7,390 | 2,259 | 2,206 | 819 | 2,107 |
| Turkey | 17,677 | 16,817 | 860 | 13,913 | 918 | 1,127 |
| United Kingdom | 2,065,334 | 1,853,594 | 211,741 | 597,232 | 866,375 | 178,246 |
| United States | 963,283 | 904,357 | 58,926 | 283,301 | 451,019 | 111,111 |
| **Total** | **5,528,525** | **5,056,067** | **472,459** | **2,151,028** | **1,899,874** | **532,706** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. [2] Not adjusted for inter-dealer double-counting (ie "gross-gross" basis). [3] Adjusted for local inter-dealer double-counting (ie "net-gross" basis).

Table E.10

## Spot foreign exchange turnover by country and counterparty in April 2010[1]

**Daily averages, in millions of US dollars**

| | Total | Reporting dealers | | Other financial institutions | | Non-financial customers | |
|---|---|---|---|---|---|---|---|
| | | Local | Cross-border | Local | Cross-border | Local | Cross-border |
| Argentina | 1,581 | 282 | ... | 116 | 232 | 949 | 2 |
| Australia | 60,188 | 5,326 | 21,958 | 2,706 | 21,262 | 5,083 | 3,854 |
| Austria | 5,874 | 190 | 3,302 | 521 | 1,586 | 202 | 72 |
| Bahrain | 723 | 1 | 301 | 65 | 326 | 11 | 18 |
| Belgium | 7,909 | 65 | 5,188 | 77 | 2,355 | 111 | 113 |
| Brazil | 8,743 | 1,467 | 2,272 | 2,256 | 1,326 | 1,371 | 50 |
| Bulgaria | 595 | 9 | 83 | 366 | 3 | 134 | 1 |
| Canada | 18,281 | 1,185 | 9,786 | 1,359 | 4,258 | 1,382 | 310 |
| Chile | 2,695 | 990 | 452 | 618 | 8 | 623 | 3 |
| China | 8,604 | 4,460 | 1,522 | 1,406 | 757 | 458 | 0 |
| Chinese Taipei | 7,728 | 1,023 | 2,605 | 1,058 | 820 | 1,642 | 581 |
| Colombia | 1,760 | 823 | 54 | 434 | 11 | 433 | 5 |
| Czech Republic | 1,067 | 60 | 794 | 18 | 6 | 167 | 23 |
| Denmark | 33,032 | 543 | 12,987 | 146 | 2,850 | 1,277 | 15,230 |
| Estonia | 82 | 0 | 40 | 4 | 0 | 25 | 13 |
| Finland | 816 | 34 | 424 | 18 | 37 | 241 | 61 |
| France | 27,054 | 1,000 | 17,225 | 1,715 | 4,987 | 957 | 1,170 |
| Germany | 30,107 | 1,281 | 20,117 | 1,580 | 5,478 | 511 | 1,140 |
| Greece | 1,316 | 1 | 1,037 | 13 | 147 | 118 | ... |
| Hong Kong SAR | 43,783 | 2,275 | 30,416 | 864 | 5,874 | 2,555 | 1,800 |
| Hungary | 763 | 39 | 367 | 70 | 150 | 133 | 4 |
| India | 13,411 | 5,597 | 3,284 | 583 | 988 | 2,944 | 15 |
| Indonesia | 2,183 | 793 | 794 | 24 | 182 | 364 | 27 |
| Ireland | 3,535 | 6 | 1,553 | 223 | 1,614 | 84 | 55 |
| Israel | 3,880 | 107 | ... | 279 | 2,351 | 1,136 | 6 |
| Italy | 9,025 | 326 | 7,109 | 441 | 324 | 783 | 43 |
| Japan | 101,459 | 4,979 | 58,161 | 5,318 | 12,548 | 19,054 | 1,398 |
| Korea | 18,488 | 9,412 | 3,303 | 2,423 | 1,311 | 1,915 | 124 |
| Latvia | 779 | 38 | 108 | 14 | 163 | 25 | 432 |
| Lithuania | 260 | 3 | 79 | 73 | 2 | 92 | 11 |
| Luxembourg | 11,692 | 239 | 7,410 | 856 | 2,761 | 229 | 197 |
| Malaysia | 3,920 | 499 | 1,205 | 557 | 640 | 988 | 31 |
| Mexico | 5,296 | 446 | 2,846 | 590 | 260 | 1,143 | 11 |
| Netherlands | 5,081 | 53 | 4,256 | 352 | 289 | 84 | 47 |
| New Zealand | 1,533 | 75 | 530 | 108 | 639 | 174 | 7 |
| Norway | 2,296 | 22 | 1,126 | 159 | 198 | 756 | 35 |
| Peru | 1,017 | 349 | 266 | 85 | 5 | 312 | 0 |
| Philippines | 2,121 | 1,050 | 674 | 181 | 50 | 162 | 4 |
| Poland | 1,955 | 110 | 996 | 186 | 202 | 459 | 2 |
| Portugal | 1,060 | 107 | 565 | 7 | 224 | 150 | 7 |
| Romania | 1,263 | 171 | 640 | 71 | 59 | 314 | 7 |
| Russia | 22,544 | 4,523 | 4,128 | 4,775 | 2,256 | 2,323 | 4,540 |
| Saudi Arabia | 3,276 | 479 | 1,887 | 175 | 199 | 536 | ... |
| Singapore | 90,798 | 2,421 | 50,878 | 2,934 | 28,231 | 1,873 | 4,461 |
| Slovakia | 196 | 0 | 124 | 2 | 36 | 31 | 3 |
| South Africa | 4,036 | 563 | 2,809 | 80 | 269 | 274 | 42 |
| Spain | 8,274 | 52 | 5,504 | 114 | 306 | 514 | 1,785 |
| Sweden | 11,794 | 433 | 5,988 | 744 | 3,369 | 816 | 444 |
| Switzerland | 60,905 | 2,048 | 36,869 | 2,750 | 13,190 | 3,185 | 2,862 |
| Thailand | 2,941 | 405 | 1,145 | 51 | 317 | 973 | 50 |
| Turkey | 5,488 | 627 | 4,249 | 153 | 173 | 285 | 1 |
| United Kingdom | 696,514 | 82,440 | 210,377 | 115,491 | 228,579 | 13,198 | 46,429 |
| United States | 472,580 | 36,471 | 134,400 | 146,041 | 99,745 | 17,781 | 38,142 |
| **Total** | **1,832,302** | **175,900** | **684,193** | **301,247** | **453,955** | **91,339** | **125,667** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.11

## Outright forward foreign exchange turnover by country and counterparty in April 2010[1]

**Daily averages, in millions of US dollars**

| | Total | Reporting dealers | | Other financial institutions | | Non-financial customers | |
|---|---|---|---|---|---|---|---|
| | | Local | Cross-border | Local | Cross-border | Local | Cross-border |
| Argentina | 31 | ... | ... | ... | ... | 31 | ... |
| Australia | 8,015 | 459 | 1,760 | 2,399 | 1,863 | 1,340 | 194 |
| Austria | 1,841 | 29 | 1,300 | 173 | 141 | 187 | 11 |
| Bahrain | 101 | 9 | 14 | 20 | 39 | 2 | 18 |
| Belgium | 1,548 | 5 | 1,130 | 11 | 240 | 80 | 81 |
| Brazil | 3,801 | 21 | 1,423 | 486 | 907 | 700 | 265 |
| Bulgaria | 55 | ... | 30 | 6 | 2 | 18 | 0 |
| Canada | 6,287 | 440 | 1,490 | 1,847 | 1,256 | 1,042 | 212 |
| Chile | 2,120 | 225 | 865 | 545 | 147 | 338 | ... |
| China | 3,054 | 415 | 180 | 83 | 99 | 2,215 | 63 |
| Chinese Taipei | 1,222 | 67 | 376 | 181 | 11 | 505 | 81 |
| Colombia | 975 | 201 | 313 | 199 | 70 | 192 | ... |
| Czech Republic | 198 | 1 | 24 | 4 | 0 | 165 | 3 |
| Denmark | 11,110 | 353 | 6,593 | 503 | 2,109 | 1,077 | 475 |
| Estonia | 1 | ... | 0 | 0 | ... | ... | 0 |
| Finland | 462 | 9 | 20 | 17 | 1 | 290 | 125 |
| France | 9,918 | 729 | 4,688 | 803 | 1,718 | 847 | 1,133 |
| Germany | 8,094 | 505 | 952 | 1,132 | 4,280 | 855 | 370 |
| Greece | 196 | ... | 8 | ... | 19 | 168 | 1 |
| Hong Kong SAR | 32,022 | 1,689 | 20,032 | 431 | 5,401 | 1,125 | 3,344 |
| Hungary | 262 | ... | ... | 39 | 2 | 214 | 7 |
| India | 4,895 | 345 | 160 | 40 | 254 | 4,091 | 5 |
| Indonesia | 247 | 17 | 26 | 53 | 28 | 123 | ... |
| Ireland | 2,196 | 0 | 564 | 223 | 1,154 | 192 | 62 |
| Israel | 154 | 14 | ... | 42 | 79 | 18 | 1 |
| Italy | 1,266 | 117 | 607 | 250 | 46 | 204 | 43 |
| Japan | 31,625 | 857 | 7,187 | 9,873 | 529 | 12,247 | 931 |
| Korea | 6,101 | 570 | 3,867 | 400 | 422 | 805 | 37 |
| Latvia | 12 | ... | ... | 0 | 0 | 11 | 1 |
| Lithuania | 17 | ... | 16 | 0 | 0 | 1 | 0 |
| Luxembourg | 4,480 | 44 | 1,151 | 905 | 1,831 | 338 | 212 |
| Malaysia | 664 | 6 | 108 | 37 | 87 | 398 | 28 |
| Mexico | 954 | 8 | 647 | 179 | 45 | 68 | 9 |
| Netherlands | 8,540 | 138 | 3,103 | 1,196 | 3,660 | 190 | 254 |
| New Zealand | 685 | 1 | 307 | 108 | 54 | 214 | 1 |
| Norway | 1,819 | 4 | 339 | 505 | 126 | 800 | 45 |
| Peru | 385 | 81 | 172 | 102 | 8 | 22 | ... |
| Philippines | 598 | 33 | 265 | 14 | 86 | 201 | 0 |
| Poland | 318 | 3 | 20 | 69 | 4 | 221 | 1 |
| Portugal | 496 | 3 | 222 | 3 | 91 | 57 | 120 |
| Romania | 95 | 5 | 50 | 5 | 2 | 31 | 2 |
| Russia | 592 | 4 | 171 | 143 | 186 | 73 | 16 |
| Saudi Arabia | 665 | 139 | 458 | 3 | 7 | 58 | ... |
| Singapore | 36,474 | 1,722 | 22,867 | 1,146 | 7,683 | 1,170 | 1,887 |
| Slovakia | 33 | 0 | 13 | 0 | 1 | 16 | 4 |
| South Africa | 688 | 113 | 262 | 19 | 19 | 266 | 8 |
| Spain | 2,668 | 38 | 1,229 | 43 | 325 | 480 | 553 |
| Sweden | 1,944 | 16 | 97 | 417 | 226 | 990 | 198 |
| Switzerland | 11,238 | 998 | 2,462 | 709 | 1,483 | 2,498 | 3,088 |
| Thailand | 971 | 8 | 88 | 26 | 18 | 818 | 14 |
| Turkey | 2,517 | 131 | 2,037 | 102 | 12 | 234 | 1 |
| United Kingdom | 228,122 | 12,970 | 50,500 | 37,048 | 87,291 | 5,811 | 34,503 |
| United States | 116,107 | 5,092 | 27,555 | 36,563 | 31,011 | 10,027 | 5,859 |
| **Total** | **558,882** | **28,634** | **167,751** | **99,098** | **155,073** | **54,062** | **54,265** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.12

## Foreign exchange swap turnover by country and counterparty in April 2010[1]

**Daily averages, in millions of US dollars**

| | Total | Reporting dealers | | Other financial institutions | | Non-financial customers | |
|---|---|---|---|---|---|---|---|
| | | Local | Cross-border | Local | Cross-border | Local | Cross-border |
| Argentina | ... | ... | ... | ... | ... | ... | ... |
| Australia | 117,548 | 19,867 | 64,065 | 4,789 | 26,230 | 1,058 | 1,539 |
| Austria | 10,725 | 245 | 7,792 | 493 | 2,063 | 75 | 57 |
| Bahrain | 3,596 | 66 | 2,462 | 88 | 933 | 1 | 48 |
| Belgium | 22,473 | 165 | 13,088 | 508 | 7,509 | 501 | 701 |
| Brazil | 292 | ... | 30 | 60 | 75 | 95 | 33 |
| Bulgaria | 211 | ... | 171 | 16 | 19 | 5 | ... |
| Canada | 33,853 | 4,838 | 13,676 | 3,199 | 10,210 | 1,430 | 499 |
| Chile | 522 | 462 | 7 | 25 | 3 | 25 | ... |
| China | 8,024 | 2,837 | 666 | 3,281 | 90 | 1,128 | 22 |
| Chinese Taipei | 7,418 | 876 | 2,404 | 3,148 | 274 | 713 | 3 |
| Colombia | 29 | 4 | 17 | 1 | 3 | 4 | ... |
| Czech Republic | 3,775 | 318 | 2,965 | 110 | 25 | 208 | 150 |
| Denmark | 72,356 | 1,327 | 60,450 | 1,008 | 4,927 | 2,644 | 2,000 |
| Estonia | 973 | 4 | 955 | 6 | ... | 8 | 0 |
| Finland | 29,827 | 13 | 28,375 | 15 | 412 | 579 | 432 |
| France | 104,262 | 9,523 | 60,184 | 6,918 | 21,480 | 3,409 | 2,748 |
| Germany | 63,864 | 4,792 | 34,532 | 4,756 | 15,865 | 1,863 | 2,056 |
| Greece | 3,460 | 78 | 2,515 | 115 | 503 | 249 | 0 |
| Hong Kong SAR | 147,046 | 15,299 | 99,133 | 2,974 | 27,095 | 1,724 | 820 |
| Hungary | 3,117 | 528 | 1,771 | 306 | 502 | 11 | ... |
| India | 7,697 | 5,427 | 1,748 | 376 | 64 | 80 | ... |
| Indonesia | 896 | 439 | 376 | 51 | 0 | 27 | 3 |
| Ireland | 8,081 | 409 | 5,056 | 477 | 1,701 | 386 | 52 |
| Israel | 5,419 | 155 | ... | 411 | 4,230 | 603 | 20 |
| Italy | 17,726 | 559 | 15,283 | 385 | 1,339 | 73 | 88 |
| Japan | 168,260 | 18,453 | 93,599 | 9,351 | 36,718 | 9,182 | 958 |
| Korea | 18,420 | 13,088 | 3,047 | 1,035 | 139 | 990 | 122 |
| Latvia | 1,436 | 95 | 232 | 57 | 569 | 12 | 470 |
| Lithuania | 857 | 26 | 798 | 1 | 12 | 15 | 5 |
| Luxembourg | 16,858 | 752 | 13,817 | 552 | 1,490 | 98 | 149 |
| Malaysia | 2,429 | 451 | 367 | 479 | 304 | 644 | 183 |
| Mexico | 10,434 | 611 | 8,969 | 261 | 556 | 38 | ... |
| Netherlands | 3,241 | 176 | 1,898 | 281 | 237 | 167 | 482 |
| New Zealand | 6,353 | 622 | 1,619 | 393 | 3,483 | 227 | 9 |
| Norway | 17,524 | 232 | 11,410 | 864 | 3,288 | 1,397 | 332 |
| Peru | 16 | 2 | 14 | ... | ... | ... | ... |
| Philippines | 1,256 | 839 | 223 | 167 | 15 | 12 | ... |
| Poland | 5,368 | 662 | 3,687 | 307 | 675 | 29 | 7 |
| Portugal | 1,974 | 67 | 1,134 | 12 | 690 | 72 | ... |
| Romania | 1,774 | 172 | 1,355 | 9 | 227 | 12 | ... |
| Russia | 18,416 | 3,032 | 6,440 | 5,172 | 2,961 | 315 | 496 |
| Saudi Arabia | 1,273 | 227 | 694 | 57 | 149 | 36 | 110 |
| Singapore | 121,999 | 8,607 | 78,130 | 6,833 | 21,641 | 2,986 | 3,801 |
| Slovakia | 153 | 1 | 135 | 0 | 5 | 12 | ... |
| South Africa | 9,109 | 1,922 | 6,589 | 196 | 203 | 183 | 16 |
| Spain | 16,831 | 307 | 10,067 | 346 | 644 | 386 | 5,080 |
| Sweden | 29,312 | 376 | 9,972 | 3,306 | 8,661 | 4,160 | 2,837 |
| Switzerland | 181,979 | 7,816 | 105,827 | 8,354 | 50,917 | 5,432 | 3,632 |
| Thailand | 3,276 | 1,778 | 967 | 244 | 144 | 99 | 45 |
| Turkey | 6,831 | 19 | 6,274 | 150 | 316 | 65 | 7 |
| United Kingdom | 775,381 | 98,086 | 301,253 | 91,230 | 217,461 | 14,993 | 52,357 |
| United States | 267,099 | 14,514 | 105,441 | 57,839 | 59,696 | 13,298 | 16,311 |
| **Total** | **2,361,049** | **241,165** | **1,191,677** | **221,017** | **536,752** | **71,757** | **98,680** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.13

## Currency swap turnover by country and counterparty in April 2010[1]

**Daily averages, in millions of US dollars**

| | Total | Reporting dealers | | Other financial institutions | | Non-financial customers | |
|---|---|---|---|---|---|---|---|
| | | Local | Cross-border | Local | Cross-border | Local | Cross-border |
| Argentina | ... | ... | ... | ... | ... | ... | ... |
| Australia | 4,437 | 338 | 2,755 | 319 | 981 | 24 | 19 |
| Austria | 307 | 0 | 202 | 3 | 94 | 1 | 8 |
| Bahrain | 10 | ... | 10 | ... | 0 | ... | ... |
| Belgium | 83 | 3 | 57 | 0 | 21 | ... | 1 |
| Brazil | 417 | 22 | 58 | 136 | ... | 201 | ... |
| Bulgaria | 4 | ... | 4 | ... | ... | ... | ... |
| Canada | 1,240 | 76 | 602 | 23 | 263 | 267 | 9 |
| Chile | 204 | 7 | 103 | 15 | 70 | 10 | ... |
| China | 1 | ... | 0 | ... | 0 | 0 | ... |
| Chinese Taipei | 79 | 21 | 5 | 16 | ... | 37 | ... |
| Colombia | 13 | 0 | 12 | ... | 1 | ... | ... |
| Czech Republic | 35 | ... | 25 | ... | ... | 10 | ... |
| Denmark | 1,327 | 320 | 708 | 74 | 194 | 15 | 15 |
| Estonia | ... | ... | ... | ... | ... | ... | ... |
| Finland | 73 | 6 | 62 | ... | 6 | ... | ... |
| France | 4,025 | 43 | 3,153 | 89 | 670 | 5 | 67 |
| Germany | 1,344 | 37 | 878 | 109 | 201 | 107 | 12 |
| Greece | 4 | ... | 4 | ... | ... | ... | ... |
| Hong Kong SAR | 7,038 | 90 | 6,594 | 0 | 232 | 35 | 86 |
| Hungary | ... | ... | ... | ... | ... | ... | ... |
| India | 31 | 2 | 7 | 4 | 1 | 17 | ... |
| Indonesia | 54 | 1 | 1 | 49 | 0 | 2 | ... |
| Ireland | 692 | ... | 93 | 420 | 163 | 15 | 0 |
| Israel | 75 | 1 | ... | 10 | 49 | 16 | ... |
| Italy | 28 | ... | 24 | ... | 3 | ... | ... |
| Japan | 2,236 | 156 | 1,779 | 51 | 129 | 110 | 12 |
| Korea | 654 | 335 | 149 | 51 | 52 | 58 | 9 |
| Latvia | ... | ... | ... | ... | ... | ... | ... |
| Lithuania | 19 | ... | 10 | ... | ... | 10 | ... |
| Luxembourg | 28 | 8 | 18 | ... | 0 | ... | 3 |
| Malaysia | 156 | 29 | 29 | 3 | ... | 83 | 12 |
| Mexico | 153 | 70 | 37 | 9 | 34 | 4 | ... |
| Netherlands | 1,276 | 4 | 590 | 137 | 510 | 31 | 4 |
| New Zealand | 135 | 8 | 101 | 20 | 5 | 1 | ... |
| Norway | 408 | 1 | 184 | 214 | 1 | 4 | 4 |
| Peru | 3 | ... | 2 | ... | ... | 2 | ... |
| Philippines | 508 | 183 | 323 | ... | 2 | 0 | ... |
| Poland | 79 | 2 | 52 | 1 | 24 | ... | ... |
| Portugal | ... | ... | ... | ... | ... | ... | ... |
| Romania | 4 | ... | 4 | ... | ... | ... | ... |
| Russia | ... | ... | ... | ... | ... | ... | ... |
| Saudi Arabia | ... | ... | ... | ... | ... | ... | ... |
| Singapore | 687 | 12 | 556 | 15 | 91 | 5 | 7 |
| Slovakia | ... | ... | ... | ... | ... | ... | ... |
| South Africa | 39 | 1 | 36 | 1 | 0 | 0 | ... |
| Spain | 659 | 73 | 255 | 2 | 198 | 67 | 64 |
| Sweden | 92 | 2 | 6 | 29 | 50 | 5 | ... |
| Switzerland | 23 | ... | 11 | ... | 11 | ... | ... |
| Thailand | 111 | 59 | 6 | 19 | ... | 27 | ... |
| Turkey | 921 | 82 | 839 | ... | ... | ... | ... |
| United Kingdom | 18,177 | 2,318 | 4,397 | 4,134 | 6,366 | 146 | 816 |
| United States | 9,092 | 1,633 | 3,484 | 1,537 | 1,345 | 449 | 644 |
| **Total** | **56,978** | **5,944** | **28,224** | **7,488** | **11,767** | **1,764** | **1,791** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.14

## Options turnover by country and counterparty in April 2010[1]

**Daily averages, in millions of US dollars**

| | Total | Reporting dealers | | Other financial institutions | | Non-financial customers | |
|---|---|---|---|---|---|---|---|
| | | Local | Cross-border | Local | Cross-border | Local | Cross-border |
| Argentina | ... | ... | ... | ... | ... | ... | ... |
| Australia | 1,864 | 116 | 1,059 | 158 | 337 | 126 | 67 |
| Austria | 802 | 25 | 433 | 34 | 220 | 49 | 41 |
| Bahrain | 113 | ... | 95 | ... | 6 | 1 | 12 |
| Belgium | 510 | 8 | 360 | ... | 109 | 15 | 18 |
| Brazil | 841 | 6 | 71 | 11 | 694 | 28 | 32 |
| Bulgaria | ... | ... | ... | ... | ... | ... | ... |
| Canada | 2,232 | 114 | 1,535 | 20 | 330 | 125 | 108 |
| Chile | 2 | 1 | 0 | ... | ... | 1 | ... |
| China | 91 | 0 | 42 | ... | 21 | 28 | ... |
| Chinese Taipei | 1,536 | 64 | 672 | 74 | 158 | 386 | 183 |
| Colombia | 17 | 0 | 7 | 1 | 2 | 7 | ... |
| Czech Republic | 35 | 0 | 14 | ... | 4 | 16 | 1 |
| Denmark | 2,637 | 224 | 1,427 | 37 | 341 | 108 | 501 |
| Estonia | 3 | ... | 2 | ... | ... | 2 | ... |
| Finland | 76 | ... | 30 | ... | ... | 37 | 9 |
| France | 6,250 | 102 | 4,751 | 480 | 579 | 209 | 129 |
| Germany | 5,189 | 527 | 2,506 | 501 | 549 | 411 | 695 |
| Greece | 189 | ... | 138 | 0 | 15 | 35 | ... |
| Hong Kong SAR | 7,654 | 432 | 3,874 | 86 | 1,629 | 1,174 | 459 |
| Hungary | 53 | ... | 34 | ... | 10 | 9 | ... |
| India | 1,325 | 127 | 214 | 30 | ... | 954 | ... |
| Indonesia | 1 | 1 | 0 | ... | ... | ... | ... |
| Ireland | 75 | 1 | 39 | 8 | 20 | 2 | 6 |
| Israel | 489 | 41 | ... | 81 | 239 | 114 | 14 |
| Italy | 557 | 91 | 304 | 17 | 74 | 70 | 1 |
| Japan | 8,747 | 618 | 3,273 | 1,484 | 1,738 | 1,332 | 303 |
| Korea | 161 | 13 | 105 | 0 | 7 | 37 | ... |
| Latvia | ... | ... | ... | ... | ... | ... | ... |
| Lithuania | 1 | ... | 0 | ... | ... | 1 | ... |
| Luxembourg | 306 | 2 | 185 | 4 | 28 | 6 | 81 |
| Malaysia | 94 | 14 | 28 | 16 | 6 | 27 | 2 |
| Mexico | 181 | 2 | 96 | 33 | 39 | 10 | 1 |
| Netherlands | 117 | 1 | 44 | 21 | 9 | 35 | 7 |
| New Zealand | 48 | ... | ... | 1 | ... | 46 | 0 |
| Norway | 143 | ... | 19 | ... | 7 | 92 | 25 |
| Peru | 4 | ... | 2 | ... | ... | 2 | ... |
| Philippines | 534 | 527 | 6 | ... | ... | 0 | ... |
| Poland | 128 | 8 | 57 | 2 | 9 | 52 | ... |
| Portugal | 124 | ... | 55 | 0 | 63 | 5 | ... |
| Romania | 33 | ... | 13 | 0 | 2 | 17 | 1 |
| Russia | 105 | ... | 54 | ... | 28 | 22 | 1 |
| Saudi Arabia | 77 | ... | 43 | ... | 7 | 23 | 4 |
| Singapore | 15,941 | 267 | 8,613 | 407 | 3,711 | 620 | 2,321 |
| Slovakia | 61 | ... | 26 | ... | 6 | 29 | 0 |
| South Africa | 502 | 118 | 298 | 8 | 2 | 76 | ... |
| Spain | 891 | 2 | 607 | ... | 84 | 28 | 170 |
| Sweden | 1,653 | 17 | 485 | 112 | 614 | 304 | 121 |
| Switzerland | 8,437 | 197 | 3,928 | 341 | 1,778 | 819 | 1,374 |
| Thailand | 90 | 8 | 0 | 1 | 0 | 80 | 0 |
| Turkey | 1,060 | 1 | 515 | 7 | 3 | 531 | 3 |
| United Kingdom | 135,399 | 15,926 | 30,704 | 49,538 | 29,236 | 3,476 | 6,518 |
| United States | 39,479 | 1,216 | 12,421 | 7,718 | 9,524 | 1,819 | 6,782 |
| **Total** | **246,856** | **20,814** | **79,184** | **61,235** | **52,240** | **13,393** | **19,989** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.15

## Outright forward transactions by country and maturity in April 2010[1]

**Percentage share of country's total outright forward transactions**

| | Up to and including 7 days | Over 7 days and up to and including 1 year | Over 1 year |
|---|---|---|---|
| Argentina | 8 | 91 | 1 |
| Australia | 41 | 58 | 1 |
| Austria | 77 | 23 | 1 |
| Bahrain | 17 | 78 | 5 |
| Belgium | 22 | 77 | 1 |
| Brazil | 39 | 45 | 15 |
| Bulgaria | 31 | 69 | ... |
| Canada | 33 | 65 | 3 |
| Chile | 28 | 70 | 2 |
| China | 51 | 43 | 6 |
| Chinese Taipei | 17 | 82 | 2 |
| Colombia | 17 | 82 | 0 |
| Czech Republic | 63 | 34 | 3 |
| Denmark | 69 | 31 | 1 |
| Estonia | 49 | 51 | ... |
| Finland | 29 | 70 | 1 |
| France | 16 | 79 | 5 |
| Germany | 65 | 32 | 3 |
| Greece | 50 | 49 | 0 |
| Hong Kong SAR | 33 | 62 | 5 |
| Hungary | 39 | 59 | 2 |
| India | 29 | 49 | 22 |
| Indonesia | 74 | 26 | 0 |
| Ireland | 22 | 78 | 0 |
| Israel | 66 | 32 | 2 |
| Italy | 21 | 75 | 3 |
| Japan | 41 | 58 | 1 |
| Korea | 12 | 75 | 13 |
| Latvia | 85 | 15 | ... |
| Lithuania | 0 | 100 | 0 |
| Luxembourg | 15 | 84 | 0 |
| Malaysia | 64 | 34 | 2 |
| Mexico | 20 | 78 | 1 |
| Netherlands | 28 | 60 | 12 |
| New Zealand | 56 | 43 | 1 |
| Norway | 42 | 57 | 1 |
| Peru | 19 | 81 | 1 |
| Philippines | 20 | 75 | 5 |
| Poland | 40 | 57 | 2 |
| Portugal | 22 | 78 | 0 |
| Romania | 24 | 72 | 4 |
| Russia | 16 | 80 | 4 |
| Saudi Arabia | 92 | 8 | 0 |
| Singapore | 16 | 81 | 3 |
| Slovakia | 59 | 41 | 0 |
| South Africa | 41 | 56 | 3 |
| Spain | 34 | 60 | 6 |
| Sweden | 37 | 61 | 1 |
| Switzerland | 29 | 70 | 2 |
| Thailand | 25 | 75 | 1 |
| Turkey | 91 | 8 | 0 |
| United Kingdom | 60 | 39 | 1 |
| United States | 39 | 60 | 2 |
| **Total** | **45** | **52** | **2** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Since data on the maturity breakdown were only collected on a gross basis, data on a net basis have been calculated by adjusting the gross data proportionally. Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.16

## Foreign exchange swap transactions by country and maturity in April 2010[1]

**Percentage share of country's total FX swaps transactions**

| | Up to and including 7 days | Over 7 days and up to and including 1 year | Over 1 year |
|---|---|---|---|
| Argentina | ... | ... | ... |
| Australia | 84 | 16 | 0 |
| Austria | 72 | 27 | 1 |
| Bahrain | 75 | 24 | 1 |
| Belgium | 80 | 20 | 0 |
| Brazil | 14 | 42 | 44 |
| Bulgaria | 71 | 29 | ... |
| Canada | 71 | 29 | 1 |
| Chile | 25 | 73 | 3 |
| China | 64 | 36 | 1 |
| Chinese Taipei | 28 | 69 | 4 |
| Colombia | 40 | 16 | 43 |
| Czech Republic | 84 | 16 | 0 |
| Denmark | 80 | 20 | 0 |
| Estonia | 94 | 6 | ... |
| Finland | 94 | 6 | 0 |
| France | 74 | 26 | 1 |
| Germany | 66 | 33 | 1 |
| Greece | 58 | 42 | ... |
| Hong Kong SAR | 78 | 21 | 1 |
| Hungary | 65 | 31 | 4 |
| India | 47 | 42 | 10 |
| Indonesia | 77 | 23 | 0 |
| Ireland | 59 | 41 | 0 |
| Israel | 86 | 13 | 1 |
| Italy | 77 | 23 | 0 |
| Japan | 79 | 21 | 0 |
| Korea | 47 | 48 | 5 |
| Latvia | 95 | 5 | 0 |
| Lithuania | 95 | 5 | 0 |
| Luxembourg | 77 | 23 | 0 |
| Malaysia | 71 | 29 | 0 |
| Mexico | 95 | 5 | 0 |
| Netherlands | 52 | 48 | 0 |
| New Zealand | 85 | 15 | 0 |
| Norway | 62 | 37 | 0 |
| Peru | 14 | 86 | ... |
| Philippines | 48 | 52 | 0 |
| Poland | 82 | 17 | 1 |
| Portugal | 59 | 41 | 0 |
| Romania | 79 | 21 | 0 |
| Russia | 97 | 3 | 0 |
| Saudi Arabia | 44 | 45 | 11 |
| Singapore | 76 | 24 | 1 |
| Slovakia | 82 | 18 | ... |
| South Africa | 66 | 32 | 2 |
| Spain | 76 | 24 | 1 |
| Sweden | 54 | 45 | 1 |
| Switzerland | 69 | 30 | 1 |
| Thailand | 49 | 48 | 3 |
| Turkey | 65 | 35 | ... |
| United Kingdom | 75 | 25 | 1 |
| United States | 71 | 27 | 1 |
| **Total** | **74** | **25** | **1** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Since data on the maturity breakdown were only collected on a gross basis, data on a net basis have been calculated by adjusting the gross data proportionally. Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.17

## Total foreign exchange turnover by country in April, 1995—2010[1]

**Daily averages, in billions of US dollars**

| | Total | | | | | |
|---|---|---|---|---|---|---|
| | **April 1995** | **April 1998** | **April 2001** | **April 2004** | **April 2007** | **April 2010** |
| Argentina | ... | 2 | ... | 1 | 1 | 2 |
| Australia | 41 | 48 | 54 | 107 | 176 | 192 |
| Austria | 13 | 12 | 8 | 15 | 19 | 20 |
| Bahrain | 3 | 3 | 3 | 3 | 3 | 5 |
| Belgium | 29 | 27 | 10 | 21 | 50 | 33 |
| Brazil | ... | 5 | 6 | 4 | 6 | 14 |
| Bulgaria | ... | ... | ... | ... | 1 | 1 |
| Canada | 31 | 38 | 44 | 59 | 64 | 62 |
| Chile | ... | 1 | 2 | 2 | 4 | 6 |
| China | ... | 0 | ... | 1 | 9 | 20 |
| Chinese Taipei | ... | 5 | 5 | 9 | 16 | 18 |
| Colombia | ... | ... | 0 | 1 | 2 | 3 |
| Czech Republic | ... | 5 | 2 | 2 | 5 | 5 |
| Denmark | 32 | 28 | 24 | 42 | 88 | 120 |
| Estonia | ... | ... | ... | 0 | 1 | 1 |
| Finland | 5 | 4 | 2 | 2 | 8 | 31 |
| France | 62 | 77 | 50 | 67 | 127 | 152 |
| Germany | 79 | 100 | 91 | 120 | 101 | 109 |
| Greece | 3 | 7 | 5 | 4 | 5 | 5 |
| Hong Kong SAR | 91 | 80 | 68 | 106 | 181 | 238 |
| Hungary | ... | 1 | 1 | 3 | 7 | 4 |
| India | ... | 2 | 3 | 7 | 38 | 27 |
| Indonesia | ... | 2 | 4 | 2 | 3 | 3 |
| Ireland | 5 | 11 | 9 | 8 | 11 | 15 |
| Israel | ... | ... | 1 | 5 | 8 | 10 |
| Italy | 24 | 29 | 18 | 23 | 38 | 29 |
| Japan | 168 | 146 | 153 | 207 | 250 | 312 |
| Korea | ... | 4 | 10 | 21 | 35 | 44 |
| Latvia | ... | ... | ... | 2 | 3 | 2 |
| Lithuania | ... | ... | ... | 1 | 1 | 1 |
| Luxembourg | 19 | 23 | 13 | 15 | 44 | 33 |
| Malaysia | ... | 1 | 1 | 2 | 3 | 7 |
| Mexico | ... | 9 | 9 | 15 | 15 | 17 |
| Netherlands | 27 | 43 | 31 | 52 | 25 | 18 |
| New Zealand | 7 | 7 | 4 | 7 | 13 | 9 |
| Norway | 8 | 9 | 13 | 14 | 32 | 22 |
| Peru | ... | ... | 0 | 0 | 1 | 1 |
| Philippines | ... | 1 | 1 | 1 | 2 | 5 |
| Poland | ... | 3 | 5 | 7 | 9 | 8 |
| Portugal | 2 | 4 | 2 | 2 | 4 | 4 |
| Romania | ... | ... | ... | ... | 3 | 3 |
| Russia | ... | 7 | 10 | 30 | 50 | 42 |
| Saudi Arabia | ... | 2 | 2 | 2 | 4 | 5 |
| Singapore | 107 | 145 | 104 | 134 | 242 | 266 |
| Slovakia | ... | ... | 1 | 2 | 3 | 0 |
| Slovenia | ... | ... | 0 | 0 | 0 | ... |
| South Africa | 5 | 9 | 10 | 10 | 14 | 14 |
| Spain | 18 | 20 | 8 | 14 | 17 | 29 |
| Sweden | 20 | 16 | 25 | 32 | 44 | 45 |
| Switzerland | 88 | 92 | 76 | 85 | 254 | 263 |
| Thailand | ... | 3 | 2 | 3 | 6 | 7 |
| Turkey | ... | ... | 1 | 3 | 4 | 17 |
| United Kingdom | 479 | 685 | 542 | 835 | 1,483 | 1,854 |
| United States | 266 | 383 | 273 | 499 | 745 | 904 |
| **Total** | **1,633** | **2,099** | **1,705** | **2,608** | **4,281** | **5,056** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.18

## Spot foreign exchange turnover by country in April, 1995—2010[1]

**Daily averages, in billions of US dollars**

| | Spot | | | | | |
|---|---|---|---|---|---|---|
| | **April 1995** | **April 1998** | **April 2001** | **April 2004[2]** | **April 2007** | **April 2010** |
| Argentina | ... | 2 | ... | 1 | 1 | 2 |
| Australia | 18 | 20 | 13 | 36 | 44 | 60 |
| Austria | 9 | 5 | 4 | 6 | 6 | 6 |
| Bahrain | 2 | 2 | 1 | 1 | 2 | 1 |
| Belgium | 6 | 7 | 3 | 6 | 15 | 8 |
| Brazil | ... | 5 | 4 | 3 | 5 | 9 |
| Bulgaria | ... | ... | ... | ... | 0 | 1 |
| Canada | 12 | 11 | 11 | 18 | 14 | 18 |
| Chile | ... | 1 | 2 | 2 | 2 | 3 |
| China | ... | 0 | ... | 1 | 8 | 9 |
| Chinese Taipei | ... | 3 | 3 | 5 | 9 | 8 |
| Colombia | ... | ... | 0 | 1 | 1 | 2 |
| Czech Republic | ... | 2 | 1 | 1 | 1 | 1 |
| Denmark | 9 | 6 | 4 | 9 | 15 | 33 |
| Estonia | ... | ... | ... | 0 | 0 | 0 |
| Finland | 3 | 1 | 1 | 1 | 1 | 1 |
| France | 25 | 19 | 9 | 13 | 25 | 27 |
| Germany | 34 | 42 | 26 | 36 | 25 | 30 |
| Greece | 2 | 3 | 2 | 1 | 1 | 1 |
| Hong Kong SAR | 35 | 31 | 19 | 36 | 38 | 44 |
| Hungary | ... | 1 | 0 | 1 | 2 | 1 |
| India | ... | 1 | 2 | 3 | 14 | 13 |
| Indonesia | ... | 1 | 3 | 1 | 2 | 2 |
| Ireland | 3 | 5 | 4 | 5 | 4 | 4 |
| Israel | ... | ... | 1 | 3 | 4 | 4 |
| Italy | 13 | 12 | 5 | 9 | 11 | 9 |
| Japan | 55 | 57 | 37 | 53 | 101 | 101 |
| Korea | ... | 3 | 6 | 10 | 17 | 18 |
| Latvia | ... | ... | ... | 1 | 1 | 1 |
| Lithuania | ... | ... | ... | 1 | 1 | 0 |
| Luxembourg | 8 | 8 | 4 | 3 | 13 | 12 |
| Malaysia | ... | 0 | 0 | 1 | 2 | 4 |
| Mexico | ... | 6 | 4 | 11 | 5 | 5 |
| Netherlands | 11 | 15 | 5 | 10 | 3 | 5 |
| New Zealand | 3 | 2 | 1 | 1 | 2 | 2 |
| Norway | 3 | 3 | 3 | 3 | 3 | 2 |
| Peru | ... | ... | 0 | 0 | 1 | 1 |
| Philippines | ... | 0 | 0 | 0 | 1 | 2 |
| Poland | ... | 2 | 2 | 2 | 2 | 2 |
| Portugal | 1 | 2 | 1 | 1 | 2 | 1 |
| Romania | ... | ... | ... | ... | 1 | 1 |
| Russia | ... | 6 | 9 | 24 | 34 | 23 |
| Saudi Arabia | ... | 1 | 1 | 1 | 3 | 3 |
| Singapore | 44 | 60 | 34 | 43 | 89 | 91 |
| Slovakia | ... | ... | 0 | 0 | 0 | 0 |
| Slovenia | ... | ... | 0 | 0 | 0 | ... |
| South Africa | 2 | 4 | 2 | 2 | 3 | 4 |
| Spain | 7 | 6 | 3 | 4 | 6 | 8 |
| Sweden | 9 | 5 | 6 | 7 | 8 | 12 |
| Switzerland | 44 | 34 | 23 | 23 | 108 | 61 |
| Thailand | ... | 1 | 1 | 1 | 1 | 3 |
| Turkey | ... | ... | 0 | 1 | 1 | 5 |
| United Kingdom | 186 | 217 | 151 | 223 | 335 | 697 |
| United States | 134 | 148 | 104 | 217 | 311 | 473 |
| **Total** | **680** | **762** | **519** | **840** | **1,305** | **1,832** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.19

## Outright forward foreign exchange turnover by country in April, 1995—2010[1]

**Daily averages, in billions of US dollars**

| | Outright forward | | | | | |
|---|---|---|---|---|---|---|
| | **April 1995** | **April 1998** | **April 2001** | **April 2004** | **April 2007** | **April 2010** |
| Argentina | ... | 0 | ... | ... | 0 | 0 |
| Australia | 1 | 2 | 3 | 6 | 14 | 8 |
| Austria | 0 | 1 | 0 | 1 | 2 | 2 |
| Bahrain | 0 | 0 | 1 | 1 | 1 | 0 |
| Belgium | 0 | 1 | 1 | 2 | 7 | 2 |
| Brazil | ... | ... | 1 | 0 | 0 | 4 |
| Bulgaria | ... | ... | ... | ... | 0 | 0 |
| Canada | 3 | 1 | 2 | 4 | 4 | 6 |
| Chile | ... | 0 | 1 | 1 | 1 | 2 |
| China | ... | ... | ... | ... | 0 | 3 |
| Chinese Taipei | ... | 1 | 0 | 1 | 2 | 1 |
| Colombia | ... | ... | 0 | 0 | 0 | 1 |
| Czech Republic | ... | ... | 0 | 0 | 1 | 0 |
| Denmark | 2 | 1 | 1 | 2 | 10 | 11 |
| Estonia | ... | ... | ... | 0 | 0 | 0 |
| Finland | 0 | 0 | 0 | 0 | 0 | 0 |
| France | 2 | 3 | 1 | 5 | 7 | 10 |
| Germany | 4 | 8 | 12 | 12 | 23 | 8 |
| Greece | 1 | 1 | 0 | 0 | 0 | 0 |
| Hong Kong SAR | 3 | 4 | 4 | 5 | 15 | 32 |
| Hungary | ... | 0 | 0 | 0 | 0 | 0 |
| India | ... | 0 | 0 | 1 | 6 | 5 |
| Indonesia | ... | 0 | 0 | 0 | 1 | 0 |
| Ireland | 0 | 1 | 1 | 0 | 1 | 2 |
| Israel | ... | ... | ... | ... | ... | 0 |
| Italy | 2 | 2 | 1 | 1 | 3 | 1 |
| Japan | 17 | 17 | 20 | 21 | 26 | 32 |
| Korea | ... | 0 | 1 | 4 | 5 | 6 |
| Latvia | ... | ... | ... | 0 | 0 | 0 |
| Lithuania | ... | ... | ... | 0 | 0 | 0 |
| Luxembourg | 1 | 1 | 1 | 2 | 5 | 4 |
| Malaysia | ... | 0 | 0 | 0 | 0 | 1 |
| Mexico | ... | 0 | 0 | 1 | 0 | 1 |
| Netherlands | 3 | 6 | 3 | 4 | 6 | 9 |
| New Zealand | 0 | 0 | 0 | 1 | 1 | 1 |
| Norway | 0 | 0 | 0 | 0 | 2 | 2 |
| Peru | ... | ... | 0 | 0 | 0 | 0 |
| Philippines | ... | 0 | 0 | 0 | 0 | 1 |
| Poland | ... | 0 | 0 | 0 | 1 | 0 |
| Portugal | 0 | 0 | 0 | 0 | 1 | 0 |
| Romania | ... | ... | ... | ... | 0 | 0 |
| Russia | ... | 1 | 0 | 1 | 1 | 1 |
| Saudi Arabia | ... | 0 | 0 | 0 | 0 | 1 |
| Singapore | 3 | 4 | 8 | 11 | 25 | 36 |
| Slovakia | ... | ... | 0 | 0 | 0 | 0 |
| Slovenia | ... | ... | 0 | 0 | 0 | ... |
| South Africa | 1 | 2 | 0 | 0 | 1 | 1 |
| Spain | 1 | 1 | 1 | 1 | 2 | 3 |
| Sweden | 1 | 1 | 1 | 1 | 2 | 2 |
| Switzerland | 8 | 5 | 6 | 7 | 17 | 11 |
| Thailand | ... | 0 | 0 | 0 | 1 | 1 |
| Turkey | ... | ... | 0 | 0 | 1 | 3 |
| United Kingdom | 34 | 48 | 53 | 103 | 124 | 228 |
| United States | 28 | 37 | 36 | 61 | 114 | 116 |
| **Total** | **115** | **155** | **164** | **261** | **434** | **559** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.20

## Foreign exchange swap turnover by country in April, 1995—2010[1]

**Daily averages, in billions of US dollars**

| | Foreign exchange swap | | | | | |
|---|---|---|---|---|---|---|
| | **April 1995** | **April 1998** | **April 2001** | **April 2004** | **April 2007** | **April 2010** |
| Argentina | ... | ... | ... | ... | ... | ... |
| Australia | 21 | 25 | 35 | 61 | 111 | 118 |
| Austria | 4 | 5 | 3 | 7 | 10 | 11 |
| Bahrain | 1 | 0 | 1 | 0 | 1 | 4 |
| Belgium | 22 | 18 | 7 | 11 | 26 | 22 |
| Brazil | ... | ... | 0 | 0 | 0 | 0 |
| Bulgaria | ... | ... | ... | ... | 0 | 0 |
| Canada | 15 | 25 | 29 | 32 | 42 | 34 |
| Chile | ... | ... | ... | 0 | 0 | 1 |
| China | ... | ... | ... | ... | 1 | 8 |
| Chinese Taipei | ... | 1 | 1 | 2 | 4 | 7 |
| Colombia | ... | ... | 0 | 0 | 0 | 0 |
| Czech Republic | ... | 3 | 1 | 1 | 3 | 4 |
| Denmark | 20 | 20 | 18 | 30 | 61 | 72 |
| Estonia | ... | ... | ... | 0 | 1 | 1 |
| Finland | 3 | 3 | 1 | 1 | 7 | 30 |
| France | 30 | 50 | 38 | 46 | 87 | 104 |
| Germany | 38 | 44 | 51 | 70 | 52 | 64 |
| Greece | 1 | 3 | 3 | 3 | 4 | 3 |
| Hong Kong SAR | 53 | 44 | 44 | 61 | 122 | 147 |
| Hungary | ... | 0 | 0 | 2 | 4 | 3 |
| India | ... | 1 | 1 | 2 | 13 | 8 |
| Indonesia | ... | 1 | 0 | 1 | 1 | 1 |
| Ireland | 1 | 4 | 4 | 2 | 6 | 8 |
| Israel | ... | ... | 1 | 2 | 4 | 5 |
| Italy | 8 | 15 | 11 | 10 | 22 | 18 |
| Japan | 89 | 61 | 90 | 125 | 112 | 168 |
| Korea | ... | 1 | 3 | 6 | 11 | 18 |
| Latvia | ... | ... | ... | 1 | 2 | 1 |
| Lithuania | ... | ... | ... | 0 | 0 | 1 |
| Luxembourg | 10 | 13 | 8 | 10 | 24 | 17 |
| Malaysia | ... | 1 | 1 | 0 | 1 | 2 |
| Mexico | ... | 2 | 4 | 3 | 10 | 10 |
| Netherlands | 12 | 20 | 21 | 36 | 15 | 3 |
| New Zealand | 4 | 5 | 3 | 5 | 10 | 6 |
| Norway | 4 | 6 | 9 | 11 | 26 | 18 |
| Peru | ... | ... | 0 | 0 | ... | 0 |
| Philippines | ... | 0 | 0 | 0 | 1 | 1 |
| Poland | ... | 0 | 3 | 4 | 6 | 5 |
| Portugal | 1 | 2 | 1 | 1 | 1 | 2 |
| Romania | ... | ... | ... | ... | 1 | 2 |
| Russia | ... | 0 | ... | 5 | 15 | 18 |
| Saudi Arabia | ... | 1 | 1 | 1 | 1 | 1 |
| Singapore | 58 | 75 | 58 | 72 | 116 | 122 |
| Slovakia | ... | ... | 0 | 1 | 3 | 0 |
| Slovenia | ... | ... | ... | 0 | 0 | ... |
| South Africa | 2 | 4 | 7 | 8 | 10 | 9 |
| Spain | 10 | 12 | 4 | 9 | 8 | 17 |
| Sweden | 11 | 10 | 17 | 22 | 33 | 29 |
| Switzerland | 34 | 42 | 41 | 49 | 116 | 182 |
| Thailand | ... | 2 | 1 | 1 | 4 | 3 |
| Turkey | ... | ... | 0 | 2 | 2 | 7 |
| United Kingdom | 244 | 372 | 300 | 428 | 899 | 775 |
| United States | 83 | 166 | 114 | 183 | 239 | 267 |
| **Total** | **777** | **1,052** | **934** | **1,329** | **2,250** | **2,361** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.21

## Currency swap turnover by country in April, 1995—2010[1]

**Daily averages, in billions of US dollars**

| | Currency swaps | | | | | |
|---|---|---|---|---|---|---|
| | **April 1995** | **April 1998** | **April 2001** | **April 2004** | **April 2007** | **April 2010** |
| Argentina | ... | ... | ... | ... | ... | ... |
| Australia | 0 | 0 | 1 | 1 | 2 | 4 |
| Austria | 0 | 0 | 0 | 0 | 0 | 0 |
| Bahrain | ... | 0 | 0 | 0 | 0 | 0 |
| Belgium | 0 | 0 | 0 | 0 | 0 | 0 |
| Brazil | ... | ... | 0 | 0 | 0 | 0 |
| Bulgaria | ... | ... | ... | ... | 0 | 0 |
| Canada | 0 | 0 | 0 | 1 | 2 | 1 |
| Chile | ... | ... | ... | 0 | 0 | 0 |
| China | ... | ... | ... | ... | ... | 0 |
| Chinese Taipei | ... | 0 | 0 | 0 | 0 | 0 |
| Colombia | ... | ... | 0 | 0 | 0 | 0 |
| Czech Republic | ... | ... | 0 | 0 | 0 | 0 |
| Denmark | 1 | 0 | 0 | 0 | 1 | 1 |
| Estonia | ... | ... | ... | ... | 0 | ... |
| Finland | 0 | 0 | 0 | 0 | 0 | 0 |
| France | 0 | 1 | 0 | 1 | 1 | 4 |
| Germany | 0 | 1 | 0 | 0 | 0 | 1 |
| Greece | 0 | 0 | 0 | ... | 0 | 0 |
| Hong Kong SAR | 0 | 0 | 0 | 1 | 1 | 7 |
| Hungary | ... | 0 | ... | ... | 0 | ... |
| India | ... | 0 | 0 | 0 | 0 | 0 |
| Indonesia | ... | 0 | 0 | 0 | 0 | 0 |
| Ireland | 0 | 0 | 0 | 0 | 0 | 1 |
| Israel | ... | ... | ... | ... | ... | 0 |
| Italy | 0 | 0 | 0 | 0 | 0 | 0 |
| Japan | 1 | 1 | 1 | 1 | 1 | 2 |
| Korea | ... | 0 | 0 | 0 | 1 | 1 |
| Latvia | ... | ... | ... | ... | ... | ... |
| Lithuania | ... | ... | ... | ... | ... | 0 |
| Luxembourg | 0 | 0 | 0 | 0 | 1 | 0 |
| Malaysia | ... | ... | ... | 0 | 0 | 0 |
| Mexico | ... | ... | 0 | 0 | 0 | 0 |
| Netherlands | 0 | 0 | 0 | 0 | 0 | 1 |
| New Zealand | 0 | 0 | 0 | 0 | 0 | 0 |
| Norway | 0 | 0 | 0 | 0 | 0 | 0 |
| Peru | ... | ... | ... | 0 | ... | 0 |
| Philippines | ... | ... | 0 | 0 | 0 | 1 |
| Poland | ... | ... | ... | 0 | 0 | 0 |
| Portugal | 0 | 0 | 0 | ... | 0 | ... |
| Romania | ... | ... | ... | ... | ... | 0 |
| Russia | ... | ... | ... | ... | ... | ... |
| Saudi Arabia | ... | ... | ... | 0 | 0 | ... |
| Singapore | 1 | 1 | 0 | 0 | 1 | 1 |
| Slovakia | ... | ... | 0 | ... | ... | ... |
| Slovenia | ... | ... | ... | 0 | ... | ... |
| South Africa | ... | 0 | 0 | 0 | 0 | 0 |
| Spain | 0 | 1 | 0 | 0 | 0 | 1 |
| Sweden | 0 | 0 | 0 | 0 | 0 | 0 |
| Switzerland | 0 | 0 | 0 | 0 | 0 | 0 |
| Thailand | ... | 0 | 0 | 0 | 0 | 0 |
| Turkey | ... | ... | ... | 0 | 1 | 1 |
| United Kingdom | 1 | 5 | 4 | 16 | 18 | 18 |
| United States | 0 | 1 | 1 | 2 | 6 | 9 |
| **Total** | **5** | **13** | **9** | **26** | **40** | **57** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.22

## Options turnover by country in April, 1995—2010[1]

**Daily averages, in billions of US dollars**

| | Options | | | | | |
|---|---|---|---|---|---|---|
| | **April 1995** | **April 1998** | **April 2001** | **April 2004** | **April 2007** | **April 2010** |
| Argentina | ... | ... | ... | ... | ... | ... |
| Australia | 1 | 1 | 2 | 4 | 5 | 2 |
| Austria | 0 | 1 | 0 | 1 | 1 | 1 |
| Bahrain | 0 | 0 | 0 | 0 | 0 | 0 |
| Belgium | 0 | 1 | 0 | 1 | 2 | 1 |
| Brazil | ... | ... | 0 | 0 | 0 | 1 |
| Bulgaria | ... | ... | ... | ... | 0 | ... |
| Canada | 1 | 1 | 2 | 5 | 3 | 2 |
| Chile | ... | ... | ... | ... | 0 | 0 |
| China | ... | ... | ... | ... | ... | 0 |
| Chinese Taipei | ... | 0 | 0 | 1 | 1 | 2 |
| Colombia | ... | ... | 0 | 0 | 0 | 0 |
| Czech Republic | ... | 0 | 0 | 0 | 0 | 0 |
| Denmark | 0 | 1 | 0 | 1 | 1 | 3 |
| Estonia | ... | ... | ... | ... | 0 | 0 |
| Finland | 0 | 0 | 0 | 0 | 0 | 0 |
| France | 3 | 4 | 1 | 2 | 6 | 6 |
| Germany | 3 | 5 | 3 | 3 | 2 | 5 |
| Greece | 0 | 0 | 0 | 0 | 0 | 0 |
| Hong Kong SAR | 1 | 1 | 1 | 3 | 6 | 8 |
| Hungary | ... | 0 | 0 | 0 | 0 | 0 |
| India | ... | 0 | 0 | 0 | 4 | 1 |
| Indonesia | ... | 0 | ... | 0 | 0 | 0 |
| Ireland | 0 | 0 | 0 | 0 | 0 | 0 |
| Israel | ... | ... | ... | 0 | 0 | 0 |
| Italy | 0 | 0 | 1 | 3 | 2 | 1 |
| Japan | 6 | 9 | 5 | 8 | 11 | 9 |
| Korea | ... | 0 | 0 | 0 | 1 | 0 |
| Latvia | ... | ... | ... | ... | ... | ... |
| Lithuania | ... | ... | ... | ... | 0 | 0 |
| Luxembourg | 0 | 0 | 0 | 0 | 1 | 0 |
| Malaysia | ... | 0 | 0 | 0 | 0 | 0 |
| Mexico | ... | 0 | 0 | 0 | 0 | 0 |
| Netherlands | 1 | 2 | 0 | 3 | 1 | 0 |
| New Zealand | 0 | 0 | 0 | 0 | 0 | 0 |
| Norway | 0 | 0 | 0 | 0 | 0 | 0 |
| Peru | ... | ... | ... | ... | ... | 0 |
| Philippines | ... | ... | ... | 0 | 0 | 1 |
| Poland | ... | ... | ... | 0 | 0 | 0 |
| Portugal | 0 | 0 | 0 | 0 | 1 | 0 |
| Romania | ... | ... | ... | ... | 0 | 0 |
| Russia | ... | 0 | ... | ... | 0 | 0 |
| Saudi Arabia | ... | 0 | 0 | 0 | 0 | 0 |
| Singapore | 1 | 5 | 3 | 8 | 10 | 16 |
| Slovakia | ... | ... | ... | ... | 0 | 0 |
| Slovenia | ... | ... | ... | 0 | 0 | ... |
| South Africa | 0 | 0 | 0 | 0 | 0 | 1 |
| Spain | 0 | 0 | 0 | 0 | 1 | 1 |
| Sweden | 0 | 1 | 1 | 1 | 2 | 2 |
| Switzerland | 2 | 10 | 5 | 6 | 12 | 8 |
| Thailand | ... | 0 | 0 | 0 | 0 | 0 |
| Turkey | ... | ... | ... | 0 | 0 | 1 |
| United Kingdom | 14 | 43 | 33 | 65 | 106 | 135 |
| United States | 21 | 31 | 18 | 36 | 75 | 39 |
| **Total** | **55** | **117** | **79** | **152** | **253** | **247** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.23

## Foreign exchange turnover by execution method in April 2010[1]

**Daily averages, in millions of US dollars**

| | Inter-dealer direct | Customer direct | Electronic Trading Systems | | Multibank dealing systems | Voice broker |
|---|---|---|---|---|---|---|
| | | | Electronic Broking System | Single-bank proprietary platforms | | |
| Spot | 237,433 | 343,390 | 413,502 | 227,733 | 231,199 | 136,271 |
| Outright forwards | 76,530 | 178,371 | 46,365 | 84,614 | 69,329 | 38,432 |
| FX swaps | 403,454 | 369,321 | 302,338 | 145,580 | 152,942 | 452,761 |
| FX options | 46,043 | 109,284 | 12,729 | 12,525 | 4,198 | 29,388 |

[1] Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. Adjusted for local and cross-boder inter-dealer double-counting (ie "net-net" basis). Due to incomplete allocation by execution method, components do not sum to the aggregates published in Table D.1.

Table E.24

# 2. Amounts outstanding at end-June 2010

## Notional amounts outstanding of OTC foreign exchange by instrument, counterparty and currency at end-June 2010[1]

### All currencies

**In millions of US dollars**

| | Total | US dollar | Euro | Yen | Pound sterling |
|---|---|---|---|---|---|
| **Forwards and swaps** | **31,935,312** | **27,775,021** | **10,825,619** | **4,633,047** | **4,031,984** |
| with reporting dealers | 10,178,437 | 9,356,050 | 3,210,128 | 1,743,162 | 1,034,301 |
| with other financial institutions | 15,065,960 | 13,290,515 | 4,781,705 | 2,056,037 | 2,034,589 |
| with non-financial customers | 6,690,924 | 5,128,459 | 2,833,794 | 833,848 | 963,101 |
| **Currency swaps** | **18,890,095** | **16,430,215** | **7,702,510** | **3,777,790** | **2,394,091** |
| with reporting dealers | 7,906,256 | 7,203,382 | 3,047,769 | 1,977,914 | 936,423 |
| with other financial institutions | 8,611,532 | 7,446,154 | 3,488,850 | 1,316,708 | 1,088,792 |
| with non-financial customers | 2,372,315 | 1,780,678 | 1,165,888 | 483,164 | 368,872 |
| **Options sold** | **8,550,830** | **6,806,025** | **2,922,539** | **3,119,424** | **672,804** |
| with reporting dealers | 4,826,250 | 3,793,261 | 1,596,739 | 1,971,487 | 355,646 |
| with other financial institutions | 2,393,299 | 1,924,467 | 768,618 | 772,861 | 201,611 |
| with non-financial customers | 1,331,289 | 1,088,298 | 557,187 | 375,076 | 115,548 |
| **Options bought** | **8,414,627** | **6,638,007** | **2,842,115** | **3,101,505** | **637,739** |
| with reporting dealers | 4,891,384 | 3,863,850 | 1,569,578 | 2,069,455 | 351,056 |
| with other financial institutions | 2,235,461 | 1,738,668 | 751,132 | 723,255 | 176,147 |
| with non-financial customers | 1,287,794 | 1,035,490 | 521,405 | 308,797 | 110,536 |
| **Total options** | **12,106,637** | **9,615,479** | **4,181,502** | **4,200,459** | **957,194** |
| **Other products** | **1,075** | … | **...** | **...** | **...** |
| **Total contracts** | **62,933,119** | **53,820,715** | **22,709,631** | **12,611,296** | **7,383,269** |

For footnotes, see facing page.

Table E.25

## Notional amounts outstanding of OTC foreign exchange by instrument, counterparty and currency at end-June 2010[1]

### All currencies

**In millions of US dollars**

| Swiss franc | Canadian dollar | Swedish krona | Other currencies[2] | |
|---|---|---|---|---|
| **2,395,214** | **1,656,914** | **1,001,917** | **11,550,908** | **Forwards and swaps** |
| 1,030,850 | 428,130 | 277,289 | 3,276,964 | with reporting dealers |
| 910,873 | 823,115 | 359,718 | 5,875,368 | with other financial institutions |
| 453,499 | 405,673 | 364,914 | 2,398,560 | with non-financial customers |
| **963,087** | **825,386** | **451,473** | **5,235,638** | **Currency swaps** |
| 408,002 | 261,087 | 180,591 | 1,797,344 | with reporting dealers |
| 427,957 | 364,771 | 208,136 | 2,881,696 | with other financial institutions |
| 127,129 | 199,525 | 62,745 | 556,629 | with non-financial customers |
| **690,313** | **220,762** | **94,878** | **2,574,915** | **Options sold** |
| 407,859 | 117,821 | 53,564 | 1,356,123 | with reporting dealers |
| 199,774 | 65,916 | 22,968 | 830,383 | with other financial institutions |
| 82,683 | 37,022 | 18,344 | 388,420 | with non-financial customers |
| **675,505** | **214,614** | **94,338** | **2,625,431** | **Options bought** |
| 401,545 | 116,427 | 52,377 | 1,358,480 | with reporting dealers |
| 181,050 | 62,652 | 21,877 | 816,141 | with other financial institutions |
| 92,911 | 35,534 | 20,084 | 450,831 | with non-financial customers |
| **961,114** | **318,253** | **136,249** | **3,843,024** | **Total options** |
| **...** | **...** | **...** | **2,150** | **Other products** |
| **4,319,415** | **2,800,553** | **1,589,639** | **20,631,720** | **Total contracts** |

[1] Data adjusted for inter-dealer double-counting. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. Due to incomplete counterparty breakdown, components do not always add to totals. [2] Calculated as the difference between the total and the sum of the listed components.

Table E.25 (cont)

## Gross market values of OTC foreign exchange by instrument, counterparty and currency at end-June 2010[1]

### All currencies

**In millions of US dollars**

| | Total | US dollar | Euro | Yen | Pound sterling |
|---|---|---|---|---|---|
| Positive market values | | | | | |
| **Forwards and FX swaps** | **886,143** | **694,135** | **366,976** | **143,339** | **190,548** |
| with reporting dealers | 452,804 | 353,002 | 183,794 | 80,149 | 116,375 |
| with other financial institutions | 280,336 | 227,528 | 108,798 | 40,581 | 50,984 |
| with non-financial customers | 152,997 | 113,603 | 74,384 | 22,605 | 23,191 |
| **Currency swaps** | **864,547** | **672,975** | **362,928** | **207,179** | **154,955** |
| with reporting dealers | 461,548 | 382,283 | 180,273 | 132,325 | 75,042 |
| with other financial institutions | 286,332 | 213,048 | 123,840 | 47,651 | 55,785 |
| with non-financial customers | 116,668 | 77,643 | 58,815 | 27,201 | 24,118 |
| **Options bought** | **335,921** | **254,349** | **115,237** | **161,383** | **16,869** |
| with reporting dealers | 202,042 | 157,875 | 64,934 | 108,936 | 9,309 |
| with other financial institutions | 75,061 | 50,694 | 28,978 | 23,598 | 4,256 |
| with non-financial customers | 58,813 | 45,785 | 21,328 | 28,845 | 3,304 |
| **Total contracts** | **2,086,628** | **1,621,464** | **845,153** | **511,901** | **362,369** |
| Negative market values | | | | | |
| **Forwards and FX swaps** | **970,183** | **655,740** | **357,968** | **133,335** | **441,190** |
| with reporting dealers | 526,723 | 338,266 | 172,655 | 75,813 | 294,661 |
| with other financial institutions | 305,737 | 221,968 | 122,299 | 40,430 | 109,636 |
| with non-financial customers | 137,723 | 95,510 | 63,022 | 17,097 | 36,894 |
| **Currency swaps** | **990,369** | **760,281** | **405,837** | **221,474** | **245,356** |
| with reporting dealers | 482,579 | 382,879 | 178,075 | 115,866 | 134,815 |
| with other financial institutions | 357,979 | 273,916 | 151,627 | 74,242 | 75,519 |
| with non-financial customers | 149,810 | 103,487 | 76,133 | 31,360 | 35,017 |
| **Options sold** | **324,478** | **241,261** | **118,773** | **140,713** | **23,164** |
| with reporting dealers | 204,158 | 156,468 | 68,435 | 109,170 | 11,573 |
| with other financial institutions | 79,165 | 53,085 | 30,762 | 21,754 | 7,073 |
| with non-financial customers | 41,155 | 31,710 | 19,576 | 9,790 | 4,516 |
| **Total contracts** | **2,285,052** | **1,657,299** | **882,592** | **495,525** | **709,717** |

For footnotes, see facing page.

Table E.26

## Gross market values of OTC foreign exchange by instrument, counterparty and currency at end-June 2010[1]

### All currencies

**In millions of US dollars**

| Swiss franc | Canadian dollar | Swedish krona | Other currencies[2] | |
|---|---|---|---|---|
| Positive market values | | | | |
| **73,787** | **38,268** | **19,931** | **245,302** | **Forwards and FX swaps** |
| 42,035 | 16,569 | 8,997 | 104,687 | with reporting dealers |
| 22,020 | 13,718 | 5,334 | 91,709 | with other financial institutions |
| 9,731 | 7,979 | 5,597 | 48,904 | with non-financial customers |
| **45,805** | **35,784** | **10,518** | **238,950** | **Currency swaps** |
| 23,469 | 13,216 | 6,234 | 110,254 | with reporting dealers |
| 16,603 | 12,783 | 2,947 | 100,007 | with other financial institutions |
| 5,733 | 9,780 | 1,332 | 28,714 | with non-financial customers |
| **26,589** | **5,333** | **1,949** | **90,133** | **Options bought** |
| 16,327 | 2,908 | 929 | 42,866 | with reporting dealers |
| 7,286 | 1,617 | 511 | 33,182 | with other financial institutions |
| 2,976 | 812 | 510 | 14,066 | with non-financial customers |
| **146,183** | **79,387** | **32,400** | **574,399** | **Total contracts** |
| Negative market values | | | | |
| **65,177** | **39,186** | **19,731** | **228,039** | **Forwards and FX swaps** |
| 37,246 | 16,808 | 10,100 | 107,897 | with reporting dealers |
| 16,405 | 14,252 | 4,938 | 81,546 | with other financial institutions |
| 11,525 | 8,124 | 4,693 | 38,581 | with non-financial customers |
| **56,142** | **35,960** | **13,027** | **242,661** | **Currency swaps** |
| 22,670 | 11,827 | 7,148 | 111,878 | with reporting dealers |
| 21,070 | 13,137 | 3,683 | 102,764 | with other financial institutions |
| 12,401 | 10,994 | 2,192 | 28,036 | with non-financial customers |
| **26,033** | **6,008** | **2,224** | **90,780** | **Options sold** |
| 15,953 | 2,966 | 899 | 42,852 | with reporting dealers |
| 7,357 | 2,055 | 866 | 35,378 | with other financial institutions |
| 2,718 | 983 | 455 | 12,562 | with non-financial customers |
| **147,353** | **81,155** | **34,986** | **561,477** | **Total contracts** |

[1] Counterparty breakdown partially estimated. [2] Calculated as the difference between the total and the sum of the listed components.

Table E.26 (cont)

## Notional amounts outstanding of OTC foreign exchange by instrument, counterparty and remaining maturity at end-June 2010[1]

**In millions of US dollars**

| | Total | One year or less | Over 1 year and up to 5 years | Over 5 years |
|---|---|---|---|---|
| **Forwards and swaps** | **50,825,407** | **32,282,575** | **10,159,882** | **8,389,912** |
| with reporting dealers | 18084693 | 11,714,146 | 4,059,140 | 2,305,296 |
| with other financial institutions | 23,677,492 | 14,051,372 | 4,514,795 | 5,102,349 |
| with non-financial customers | 9,063,239 | 6,494,612 | 1,585,296 | 982,247 |
| **Options sold** | **8,550,830** | **6,128,066** | **1,939,216** | **483,556** |
| with reporting dealers | 4,826,250 | 3,275,891 | 1,216,854 | 330,780 |
| with other financial institutions | 2,393,299 | 1,867,443 | 440,450 | 85,375 |
| with non-financial customers | 1,331,289 | 982,604 | 280,373 | 67,402 |
| **Options bought** | 8,414,627 | **5,560,605** | **1,872,315** | **981,749** |
| with reporting dealers | **4,891,384** | 3,325,528 | 1,237,236 | 327,636 |
| with other financial institutions | 2,235,461 | 1,271,612 | 391,104 | 572,726 |
| with non-financial customers | 1,287,794 | 961,463 | 242,414 | 81,390 |
| **Total options** | 12,106,637 | **8,387,966** | **2,584,491** | **1,136,101** |
| **Other products** | **1,075** | **...** | **...** | **...** |
| **Total contracts** | **62,933,119** | **40,670,527** | **12,744,367** | **9,526,012** |
| **Total contracts including gold** | **63,602,498** | **...** | **...** | **...** |

[1] Data adjusted for inter-dealer double-counting. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. Due to incomplete allocation, the maturity breakdown does not always sum to totals.

Table E.27

## Notional amounts outstanding of OTC foreign exchange by instrument and counterparty at end-June 2004, 2007 and 2010[1]

**In millions of US dollars**

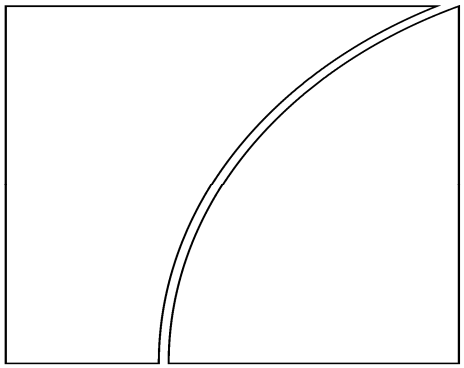
| | End-June 2004 | | End-June 2007 | | End-June 2010 | |
|---|---|---|---|---|---|---|
| | **Notional amounts outstanding** | **Gross market values** | **Notional amounts outstanding** | **Gross market values** | **Notional amounts outstanding** | **Gross market values** |
| **Forwards and FX swaps** | **16,763,791** | **459,617** | **29,775,280** | **667,587** | **31,935,312** | **1,329,600** |
| with reporting dealers | 6,834,095 | 191,668 | 10,580,077 | 254,317 | 10,178,437 | 452,804 |
| with other financial institutions | 6,579,777 | 165,060 | 12,280,687 | 256,313 | 15,065,960 | 586,073 |
| with non-financial customers | 3,349,930 | 102,886 | 6,914,531 | 156,973 | 6,690,924 | 290,720 |
| **Total including gold** | 16,920,203 | ... | 30,486,523 | ... | 32,320,119 | ... |
| **Currency swaps** | **7,938,591** | **505,366** | **14,130,193** | **666,201** | **18,890,095** | **1,372,342** |
| with reporting dealers | 3,078,941 | 114,194 | 5,714,743 | 174,697 | 7,906,256 | 461,548 |
| with other financial institutions | 3,112,463 | 229,223 | 5,941,666 | 308,004 | 8,611,532 | 644,311 |
| with non-financial customers | 1,747,196 | 161,950 | 2,473,788 | 183,495 | 2,372,315 | 266,478 |
| **Options sold** | **4,702,476** | **98,624** | **9,915,023** | **204,856** | **8,550,830** | **324,478** |
| with reporting dealers | 2,565,614 | 50,516 | 6,127,064 | 124,230 | 4,826,250 | 204,158 |
| with other financial institutions | 1,144,366 | 22,220 | 2,282,195 | 49,391 | 2,393,299 | 79,165 |
| with non-financial customers | 992,505 | 25,895 | 1,505,781 | 31,238 | 1,331,289 | 41,155 |
| **Total including gold** | 4,792,802 | ... | 10,066,243 | ... | 8,722,762 | ... |
| **Options bought** | **4,646,972** | **100,603** | **9,880,162** | **197,877** | **8,414,627** | **335,921** |
| with reporting dealers | 2,554,475 | 52,989 | 6,139,281 | 125,530 | 4,891,384 | 202,042 |
| with other financial institutions | 1,102,087 | 20,518 | 2,215,249 | 44,442 | 2,235,461 | 75,061 |
| with non-financial customers | 990,416 | 27,100 | 1,525,647 | 27,909 | 1,287,794 | 58,813 |
| **Total including gold** | 4,804,363 | ... | 10,144,470 | ... | 8,590,477 | ... |
| **Total options** | **6,789,401** | **148,712** | **13,662,018** | **278,507** | **12,106,637** | **456,243** |
| **Other products** | **7,229** | **...** | **36,724** | **...** | **1,075** | **...** |
| **Total contracts** | **31,499,012** | **1,113,695** | **57,604,215** | **1,612,295** | **62,933,119** | **3,158,185** |
| **Total contracts including gold** | **31,857,932** | **1,159,925** | **58,655,148** | **1,668,515** | **63,602,238** | **3,212,349** |

[1] Data adjusted for inter-dealer double-counting. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. The counterparty breakdown for the gross market values was estimated.

Table E.28

BANK FOR INTERNATIONAL SETTLEMENTS

# Triennial Central Bank Survey



## Foreign exchange and derivatives market activity in 2010

November 2010

# ANNEX TABLES

# E - Global foreign exchange markets

## 1. Turnover in April 2010

# OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

## Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| | Total | Specified currency against all other currencies[2] | | | | | |
|---|---|---|---|---|---|---|---|
| | | US dollar | Euro | Yen | Pound sterling | Swiss franc | Canadian dollar |
| **Spot** | **1,490,205** | **1,187,699** | **691,210** | **300,214** | **212,976** | **92,090** | **77,831** |
| with reporting dealers | 517,996 | 421,171 | 232,767 | 97,655 | 70,395 | 28,203 | 23,825 |
| local | 175,900 | 145,414 | 68,722 | 27,309 | 23,949 | 8,915 | 6,413 |
| cross-border | 342,096 | 275,757 | 164,045 | 70,346 | 46,446 | 19,288 | 17,413 |
| with other financial institutions | 755,203 | 598,504 | 361,401 | 152,144 | 115,907 | 52,433 | 41,628 |
| local | 301,247 | 242,285 | 147,602 | 60,048 | 43,739 | 22,773 | 14,878 |
| cross-border | 453,955 | 356,217 | 213,799 | 92,096 | 72,168 | 29,661 | 26,751 |
| with non-financial customers | 217,006 | 168,025 | 97,042 | 50,415 | 26,674 | 11,454 | 12,378 |
| local | 91,339 | 67,744 | 30,137 | 24,425 | 9,389 | 3,354 | 6,836 |
| cross-border | 125,667 | 100,281 | 66,905 | 25,991 | 17,285 | 8,100 | 5,542 |
| **Outright forwards** | **475,007** | **391,501** | **149,687** | **115,111** | **54,844** | **19,076** | **26,332** |
| with reporting dealers | 112,510 | 96,325 | 34,039 | 12,039 | 11,275 | 5,203 | 4,545 |
| local | 28,634 | 23,950 | 8,558 | 3,157 | 3,127 | 1,627 | 1,345 |
| cross-border | 83,875 | 72,375 | 25,481 | 8,882 | 8,148 | 3,576 | 3,199 |
| with other financial institutions | 254,172 | 207,497 | 83,368 | 57,319 | 34,405 | 10,315 | 17,277 |
| local | 99,098 | 74,530 | 36,704 | 19,816 | 17,457 | 3,773 | 7,156 |
| cross-border | 155,073 | 132,967 | 46,664 | 37,503 | 16,947 | 6,542 | 10,122 |
| with non-financial customers | 108,326 | 87,680 | 32,279 | 45,752 | 9,164 | 3,558 | 4,510 |
| local | 54,062 | 39,901 | 19,187 | 15,061 | 5,864 | 2,210 | 2,963 |
| cross-border | 54,265 | 47,778 | 13,092 | 30,691 | 3,300 | 1,348 | 1,547 |
| Up to 7 days | 218,778 | 181,689 | 69,926 | 75,000 | 27,281 | 10,058 | 13,847 |
| Over 7 days and up to 1 year | 244,894 | 200,687 | 76,244 | 39,145 | 26,406 | 8,847 | 12,138 |
| Over 1 year | 11,335 | 9,123 | 3,516 | 966 | 1,157 | 172 | 347 |
| **Foreign exchange swaps** | **1,765,210** | **1,600,101** | **609,801** | **278,897** | **222,214** | **127,078** | **97,049** |
| with reporting dealers | 837,004 | 775,490 | 273,064 | 125,552 | 96,787 | 65,017 | 38,061 |
| local | 241,165 | 229,167 | 61,008 | 35,164 | 32,611 | 11,919 | 11,289 |
| cross-border | 595,838 | 546,323 | 212,055 | 90,388 | 64,176 | 53,098 | 26,772 |
| with other financial institutions | 757,769 | 685,372 | 267,399 | 126,072 | 102,805 | 49,334 | 49,426 |
| local | 221,017 | 196,326 | 77,799 | 32,917 | 41,028 | 14,306 | 13,930 |
| cross-border | 536,752 | 489,047 | 189,601 | 93,155 | 61,777 | 35,029 | 35,496 |
| with non-financial customers | 170,437 | 139,238 | 69,338 | 27,273 | 22,621 | 12,726 | 9,562 |
| local | 71,757 | 53,033 | 27,758 | 16,222 | 10,018 | 3,852 | 4,313 |
| cross-border | 98,680 | 86,205 | 41,580 | 11,051 | 12,604 | 8,875 | 5,250 |
| Up to 7 days | 1,303,954 | 1,208,255 | 419,682 | 201,122 | 161,342 | 90,265 | 72,330 |
| Over 7 days and up to 1 year | 444,209 | 376,210 | 186,218 | 75,844 | 58,828 | 35,430 | 23,815 |
| Over 1 year | 14,522 | 13,039 | 3,903 | 1,932 | 2,043 | 1,382 | 904 |

For footnotes, see facing page.

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| Specified currency against all other currencies[2] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Australian dollar** | **Swedish krona** | **Brazilian real** | **Renminbi** | **Czech koruna** | **Danish krone** | **Hong Kong dollar** | **Forint** | |
| **111,107** | **18,787** | **8,518** | **8,123** | **1,330** | **4,785** | **18,713** | **4,144** | **Spot** |
| 37,564 | 6,799 | 2,275 | 6,415 | 657 | 1,989 | 8,862 | 1,780 | with reporting dealers |
| 12,028 | 1,751 | 1,602 | 4,723 | 95 | 301 | 3,759 | 665 | local |
| 25,536 | 5,049 | 673 | 1,692 | 563 | 1,688 | 5,103 | 1,115 | cross-border |
| 56,135 | 9,641 | 4,672 | 1,419 | 413 | 1,627 | 6,448 | 2,008 | with other financial institutions |
| 19,953 | 2,456 | 2,446 | 385 | 117 | 293 | 1,951 | 730 | local |
| 36,182 | 7,185 | 2,226 | 1,034 | 296 | 1,334 | 4,497 | 1,278 | cross-border |
| 17,408 | 2,347 | 1,571 | 289 | 260 | 1,169 | 3,402 | 356 | with non-financial customers |
| 9,994 | 1,096 | 1,460 | 144 | 198 | 858 | 2,271 | 189 | local |
| 7,414 | 1,251 | 111 | 145 | 62 | 311 | 1,132 | 167 | cross-border |
| **28,836** | **8,578** | **12,866** | **14,248** | **612** | **2,794** | **3,725** | **1,816** | **Outright forwards** |
| 6,951 | 2,544 | 2,538 | 6,052 | 103 | 777 | 1,090 | 360 | with reporting dealers |
| 1,702 | 643 | 703 | 1,235 | 16 | 297 | 428 | 135 | local |
| 5,249 | 1,901 | 1,835 | 4,817 | 87 | 480 | 661 | 224 | cross-border |
| 17,197 | 4,123 | 8,585 | 5,467 | 213 | 865 | 1,505 | 1,052 | with other financial institutions |
| 8,274 | 1,788 | 2,574 | 1,332 | 107 | 599 | 673 | 394 | local |
| 8,923 | 2,335 | 6,011 | 4,135 | 106 | 266 | 831 | 658 | cross-border |
| 4,688 | 1,911 | 1,743 | 2,729 | 296 | 1,152 | 1,131 | 404 | with non-financial customers |
| 3,295 | 1,379 | 1,063 | 1,959 | 189 | 1,049 | 859 | 254 | local |
| 1,393 | 532 | 681 | 769 | 107 | 103 | 272 | 150 | cross-border |
| 12,607 | 4,420 | 3,875 | 1,849 | 174 | 1,521 | 1,887 | 549 | Up to 7 days |
| 15,912 | 4,080 | 8,343 | 10,377 | 421 | 1,215 | 1,564 | 1,249 | Over 7 days and up to 1 year |
| 316 | 78 | 649 | 2,022 | 17 | 58 | 274 | 18 | Over 1 year |
| **140,794** | **56,198** | **791** | **6,825** | **5,446** | **14,681** | **69,538** | **9,937** | **Foreign exchange swaps** |
| 71,439 | 28,866 | 187 | 2,879 | 3,474 | 8,103 | 36,484 | 3,418 | with reporting dealers |
| 20,111 | 2,717 | 53 | 2,566 | 543 | 1,207 | 14,982 | 1,209 | local |
| 51,328 | 26,149 | 134 | 313 | 2,931 | 6,896 | 21,502 | 2,209 | cross-border |
| 59,520 | 18,096 | 419 | 3,163 | 1,303 | 3,217 | 30,227 | 4,442 | with other financial institutions |
| 14,844 | 5,814 | 166 | 3,028 | 483 | 1,441 | 3,247 | 1,120 | local |
| 44,676 | 12,282 | 253 | 134 | 820 | 1,776 | 26,980 | 3,322 | cross-border |
| 9,835 | 9,236 | 184 | 784 | 669 | 3,361 | 2,827 | 2,076 | with non-financial customers |
| 4,049 | 4,701 | 142 | 748 | 367 | 2,749 | 2,138 | 212 | local |
| 5,786 | 4,534 | 43 | 36 | 302 | 613 | 690 | 1,865 | cross-border |
| 112,494 | 39,596 | 278 | 4,130 | 4,370 | 9,843 | 55,821 | 8,088 | Up to 7 days |
| 27,942 | 16,180 | 404 | 2,603 | 1,070 | 4,814 | 12,285 | 1,713 | Over 7 days and up to 1 year |
| 357 | 418 | 110 | 93 | 6 | 24 | 1,432 | 136 | Over 1 year |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. [2] Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover.

Table E.1 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| | Specified currency against all other currencies[2] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Indian rupee** | **Rupiah** | **Won** | **Mexican peso** | **Norwegian krone** | **New Zealand dollar** | **Philippine peso** | **Zloty** |
| **Spot** | **13,527** | **2,464** | **21,144** | **18,158** | **12,335** | **21,643** | **2,249** | **7,193** |
| with reporting dealers | 7,081 | 1,436 | 12,821 | 6,925 | 4,475 | 7,798 | 1,679 | 3,108 |
| local | 5,544 | 803 | 9,769 | 2,125 | 1,156 | 2,636 | 1,123 | 960 |
| cross-border | 1,537 | 633 | 3,052 | 4,800 | 3,319 | 5,162 | 556 | 2,148 |
| with other financial institutions | 2,947 | 621 | 6,229 | 8,366 | 6,105 | 11,299 | 375 | 3,176 |
| local | 878 | 176 | 3,183 | 2,812 | 1,285 | 3,416 | 201 | 950 |
| cross-border | 2,070 | 445 | 3,046 | 5,555 | 4,820 | 7,883 | 174 | 2,226 |
| with non-financial customers | 3,498 | 407 | 2,094 | 2,867 | 1,755 | 2,546 | 195 | 909 |
| local | 2,881 | 350 | 1,714 | 1,599 | 830 | 1,330 | 159 | 604 |
| cross-border | 618 | 56 | 380 | 1,268 | 925 | 1,216 | 36 | 305 |
| **Outright forwards** | **13,620** | **2,659** | **18,018** | **5,392** | **6,153** | **5,076** | **2,396** | **3,559** |
| with reporting dealers | 4,811 | 1,368 | 11,002 | 1,425 | 1,619 | 1,324 | 1,248 | 693 |
| local | 1,466 | 337 | 1,667 | 434 | 366 | 380 | 170 | 201 |
| cross-border | 3,345 | 1,031 | 9,335 | 992 | 1,253 | 944 | 1,079 | 492 |
| with other financial institutions | 5,059 | 1,070 | 5,639 | 3,014 | 3,301 | 2,976 | 891 | 2,159 |
| local | 1,513 | 322 | 1,865 | 1,140 | 1,649 | 1,354 | 217 | 923 |
| cross-border | 3,546 | 749 | 3,774 | 1,874 | 1,652 | 1,621 | 674 | 1,236 |
| with non-financial customers | 3,750 | 221 | 1,377 | 952 | 1,233 | 776 | 257 | 707 |
| local | 3,259 | 175 | 942 | 318 | 941 | 457 | 213 | 430 |
| cross-border | 491 | 45 | 435 | 634 | 292 | 319 | 44 | 277 |
| Up to 7 days | 3,263 | 552 | 2,590 | 2,117 | 3,102 | 2,621 | 370 | 1,160 |
| Over 7 days and up to 1 year | 9,458 | 2,071 | 14,808 | 3,164 | 2,986 | 2,398 | 1,983 | 2,334 |
| Over 1 year | 899 | 37 | 620 | 111 | 64 | 57 | 43 | 65 |
| **Foreign exchange swaps** | **6,789** | **667** | **16,597** | **23,735** | **31,602** | **33,148** | **1,188** | **19,074** |
| with reporting dealers | 6,030 | 569 | 13,823 | 10,683 | 14,863 | 16,028 | 1,004 | 7,083 |
| local | 5,243 | 417 | 12,908 | 2,302 | 2,269 | 4,894 | 841 | 1,986 |
| cross-border | 787 | 152 | 915 | 8,382 | 12,594 | 11,134 | 163 | 5,097 |
| with other financial institutions | 637 | 68 | 1,781 | 9,742 | 11,984 | 14,450 | 171 | 7,653 |
| local | 381 | 54 | 1,046 | 3,270 | 3,077 | 3,700 | 170 | 1,900 |
| cross-border | 257 | 13 | 736 | 6,472 | 8,906 | 10,750 | 1 | 5,753 |
| with non-financial customers | 121 | 30 | 992 | 3,310 | 4,755 | 2,670 | 14 | 4,338 |
| local | 99 | 26 | 908 | 767 | 2,216 | 872 | 14 | 632 |
| cross-border | 22 | 4 | 84 | 2,543 | 2,539 | 1,799 | ... | 3,706 |
| Up to 7 days | 3,290 | 447 | 7,387 | 20,278 | 22,222 | 28,699 | 555 | 15,680 |
| Over 7 days and up to 1 year | 2,931 | 220 | 8,329 | 3,359 | 9,231 | 4,296 | 628 | 3,280 |
| Over 1 year | 568 | 1 | 881 | 98 | 149 | 162 | 4 | 113 |

For footnotes, see facing page.

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| Specified currency against all other currencies[2] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Rouble** | **Rand** | **Singapore dollar** | **New Taiwan dollar** | **Baht** | **Turkish lira** | **Currencies of other reporting countries[3]** | **Residual currencies[4]** | |
| ####<br>#### | **9,111** | **15,616** | **6,064** | ###<br># | **7,955** | **15,092** | **69,356** | **Spot** |
| 5,936 | 4,040 | 6,746 | 2,102 | ### | 4,328 | 5,664 | 20,399 | with reporting dealers |
| 4,610 | 1,344 | 1,868 | 1,201 | 445 | 1,750 | 3,667 | 7,151 | local |
| 1,325 | 2,696 | 4,878 | 901 | 650 | 2,578 | 1,997 | 13,248 | cross-border |
| 6,342 | 4,059 | 6,227 | 1,952 | 617 | 3,234 | 5,028 | 39,448 | with other financial institutions |
| 4,428 | 1,026 | 2,235 | 1,126 | 97 | 1,017 | 2,909 | 17,101 | local |
| 1,913 | 3,033 | 3,992 | 826 | 520 | 2,218 | 2,119 | 22,347 | cross-border |
| 5,861 | 1,011 | 2,643 | 2,010 | ### | 392 | 4,400 | 9,510 | with non-financial customers |
| 2,103 | 733 | 758 | 1,463 | ### | 301 | 4,213 | 4,497 | local |
| 3,759 | 277 | 1,885 | 548 | 72 | 91 | 187 | 5,013 | cross-border |
| **2,262** | **2,856** | **4,416** | **6,820** | ###<br>### | **3,032** | **9,837** | **32,787** | **Outright forwards** |
| 699 | 689 | 1,093 | 3,456 | 80 | 964 | 4,235 | 6,471 | with reporting dealers |
| 361 | 320 | 283 | 641 | 20 | 498 | 1,106 | 2,097 | local |
| 339 | 370 | 810 | 2,815 | 59 | 466 | 3,129 | 4,375 | cross-border |
| 1,261 | 1,588 | 2,359 | 2,584 | 134 | 1,786 | 4,313 | 21,022 | with other financial institutions |
| 449 | 635 | 987 | 630 | 55 | 690 | 1,767 | 8,823 | local |
| 812 | 954 | 1,371 | 1,955 | 79 | 1,095 | 2,546 | 12,198 | cross-border |
| 301 | 578 | 965 | 779 | 894 | 282 | 1,289 | 5,295 | with non-financial customers |
| 167 | 413 | 613 | 457 | 870 | 204 | 1,110 | 2,320 | local |
| 134 | 165 | 352 | 323 | 24 | 78 | 179 | 2,975 | cross-border |
| 704 | 1,144 | 1,708 | 1,547 | 268 | 1,820 | 2,687 | 7,220 | Up to 7 days |
| 1,472 | 1,673 | 2,614 | 5,196 | 826 | 1,182 | 6,786 | 24,208 | Over 7 days and up to 1 year |
| 85 | 39 | 94 | 77 | 13 | 29 | 364 | 1,360 | Over 1 year |
| ####<br>#### | **15,628** | **33,594** | **4,761** | ###<br>### | **12,634** | **10,324** | **63,590** | **Foreign exchange swaps** |
| 5,817 | 9,622 | 20,726 | 929 | ### | 6,034 | 4,501 | 24,800 | with reporting dealers |
| 3,215 | 3,669 | 7,481 | 830 | ### | 1,837 | 1,721 | 6,259 | local |
| 2,602 | 5,953 | 13,245 | 99 | 761 | 4,198 | 2,779 | 18,542 | cross-border |
| 7,556 | 5,031 | 11,032 | 3,184 | 636 | 6,310 | 4,461 | 30,045 | with other financial institutions |
| 4,224 | 1,131 | 3,841 | 3,112 | 303 | 2,103 | 1,195 | 6,078 | local |
| 3,332 | 3,900 | 7,191 | 72 | 333 | 4,207 | 3,266 | 23,968 | cross-border |
| 866 | 974 | 1,835 | 648 | 192 | 289 | 1,363 | 8,744 | with non-financial customers |
| 343 | 677 | 721 | 647 | 131 | 183 | 941 | 4,039 | local |
| 524 | 298 | 1,115 | 0 | 61 | 106 | 423 | 4,705 | cross-border |
| ####<br>#### | 12,112 | 26,598 | 347 | ###<br># | 9,886 | 7,690 | 50,139 | Up to 7 days |
| 1,067 | 3,400 | 6,795 | 4,159 | ### | 2,696 | 2,532 | 10,628 | Over 7 days and up to 1 year |
| 126 | 117 | 201 | 254 | 78 | 52 | 103 | 359 | Over 1 year |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. [2] Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover. [3] Includes all participating countries' currencies other than the ones listed. [4] Calculated as the difference between the total and the sum of the listed components.

Table E.1 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| | Total | Specified currency against all other currencies[2] | | | | | |
|---|---|---|---|---|---|---|---|
| | | US dollar | Euro | Yen | Pound sterling | Swiss franc | Canadian dollar |
| **Currency swaps** | **42,866** | **38,313** | **17,673** | **6,597** | **2,575** | **1,681** | **2,839** |
| with reporting dealers | 20,056 | 18,490 | 6,787 | 2,707 | 1,482 | 592 | 996 |
| local | 5,944 | 5,405 | 1,431 | 491 | 639 | 59 | 152 |
| cross-border | 14,112 | 13,085 | 5,356 | 2,216 | 843 | 533 | 844 |
| with other financial institutions | 19,255 | 16,771 | 9,498 | 3,320 | 878 | 904 | 1,309 |
| local | 7,488 | 6,522 | 4,376 | 1,169 | 388 | 216 | 259 |
| cross-border | 11,767 | 10,250 | 5,121 | 2,151 | 490 | 688 | 1,050 |
| with non-financial customers | 3,555 | 3,052 | 1,389 | 569 | 215 | 185 | 533 |
| local | 1,764 | 1,457 | 584 | 279 | 122 | 110 | 297 |
| cross-border | 1,791 | 1,594 | 805 | 290 | 93 | 75 | 236 |
| **Options sold** | **136,882** | **105,529** | **57,445** | **34,497** | **12,866** | **9,197** | **4,189** |
| with reporting dealers | 60,904 | 47,216 | 24,812 | 12,229 | 6,239 | 4,126 | 2,189 |
| local | 21,195 | 16,349 | 8,887 | 4,990 | 2,524 | 1,682 | 642 |
| cross-border | 39,708 | 30,867 | 15,924 | 7,239 | 3,715 | 2,444 | 1,548 |
| with other financial institutions | 60,448 | 47,221 | 25,850 | 19,399 | 5,280 | 3,575 | 1,621 |
| local | 33,423 | 27,862 | 12,117 | 14,411 | 2,449 | 1,671 | 713 |
| cross-border | 27,026 | 19,359 | 13,733 | 4,988 | 2,831 | 1,904 | 908 |
| with non-financial customers | 15,530 | 11,092 | 6,784 | 2,869 | 1,347 | 1,496 | 379 |
| local | 6,241 | 4,552 | 2,864 | 1,386 | 442 | 582 | 151 |
| cross-border | 9,289 | 6,540 | 3,919 | 1,482 | 905 | 914 | 227 |
| **Options bought** | **130,788** | **101,003** | **54,981** | **31,397** | **13,423** | **8,373** | **4,055** |
| with reporting dealers | 59,909 | 45,459 | 26,633 | 10,629 | 6,435 | 4,224 | 2,105 |
| local | 20,434 | 15,463 | 9,198 | 3,171 | 2,443 | 1,422 | 640 |
| cross-border | 39,475 | 29,996 | 17,434 | 7,458 | 3,991 | 2,802 | 1,465 |
| with other financial institutions | 53,027 | 42,385 | 21,329 | 17,678 | 4,909 | 2,709 | 1,419 |
| local | 27,812 | 23,627 | 8,879 | 13,282 | 1,898 | 1,069 | 587 |
| cross-border | 25,215 | 18,758 | 12,450 | 4,396 | 3,011 | 1,640 | 832 |
| with non-financial customers | 17,852 | 13,159 | 7,020 | 3,090 | 2,080 | 1,440 | 531 |
| local | 7,152 | 5,402 | 2,750 | 1,343 | 607 | 455 | 222 |
| cross-border | 10,700 | 7,757 | 4,270 | 1,748 | 1,473 | 985 | 309 |
| **Total options** | **207,264** | **160,194** | **86,705** | **54,465** | **19,952** | **13,395** | **6,097** |
| **Other products** | **150** | **...** | **...** | **...** | **...** | **...** | **...** |
| **Total foreign exchange contra** | **3,980,703** | **3,377,809** | **1,555,076** | **755,283** | **512,560** | **253,321** | **210,148** |

For footnotes, see facing page.

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| Specified currency against all other currencies[2] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Australian dollar** | **Swedish krona** | **Brazilian real** | **Renminbi** | **Czech koruna** | **Danish krone** | **Hong Kong dollar** | **Forint** | |
| **5,649** | **699** | **391** | **65** | **30** | **117** | **347** | **45** | **Currency swaps** |
| 2,984 | 466 | 39 | 31 | 19 | 22 | 215 | 44 | with reporting dealers |
| 441 | 286 | 22 | 3 | 2 | 8 | 32 | 3 | local |
| 2,543 | 180 | 17 | 28 | 17 | 14 | 184 | 41 | cross-border |
| 2,406 | 219 | 155 | 22 | 10 | 87 | 56 | 0 | with other financial institutions |
| 714 | 126 | 142 | 1 | 1 | 74 | 11 | ... | local |
| 1,691 | 93 | 13 | 21 | 9 | 13 | 45 | 0 | cross-border |
| 259 | 14 | 198 | 12 | 1 | 9 | 76 | 1 | with non-financial customers |
| 55 | 10 | 197 | 6 | 0 | 9 | 25 | 1 | local |
| 204 | 4 | 1 | 6 | 1 | ... | 52 | ... | cross-border |
| **10,444** | **1,808** | **3,040** | **3,164** | **148** | **186** | **1,156** | **825** | **Options sold** |
| 5,713 | 795 | 1,506 | 1,626 | 69 | 167 | 513 | 360 | with reporting dealers |
| 1,561 | 261 | 637 | 447 | 12 | 0 | 96 | 136 | local |
| 4,152 | 534 | 869 | 1,179 | 57 | 167 | 416 | 223 | cross-border |
| 3,755 | 723 | 1,389 | 1,197 | 47 | 4 | 303 | 366 | with other financial institutions |
| 1,752 | 243 | 457 | 668 | 6 | ... | 125 | 147 | local |
| 2,003 | 479 | 932 | 529 | 41 | 4 | 178 | 218 | cross-border |
| 976 | 290 | 145 | 342 | 32 | 15 | 340 | 100 | with non-financial customers |
| 432 | 158 | 59 | 107 | 10 | 13 | 185 | 30 | local |
| 545 | 133 | 86 | 234 | 22 | 2 | 155 | 70 | cross-border |
| **10,663** | **1,972** | **3,187** | **3,517** | **127** | **110** | **1,123** | **804** | **Options bought** |
| 5,832 | 865 | 1,634 | 1,736 | 49 | 19 | 662 | 413 | with reporting dealers |
| 1,524 | 300 | 631 | 399 | 0 | 0 | 154 | 210 | local |
| 4,308 | 565 | 1,004 | 1,337 | 49 | 19 | 508 | 204 | cross-border |
| 3,151 | 669 | 1,456 | 1,280 | 28 | 32 | 180 | 305 | with other financial institutions |
| 1,415 | 193 | 426 | 673 | 12 | 23 | 51 | 100 | local |
| 1,735 | 476 | 1,030 | 607 | 16 | 8 | 129 | 204 | cross-border |
| 1,680 | 438 | 97 | 501 | 50 | 60 | 281 | 86 | with non-financial customers |
| 756 | 239 | 41 | 213 | 15 | 31 | 182 | 27 | local |
| 924 | 200 | 56 | 288 | 35 | 29 | 99 | 59 | cross-border |
| **15,334** | **2,950** | **4,657** | **5,000** | **216** | **203** | **1,692** | **1,243** | **Total options** |
| **...** | **...** | **...** | **...** | **...** | **...** | **...** | **...** | **Other products** |
| **301,719** | **87,212** | **27,224** | **34,261** | **7,634** | **22,581** | **94,015** | **17,184** | **Total foreign exchange contracts** |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. [2] Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover.

Table E.1 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| | Specified currency against all other currencies[2] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Indian rupee** | **Rupiah** | **Won** | **Mexican peso** | **Norwegian krone** | **New Zealand dollar** | **Philippine peso** | **Zloty** |
| **Currency swaps** | **50** | **68** | **951** | **353** | **643** | **664** | **187** | **181** |
| with reporting dealers | 14 | 9 | 625 | 190 | 208 | 380 | 184 | 84 |
| local | 3 | 2 | 348 | 83 | 136 | 36 | 183 | 15 |
| cross-border | 11 | 7 | 277 | 107 | 72 | 344 | 1 | 69 |
| with other financial institutions | 19 | 57 | 264 | 136 | 389 | 280 | 3 | 82 |
| local | 10 | 53 | 62 | 30 | 214 | 62 | ... | 6 |
| cross-border | 9 | 4 | 202 | 106 | 175 | 218 | 3 | 76 |
| with non-financial customers | 17 | 2 | 62 | 28 | 46 | 4 | 0 | 15 |
| local | 17 | 2 | 58 | 6 | 18 | 1 | 0 | 1 |
| cross-border | ... | ... | 4 | 22 | 28 | 3 | ... | 14 |
| **Options sold** | **2,194** | **120** | **2,521** | **1,595** | **1,208** | **1,873** | **102** | **1,371** |
| with reporting dealers | 793 | 70 | 1,467 | 839 | 497 | 1,012 | 41 | 616 |
| local | 297 | 8 | 525 | 231 | 160 | 379 | 6 | 201 |
| cross-border | 496 | 62 | 942 | 608 | 337 | 634 | 35 | 415 |
| with other financial institutions | 877 | 38 | 836 | 613 | 501 | 587 | 37 | 570 |
| local | 470 | 1 | 341 | 225 | 252 | 210 | 7 | 235 |
| cross-border | 408 | 37 | 495 | 387 | 249 | 377 | 30 | 335 |
| with non-financial customers | 523 | 12 | 217 | 144 | 210 | 274 | 24 | 186 |
| local | 355 | 0 | 81 | 44 | 77 | 64 | 1 | 58 |
| cross-border | 168 | 12 | 136 | 100 | 133 | 210 | 23 | 128 |
| **Options bought** | **2,429** | **107** | **2,438** | **1,531** | **1,205** | **1,979** | **1,160** | **1,337** |
| with reporting dealers | 948 | 64 | 1,341 | 783 | 529 | 1,114 | 1,109 | 634 |
| local | 429 | 8 | 484 | 253 | 141 | 333 | 1,056 | 221 |
| cross-border | 520 | 56 | 857 | 530 | 388 | 780 | 54 | 413 |
| with other financial institutions | 781 | 24 | 838 | 609 | 411 | 520 | 26 | 543 |
| local | 332 | 5 | 467 | 253 | 144 | 192 | 7 | 187 |
| cross-border | 449 | 20 | 371 | 356 | 266 | 327 | 18 | 356 |
| with non-financial customers | 699 | 19 | 260 | 139 | 265 | 346 | 25 | 160 |
| local | 477 | 1 | 117 | 36 | 113 | 119 | 1 | 76 |
| cross-border | 222 | 18 | 143 | 104 | 152 | 227 | 24 | 85 |
| **Total options** | **3,752** | **160** | **3,555** | **2,316** | **1,899** | **2,790** | **687** | **2,083** |
| **Other products** | **...** | **...** | **...** | **...** | **...** | **...** | **...** | **...** |
| **Total foreign exchange contra** | **37,738** | **6,019** | **60,265** | **49,954** | **52,632** | **63,321** | **6,707** | **32,089** |

For footnotes, see facing page.

Table E.1 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Total reported transactions in all currencies

**Daily averages, in millions of US dollars**

| Specified currency against all other currencies[2] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Rouble** | **Rand** | **Singapore dollar** | **New Taiwan dollar** | **Baht** | **Turkish lira** | **Currencies of other reporting countries[3]** | **Residual currencies[4]** | |
| **182** | **150** | **67** | **103** | **111** | **1,908** | **1,692** | **1,400** | **Currency swaps** |
| 65 | 91 | 44 | 34 | 62 | 1,238 | 1,369 | 640 | with reporting dealers |
| 29 | 9 | 1 | 21 | 59 | 692 | 1,255 | 43 | local |
| 36 | 82 | 42 | 13 | 3 | 546 | 114 | 597 | cross-border |
| 102 | 49 | 19 | 26 | 20 | 589 | 192 | 651 | with other financial institutions |
| 33 | 7 | 6 | 17 | 18 | 283 | 61 | 114 | local |
| 69 | 43 | 13 | 9 | 2 | 305 | 131 | 536 | cross-border |
| 15 | 10 | 4 | 43 | 29 | 81 | 131 | 110 | with non-financial customers |
| 12 | 3 | 4 | 37 | 29 | 16 | 119 | 53 | local |
| 3 | 7 | 0 | 5 | ... | 65 | 12 | 56 | cross-border |
| **766** | **775** | **1,750** | **914** | **50** | **2,559** | **572** | **10,901** | **Options sold** |
| 491 | 523 | 915 | 485 | 11 | 1,090 | 199 | 5,199 | with reporting dealers |
| 288 | 234 | 236 | 150 | 9 | 431 | 74 | 936 | local |
| 204 | 289 | 679 | 335 | 2 | 658 | 124 | 4,263 | cross-border |
| 208 | 201 | 633 | 349 | 1 | 1,286 | 276 | 3,156 | with other financial institutions |
| 89 | 56 | 362 | 138 | 0 | 714 | 68 | 1,054 | local |
| 119 | 145 | 271 | 211 | 1 | 572 | 208 | 2,101 | cross-border |
| 67 | 50 | 203 | 79 | 38 | 183 | 98 | 2,546 | with non-financial customers |
| 11 | 24 | 57 | 44 | 37 | 97 | 86 | 477 | local |
| 56 | 26 | 146 | 36 | 0 | 87 | 12 | 2,069 | cross-border |
| **761** | **782** | **1,846** | **862** | **55** | **2,260** | **602** | **7,486** | **Options bought** |
| 466 | 521 | 922 | 519 | 9 | 1,033 | 182 | 2,948 | with reporting dealers |
| 239 | 228 | 285 | 112 | 7 | 468 | 74 | 974 | local |
| 227 | 293 | 637 | 407 | 2 | 565 | 108 | 1,974 | cross-border |
| 223 | 195 | 662 | 250 | 2 | 820 | 331 | 2,290 | with other financial institutions |
| 91 | 59 | 345 | 96 | 1 | 192 | 79 | 937 | local |
| 133 | 136 | 317 | 154 | 1 | 628 | 252 | 1,353 | cross-border |
| 72 | 67 | 262 | 92 | 43 | 407 | 89 | 2,248 | with non-financial customers |
| 18 | 40 | 110 | 55 | 43 | 330 | 76 | 413 | local |
| 54 | 27 | 151 | 37 | 0 | 76 | 13 | 1,835 | cross-border |
| **1,049** | **1,035** | **2,678** | **1,273** | **95** | **3,757** | **984** | **14,313** | **Total options** |
| **...** | **...** | **...** | **...** | **...** | **...** | **...** | **300** | **Other products** |
| **35,870** | **28,780** | **56,371** | **19,021** | **7,652** | **29,285** | **37,929** | **181,746** | **Total foreign exchange contracts** |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. [2] Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover. [3] Includes all participating countries' currencies other than the ones listed. [4] Calculated as the difference between the total and the sum of the listed components.

Table E.1 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### US dollar against:

**Daily averages, in millions of US dollars**

| | Total | Euro | Yen | Pound sterling | Swiss franc | Canadian dollar | Australian dollar | Swedish krona |
|---|---|---|---|---|---|---|---|---|
| **Spot** | **1,187,699** | **468,891** | **183,108** | **139,582** | **50,793** | **65,148** | **83,869** | **5,441** |
| with reporting dealers | 421,171 | 159,180 | 66,429 | 47,249 | 14,637 | 19,816 | 28,888 | 1,975 |
| local | 145,414 | 46,591 | 17,329 | 16,797 | 5,064 | 5,395 | 9,268 | 697 |
| cross-border | 275,757 | 112,589 | 49,100 | 30,451 | 9,573 | 14,421 | 19,620 | 1,278 |
| with other financial institutions | 598,504 | 245,922 | 89,099 | 76,718 | 30,434 | 34,604 | 43,834 | 2,926 |
| local | 242,285 | 101,494 | 36,210 | 29,389 | 13,916 | 13,463 | 16,935 | 700 |
| cross-border | 356,217 | 144,429 | 52,888 | 47,328 | 16,518 | 21,141 | 26,898 | 2,226 |
| with non-financial customers | 168,025 | 63,789 | 27,579 | 15,616 | 5,722 | 10,728 | 11,147 | 540 |
| local | 67,744 | 16,085 | 13,105 | 4,441 | 1,451 | 5,891 | 5,435 | 233 |
| cross-border | 100,281 | 47,704 | 14,474 | 11,175 | 4,272 | 4,837 | 5,713 | 307 |
| **Outright forwards** | **391,501** | **92,085** | **89,205** | **33,599** | **10,715** | **20,295** | **20,494** | **3,468** |
| with reporting dealers | 96,325 | 23,568 | 7,287 | 7,463 | 2,894 | 3,436 | 5,177 | 1,292 |
| local | 23,950 | 5,397 | 2,142 | 2,170 | 786 | 897 | 1,323 | 330 |
| cross-border | 72,375 | 18,172 | 5,145 | 5,293 | 2,109 | 2,539 | 3,854 | 962 |
| with other financial institutions | 207,497 | 50,565 | 43,981 | 21,447 | 6,055 | 13,487 | 12,612 | 1,647 |
| local | 74,530 | 19,999 | 11,248 | 10,071 | 2,072 | 4,904 | 5,575 | 791 |
| cross-border | 132,967 | 30,566 | 32,733 | 11,375 | 3,983 | 8,583 | 7,037 | 856 |
| with non-financial customers | 87,680 | 17,951 | 37,937 | 4,689 | 1,765 | 3,372 | 2,705 | 529 |
| local | 39,901 | 9,730 | 8,853 | 2,970 | 1,084 | 2,173 | 2,001 | 297 |
| cross-border | 47,778 | 8,222 | 29,084 | 1,720 | 681 | 1,199 | 704 | 232 |
| Up to 7 days | 181,689 | 46,113 | 63,245 | 16,987 | 6,076 | 10,358 | 9,293 | 1,846 |
| Over 7 days and up to 1 year | 200,687 | 44,334 | 25,316 | 15,804 | 4,563 | 9,702 | 10,994 | 1,601 |
| Over 1 year | 9,123 | 1,637 | 644 | 808 | 76 | 235 | 206 | 21 |
| **Foreign exchange swaps** | **1,600,101** | **475,868** | **245,705** | **175,231** | **101,240** | **89,609** | **128,846** | **35,546** |
| with reporting dealers | 775,490 | 218,896 | 116,805 | 80,184 | 53,975 | 36,046 | 68,570 | 17,177 |
| local | 229,167 | 51,390 | 32,600 | 28,867 | 8,875 | 10,817 | 19,203 | 2,449 |
| cross-border | 546,323 | 167,506 | 84,204 | 51,317 | 45,100 | 25,229 | 49,367 | 14,728 |
| with other financial institutions | 685,372 | 211,629 | 109,094 | 80,627 | 37,513 | 45,214 | 52,998 | 13,405 |
| local | 196,326 | 59,711 | 27,084 | 34,027 | 10,283 | 12,109 | 12,513 | 3,519 |
| cross-border | 489,047 | 151,918 | 82,009 | 46,600 | 27,230 | 33,105 | 40,485 | 9,886 |
| with non-financial customers | 139,238 | 45,343 | 19,806 | 14,419 | 9,752 | 8,348 | 7,278 | 4,963 |
| local | 53,033 | 13,772 | 10,489 | 5,786 | 2,420 | 3,633 | 2,449 | 1,825 |
| cross-border | 86,205 | 31,571 | 9,317 | 8,633 | 7,332 | 4,716 | 4,829 | 3,138 |
| Up to 7 days | 1,208,255 | 346,362 | 180,217 | 135,846 | 77,198 | 68,014 | 105,574 | 25,573 |
| Over 7 days and up to 1 year | 376,210 | 126,990 | 63,746 | 37,945 | 22,806 | 20,731 | 22,965 | 9,710 |
| Over 1 year | 13,039 | 2,516 | 1,742 | 1,439 | 1,236 | 864 | 307 | 260 |

For footnotes, see facing page.

Table E.2

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### US dollar against:

**Daily averages, in millions of US dollars**

| Brazilian real | Renminbi | Hong Kong dollar | Indian rupee | Won | Rand | Currencies of other reporting countries[2] | Residual currencies[3] | |
|---|---|---|---|---|---|---|---|---|
| **8,223** | **6,173** | **13,440** | **12,525** | **20,280** | **7,023** | **46,038** | **77,163** | **Spot** |
| 2,267 | 4,546 | 6,121 | 6,970 | 12,433 | 3,460 | 18,494 | 28,705 | with reporting dealers |
| 1,601 | 2,887 | 1,795 | 5,528 | 9,635 | 1,159 | 12,394 | 9,277 | local |
| 666 | 1,660 | 4,327 | 1,442 | 2,799 | 2,301 | 6,101 | 19,428 | cross-border |
| 4,629 | 1,398 | 4,932 | 2,821 | 6,038 | 3,050 | 12,384 | 39,714 | with other financial institutions |
| 2,442 | 368 | 1,640 | 825 | 3,117 | 890 | 8,490 | 12,407 | local |
| 2,187 | 1,030 | 3,293 | 1,997 | 2,921 | 2,160 | 3,894 | 27,308 | cross-border |
| 1,327 | 229 | 2,387 | 2,733 | 1,809 | 514 | 15,160 | 8,744 | with non-financial customers |
| 1,220 | 92 | 1,394 | 2,582 | 1,493 | 286 | 10,084 | 3,952 | local |
| 107 | 137 | 992 | 152 | 316 | 228 | 5,076 | 4,792 | cross-border |
| **12,219** | **13,433** | **2,489** | **13,037** | **17,179** | **2,424** | **8,926** | **51,934** | **Outright forwards** |
| 2,353 | 5,886 | 816 | 4,673 | 10,704 | 594 | 2,799 | 17,383 | with reporting dealers |
| 684 | 1,230 | 327 | 1,441 | 1,619 | 273 | 965 | 4,365 | local |
| 1,669 | 4,656 | 488 | 3,233 | 9,084 | 321 | 1,834 | 13,018 | cross-border |
| 8,383 | 5,396 | 1,137 | 4,835 | 5,250 | 1,428 | 2,605 | 28,668 | with other financial institutions |
| 2,510 | 1,308 | 448 | 1,416 | 1,666 | 564 | 1,928 | 10,029 | local |
| 5,872 | 4,088 | 689 | 3,419 | 3,584 | 865 | 677 | 18,639 | cross-border |
| 1,483 | 2,150 | 537 | 3,528 | 1,225 | 401 | 3,523 | 5,883 | with non-financial customers |
| 936 | 1,444 | 336 | 3,084 | 819 | 273 | 3,362 | 2,541 | local |
| 547 | 707 | 200 | 445 | 407 | 128 | 161 | 3,342 | cross-border |
| 3,660 | 1,721 | 1,411 | 3,145 | 2,390 | 909 | 3,168 | 11,367 | Up to 7 days |
| 7,949 | 9,802 | 875 | 9,031 | 14,187 | 1,489 | 5,623 | 39,418 | Over 7 days and up to 1 year |
| 609 | 1,909 | 203 | 862 | 601 | 26 | 136 | 1,149 | Over 1 year |
| **782** | **6,741** | **67,278** | **6,776** | **16,421** | **13,747** | **66,605** | **169,706** | **Foreign exchange swaps** |
| 183 | 2,860 | 35,348 | 6,024 | 13,790 | 9,017 | 37,638 | 78,976 | with reporting dealers |
| 53 | 2,548 | 14,740 | 5,238 | 12,877 | 3,415 | 15,106 | 20,988 | local |
| 130 | 312 | 20,608 | 786 | 913 | 5,602 | 22,533 | 57,988 | cross-border |
| 416 | 3,158 | 29,476 | 635 | 1,722 | 4,159 | 24,554 | 70,772 | with other financial institutions |
| 163 | 3,024 | 3,044 | 379 | 994 | 828 | 12,225 | 16,423 | local |
| 253 | 134 | 26,432 | 256 | 728 | 3,331 | 12,329 | 54,349 | cross-border |
| 183 | 723 | 2,454 | 118 | 909 | 570 | 4,413 | 19,958 | with non-financial customers |
| 141 | 700 | 1,920 | 96 | 879 | 376 | 3,105 | 5,444 | local |
| 43 | 24 | 534 | 22 | 30 | 194 | 1,308 | 14,514 | cross-border |
| 274 | 4,074 | 54,422 | 3,288 | 7,283 | 10,529 | 48,902 | 140,700 | Up to 7 days |
| 397 | 2,575 | 11,427 | 2,924 | 8,265 | 3,105 | 17,066 | 25,558 | Over 7 days and up to 1 year |
| 111 | 92 | 1,429 | 564 | 873 | 113 | 637 | 855 | Over 1 year |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. [2] Includes all participating countries' currencies other than the ones listed. [3] Calculated as the difference between the total and the sum of the listed components.

Table E.2 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### US dollar against:

**Daily averages, in millions of US dollars**

| | Total | Euro | Yen | Pound sterling | Swiss franc | Canadian dollar | Australian dollar | Swedish Krona |
|---|---|---|---|---|---|---|---|---|
| **Currency swaps** | **38,313** | **13,507** | **5,646** | **1,831** | **927** | **2,683** | **5,333** | **365** |
| with reporting dealers | 18,490 | 5,323 | 2,576 | 1,141 | 356 | 991 | 2,885 | 204 |
| local | 5,405 | 910 | 467 | 545 | 42 | 151 | 438 | 90 |
| cross-border | 13,085 | 4,414 | 2,109 | 595 | 314 | 839 | 2,447 | 114 |
| with other financial institutions | 16,771 | 7,185 | 2,572 | 573 | 527 | 1,247 | 2,200 | 156 |
| local | 6,522 | 3,438 | 677 | 258 | 122 | 248 | 704 | 123 |
| cross-border | 10,250 | 3,747 | 1,894 | 316 | 405 | 999 | 1,496 | 33 |
| with non-financial customers | 3,052 | 999 | 499 | 117 | 44 | 445 | 248 | 5 |
| local | 1,457 | 376 | 216 | 46 | 3 | 279 | 50 | 5 |
| cross-border | 1,594 | 623 | 282 | 71 | 41 | 166 | 198 | ... |
| **Options sold** | **105,529** | **33,397** | **27,545** | **6,682** | **3,265** | **3,001** | **7,000** | **177** |
| with reporting dealers | 47,216 | 14,664 | 9,130 | 3,293 | 1,574 | 1,652 | 3,812 | 86 |
| local | 16,349 | 5,211 | 3,983 | 1,220 | 686 | 430 | 957 | 18 |
| cross-border | 30,867 | 9,454 | 5,147 | 2,073 | 888 | 1,222 | 2,855 | 68 |
| with other financial institutions | 47,221 | 15,230 | 16,315 | 2,694 | 1,188 | 1,074 | 2,560 | 60 |
| local | 27,862 | 7,567 | 13,298 | 1,206 | 599 | 505 | 1,233 | 12 |
| cross-border | 19,359 | 7,662 | 3,017 | 1,488 | 589 | 569 | 1,327 | 48 |
| with non-financial customers | 11,092 | 3,503 | 2,099 | 695 | 502 | 275 | 628 | 31 |
| local | 4,552 | 1,410 | 1,023 | 209 | 152 | 116 | 296 | 15 |
| cross-border | 6,540 | 2,093 | 1,076 | 486 | 350 | 160 | 332 | 16 |
| **Options bought** | **101,003** | **32,624** | **24,865** | **6,832** | **2,207** | **2,893** | **7,121** | **192** |
| with reporting dealers | 45,459 | 15,573 | 7,550 | 3,259 | 1,038 | 1,599 | 3,967 | 90 |
| local | 15,463 | 5,362 | 2,252 | 1,093 | 336 | 409 | 963 | 21 |
| cross-border | 29,996 | 10,212 | 5,299 | 2,166 | 702 | 1,190 | 3,004 | 69 |
| with other financial institutions | 42,385 | 13,270 | 15,048 | 2,458 | 783 | 901 | 2,022 | 51 |
| local | 23,627 | 5,675 | 12,199 | 903 | 321 | 365 | 915 | 8 |
| cross-border | 18,758 | 7,595 | 2,849 | 1,554 | 462 | 536 | 1,107 | 43 |
| with non-financial customers | 13,159 | 3,782 | 2,267 | 1,115 | 387 | 393 | 1,132 | 50 |
| local | 5,402 | 1,487 | 1,007 | 320 | 92 | 168 | 482 | 29 |
| cross-border | 7,757 | 2,294 | 1,259 | 795 | 294 | 225 | 650 | 21 |
| **Total options** | **160,194** | **50,903** | **44,070** | **10,238** | **4,166** | **4,268** | **10,232** | **280** |
| **Other products** | ... | ... | ... | ... | ... | ... | ... | ... |
| **Total foreign exchange contracts** | 3,377,809 | ######## ### | 567,734 | 360,481 | 167,841 | 182,002 | 248,775 | ##### #### |

For footnotes, see facing page.

Table E.2 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### US dollar against:

**Daily averages, in millions of US dollars**

| Brazilian real | Renminbi | Hong Kong dollar | Indian rupee | Won | Rand | Currencies of other reporting countries[2] | Residual currencies[3] | |
|---|---|---|---|---|---|---|---|---|
| **381** | **58** | **313** | **45** | **918** | **134** | **1,436** | **4,735** | **Currency swaps** |
| 39 | 31 | 195 | 13 | 615 | 89 | 852 | 3,180 | with reporting dealers |
| 22 | 3 | 27 | 3 | 340 | 9 | 300 | 2,058 | local |
| 17 | 28 | 168 | 10 | 275 | 80 | 552 | 1,122 | cross-border |
| 155 | 22 | 49 | 18 | 243 | 37 | 423 | 1,365 | with other financial institutions |
| 142 | 1 | 11 | 9 | 42 | 5 | 265 | 477 | local |
| 13 | 21 | 38 | 9 | 202 | 32 | 158 | 888 | cross-border |
| 188 | 6 | 69 | 14 | 60 | 8 | 160 | 190 | with non-financial customers |
| 187 | 3 | 19 | 14 | 56 | 2 | 148 | 53 | local |
| 1 | 3 | 50 | ... | 4 | 6 | 12 | 137 | cross-border |
| **2,407** | **3,089** | **1,031** | **2,004** | **2,183** | **572** | **1,349** | **11,826** | **Options sold** |
| 1,193 | 1,601 | 437 | 724 | 1,269 | 423 | 711 | 6,646 | with reporting dealers |
| 546 | 447 | 85 | 287 | 512 | 181 | 126 | 1,661 | local |
| 647 | 1,154 | 351 | 437 | 756 | 242 | 586 | 4,986 | cross-border |
| 1,086 | 1,185 | 289 | 844 | 781 | 124 | 302 | 3,489 | with other financial institutions |
| 376 | 668 | 120 | 450 | 319 | 32 | 84 | 1,393 | local |
| 710 | 517 | 170 | 394 | 463 | 92 | 218 | 2,096 | cross-border |
| 128 | 303 | 305 | 436 | 133 | 25 | 337 | 1,691 | with non-financial customers |
| 59 | 90 | 152 | 347 | 79 | 19 | 273 | 313 | local |
| 69 | 213 | 153 | 90 | 55 | 6 | 64 | 1,378 | cross-border |
| **2,611** | **3,442** | **884** | **2,230** | **2,156** | **571** | **2,419** | **9,954** | **Options bought** |
| 1,336 | 1,706 | 532 | 874 | 1,208 | 430 | 1,569 | 4,728 | with reporting dealers |
| 526 | 399 | 147 | 408 | 462 | 186 | 1,170 | 1,730 | local |
| 809 | 1,307 | 385 | 465 | 747 | 244 | 399 | 2,999 | cross-border |
| 1,181 | 1,267 | 165 | 750 | 771 | 102 | 321 | 3,294 | with other financial institutions |
| 367 | 673 | 48 | 310 | 446 | 28 | 88 | 1,282 | local |
| 814 | 593 | 118 | 440 | 325 | 75 | 233 | 2,013 | cross-border |
| 94 | 469 | 187 | 607 | 177 | 39 | 529 | 1,931 | with non-financial customers |
| 40 | 195 | 98 | 466 | 102 | 29 | 471 | 414 | local |
| 54 | 274 | 89 | 141 | 75 | 10 | 58 | 1,517 | cross-border |
| **3,754** | **4,877** | **1,431** | **3,436** | **3,101** | **717** | **2,629** | **16,092** | **Total options** |
| ... | ... | ... | ... | ... | ... | ... | ... | **Other products** |
| **25,359** | **31,283** | **84,951** | **35,820** | **57,900** | **24,045** | **125,634** | **319,631** | **Total foreign exchange contracts** |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. [2] Includes all participating countries' currencies other than the ones listed. [3] Calculated as the difference between the total and the sum of the listed components.

Table E.2 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Euro against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Yen | Pound sterling | Swiss franc |
|---|---|---|---|---|---|
| **Spot** | **691,210** | **468,891** | **73,103** | **50,235** | **34,799** |
| with reporting dealers | 232,767 | 159,180 | 20,396 | 16,847 | 11,570 |
| local | 68,722 | 46,591 | 6,336 | 5,341 | 3,424 |
| cross-border | 164,045 | 112,589 | 14,060 | 11,506 | 8,146 |
| with other financial institutions | 361,401 | 245,922 | 40,290 | 27,121 | 18,407 |
| local | 147,602 | 101,494 | 17,332 | 11,192 | 8,222 |
| cross-border | 213,799 | 144,429 | 22,958 | 15,930 | 10,186 |
| with non-financial customers | 97,042 | 63,789 | 12,417 | 6,267 | 4,821 |
| local | 30,137 | 16,085 | 4,814 | 1,944 | 1,506 |
| cross-border | 66,905 | 47,704 | 7,603 | 4,323 | 3,315 |
| **Outright forwards** | **149,687** | **92,085** | **13,832** | **13,878** | **6,009** |
| with reporting dealers | 34,039 | 23,568 | 2,251 | 2,461 | 1,460 |
| local | 8,558 | 5,397 | 570 | 664 | 582 |
| cross-border | 25,481 | 18,172 | 1,682 | 1,798 | 878 |
| with other financial institutions | 83,368 | 50,565 | 7,255 | 8,820 | 3,273 |
| local | 36,704 | 19,999 | 4,906 | 4,731 | 1,252 |
| cross-border | 46,664 | 30,566 | 2,349 | 4,089 | 2,021 |
| with non-financial customers | 32,279 | 17,951 | 4,326 | 2,596 | 1,276 |
| local | 19,187 | 9,730 | 3,470 | 1,380 | 714 |
| cross-border | 13,092 | 8,222 | 856 | 1,216 | 562 |
| Up to 7 days | 69,926 | 46,113 | 5,922 | 6,322 | 2,666 |
| Over 7 days and up to 1 year | 76,244 | 44,334 | 7,732 | 7,326 | 3,279 |
| Over 1 year | 3,516 | 1,637 | 178 | 230 | 64 |
| **Foreign exchange swaps** | **609,801** | **475,868** | **17,028** | **37,130** | **22,129** |
| with reporting dealers | 273,064 | 218,896 | 4,866 | 14,185 | 9,814 |
| local | 61,008 | 51,390 | 1,120 | 2,971 | 2,452 |
| cross-border | 212,055 | 167,506 | 3,747 | 11,214 | 7,362 |
| with other financial institutions | 267,399 | 211,629 | 8,135 | 17,225 | 10,081 |
| local | 77,799 | 59,711 | 2,760 | 4,683 | 3,043 |
| cross-border | 189,601 | 151,918 | 5,374 | 12,542 | 7,038 |
| with non-financial customers | 69,338 | 45,343 | 4,027 | 5,720 | 2,234 |
| local | 27,758 | 13,772 | 3,174 | 2,687 | 1,038 |
| cross-border | 41,580 | 31,571 | 853 | 3,033 | 1,196 |
| Up to 7 days | 419,682 | 346,362 | 9,066 | 20,229 | 11,301 |
| Over 7 days and up to 1 year | 186,218 | 126,990 | 7,857 | 16,306 | 10,700 |
| Over 1 year | 3,903 | 2,516 | 106 | 595 | 128 |

For footnotes, see facing page.

Table E.3

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Euro against:

**Daily averages, in millions of US dollars**

| Canadian dollar | Australian dollar | Swedish krona | Currencies of other reporting countries[2] | Residual currencies[3] | |
|---|---|---|---|---|---|
| **4,917** | **5,316** | **11,052** | **7,559** | **35,338** | **Spot** |
| 1,651 | 1,631 | 4,189 | 2,552 | 14,752 | with reporting dealers |
| 493 | 419 | 908 | 834 | 4,376 | local |
| 1,157 | 1,211 | 3,281 | 1,718 | 10,376 | cross-border |
| 2,611 | 2,383 | 5,350 | 2,119 | 17,197 | with other financial institutions |
| 714 | 748 | 1,540 | 1,198 | 5,163 | local |
| 1,897 | 1,635 | 3,810 | 920 | 12,035 | cross-border |
| 655 | 1,303 | 1,513 | 2,888 | 3,389 | with non-financial customers |
| 300 | 871 | 651 | 2,621 | 1,345 | local |
| 356 | 432 | 862 | 267 | 2,044 | cross-border |
| **3,072** | **2,101** | **3,253** | **2,485** | **12,972** | **Outright forwards** |
| 389 | 416 | 589 | 374 | 2,530 | with reporting dealers |
| 151 | 84 | 151 | 113 | 847 | local |
| 239 | 332 | 437 | 261 | 1,683 | cross-border |
| 2,065 | 1,313 | 1,605 | 565 | 7,907 | with other financial institutions |
| 1,395 | 686 | 646 | 441 | 2,648 | local |
| 669 | 627 | 960 | 125 | 5,258 | cross-border |
| 618 | 372 | 1,058 | 1,545 | 2,536 | with non-financial customers |
| 409 | 210 | 808 | 1,454 | 1,014 | local |
| 210 | 162 | 251 | 91 | 1,522 | cross-border |
| 1,742 | 858 | 1,180 | 981 | 4,142 | Up to 7 days |
| 1,265 | 1,187 | 2,024 | 1,370 | 7,726 | Over 7 days and up to 1 year |
| 65 | 55 | 49 | 134 | 1,104 | Over 1 year |
| **4,908** | **3,592** | **18,020** | **9,468** | **21,658** | **Foreign exchange swaps** |
| 1,321 | 1,034 | 11,378 | 4,510 | 7,060 | with reporting dealers |
| 263 | 208 | 204 | 1,420 | 981 | local |
| 1,059 | 826 | 11,174 | 3,089 | 6,078 | cross-border |
| 3,023 | 1,727 | 3,451 | 2,363 | 9,765 | with other financial institutions |
| 1,091 | 527 | 1,536 | 1,659 | 2,789 | local |
| 1,933 | 1,200 | 1,915 | 704 | 6,976 | cross-border |
| 563 | 830 | 3,192 | 2,595 | 4,834 | with non-financial customers |
| 242 | 346 | 1,998 | 2,348 | 2,153 | local |
| 321 | 484 | 1,193 | 247 | 2,681 | cross-border |
| 3,132 | 1,198 | 12,941 | 4,714 | 10,738 | Up to 7 days |
| 1,742 | 2,360 | 4,930 | 4,695 | 10,638 | Over 7 days and up to 1 year |
| 34 | 33 | 149 | 59 | 282 | Over 1 year |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. [2] Includes all participating countries' currencies other than the ones listed. [3] Calculated as the difference between the total and the sum of the listed components. [4] Due to incomplete reporting, the maturity breakdown does not always sum to totals.

Table E.3 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Euro against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Yen | Pound sterling | Swiss franc |
|---|---|---|---|---|---|
| **Currency swaps** | **17,673** | **13,507** | **770** | **651** | **710** |
| with reporting dealers | 6,787 | 5,323 | 95 | 320 | 222 |
| local | 1,431 | 910 | 18 | 89 | 15 |
| cross-border | 5,356 | 4,414 | 78 | 231 | 207 |
| with other financial institutions | 9,498 | 7,185 | 664 | 279 | 348 |
| local | 4,376 | 3,438 | 478 | 119 | 90 |
| cross-border | 5,121 | 3,747 | 186 | 160 | 258 |
| with non-financial customers | 1,389 | 999 | 11 | 53 | 140 |
| local | 584 | 376 | 4 | 39 | 106 |
| cross-border | 805 | 623 | 7 | 14 | 34 |
| **Options sold** | **57,445** | **33,397** | **4,070** | **4,565** | **5,213** |
| with reporting dealers | 24,812 | 14,664 | 1,606 | 2,159 | 2,190 |
| local | 8,887 | 5,211 | 551 | 940 | 840 |
| cross-border | 15,924 | 9,454 | 1,056 | 1,220 | 1,350 |
| with other financial institutions | 25,850 | 15,230 | 1,935 | 1,900 | 2,098 |
| local | 12,117 | 7,567 | 655 | 969 | 1,001 |
| cross-border | 13,733 | 7,662 | 1,280 | 931 | 1,098 |
| with non-financial customers | 6,784 | 3,503 | 529 | 506 | 925 |
| local | 2,864 | 1,410 | 310 | 175 | 414 |
| cross-border | 3,919 | 2,093 | 219 | 331 | 511 |
| **Options bought** | **54,981** | **32,624** | **3,492** | **4,881** | **5,296** |
| with reporting dealers | 26,633 | 15,573 | 1,619 | 2,398 | 2,821 |
| local | 9,198 | 5,362 | 509 | 1,018 | 904 |
| cross-border | 17,434 | 10,212 | 1,110 | 1,380 | 1,916 |
| with other financial institutions | 21,329 | 13,270 | 1,420 | 1,811 | 1,584 |
| local | 8,879 | 5,675 | 610 | 753 | 666 |
| cross-border | 12,450 | 7,595 | 810 | 1,058 | 918 |
| with non-financial customers | 7,020 | 3,782 | 453 | 671 | 891 |
| local | 2,750 | 1,487 | 226 | 186 | 301 |
| cross-border | 4,270 | 2,294 | 227 | 485 | 590 |
| **Total options** | **86,705** | **50,903** | **5,950** | **7,167** | **8,004** |
| **Other products** | **...** | **...** | **...** | **...** | **...** |
| **Total foreign exchange contracts** | **1,555,076** | **1,101,254** | **110,684** | **109,061** | **71,650** |

For footnotes, see facing page.

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Euro against:

**Daily averages, in millions of US dollars**

| Canadian dollar | Australian dollar | Swedish krona | Currencies of other reporting countries[2] | Residual currencies[3] | |
|---|---|---|---|---|---|
| **148** | **215** | **314** | **433** | **925** | **Currency swaps** |
| 5 | 73 | 255 | 202 | 292 | with reporting dealers |
| 1 | 2 | 196 | 166 | 35 | local |
| 4 | 71 | 59 | 36 | 258 | cross-border |
| 63 | 136 | 57 | 203 | 564 | with other financial institutions |
| 11 | 10 | 4 | 169 | 57 | local |
| 51 | 126 | 53 | 34 | 506 | cross-border |
| 81 | 6 | 2 | 29 | 69 | with non-financial customers |
| 11 | ... | 2 | 29 | 18 | local |
| 70 | 6 | 1 | ... | 51 | cross-border |
| **390** | **605** | **1,430** | **577** | **7,197** | **Options sold** |
| 135 | 334 | 636 | 330 | 2,757 | with reporting dealers |
| 42 | 105 | 221 | 19 | 959 | local |
| 93 | 229 | 415 | 311 | 1,797 | cross-border |
| 210 | 222 | 575 | 161 | 3,519 | with other financial institutions |
| 56 | 96 | 222 | 4 | 1,547 | local |
| 154 | 126 | 352 | 157 | 1,972 | cross-border |
| 44 | 49 | 220 | 86 | 921 | with non-financial customers |
| 17 | 24 | 119 | 86 | 309 | local |
| 27 | 25 | 101 | 0 | 613 | cross-border |
| **335** | **567** | **1,544** | **454** | **5,789** | **Options bought** |
| 109 | 306 | 669 | 142 | 2,995 | with reporting dealers |
| 46 | 72 | 237 | 23 | 1,028 | local |
| 64 | 234 | 432 | 119 | 1,968 | cross-border |
| 176 | 190 | 539 | 142 | 2,197 | with other financial institutions |
| 79 | 92 | 171 | 28 | 805 | local |
| 97 | 98 | 368 | 115 | 1,392 | cross-border |
| 49 | 71 | 336 | 170 | 597 | with non-financial customers |
| 20 | 24 | 180 | 140 | 185 | local |
| 30 | 46 | 156 | 30 | 412 | cross-border |
| **602** | **852** | **2,321** | **795** | **10,110** | **Total options** |
| **...** | **...** | **...** | **...** | **...** | **Other products** |
| **13,648** | **12,076** | **34,960** | **20,740** | **81,004** | **Total foreign exchange contracts** |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. [2] Includes all participating countries' currencies other than the ones listed. [3] Calculated as the difference between the total and the sum of the listed components.

Table E.3 (cont)

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Yen against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Euro | Australian dollar | New Zealand dollar | Currencies of other reporting countries[2] | Residual currencies[3] |
|---|---|---|---|---|---|---|---|
| **Spot** | **300,214** | **183,108** | **73,103** | **12,980** | **2,051** | **12,326** | **16,646** |
| with reporting dealers | 97,655 | 66,429 | 20,396 | 3,724 | 310 | 2,930 | 3,865 |
| local | 27,309 | 17,329 | 6,336 | 1,363 | 134 | 1,093 | 1,053 |
| cross-border | 70,346 | 49,100 | 14,060 | 2,361 | 176 | 1,837 | 2,812 |
| with other financial institutions | 152,144 | 89,099 | 40,290 | 6,044 | 1,082 | 5,928 | 9,700 |
| local | 60,048 | 36,210 | 17,332 | 1,539 | 133 | 1,290 | 3,544 |
| cross-border | 92,096 | 52,888 | 22,958 | 4,505 | 949 | 4,638 | 6,157 |
| with non-financial customers | 50,415 | 27,579 | 12,417 | 3,211 | 659 | 3,468 | 3,081 |
| local | 24,425 | 13,105 | 4,814 | 2,324 | 577 | 2,867 | 738 |
| cross-border | 25,991 | 14,474 | 7,603 | 887 | 82 | 601 | 2,343 |
| **Outright forwards** | **115,111** | **89,205** | **13,832** | **3,869** | **360** | **4,775** | **3,069** |
| with reporting dealers | 12,039 | 7,287 | 2,251 | 911 | 89 | 671 | 830 |
| local | 3,157 | 2,142 | 570 | 128 | 15 | 81 | 220 |
| cross-border | 8,882 | 5,145 | 1,682 | 783 | 74 | 590 | 610 |
| with other financial institutions | 57,319 | 43,981 | 7,255 | 1,826 | 196 | 2,416 | 1,645 |
| local | 19,816 | 11,248 | 4,906 | 1,221 | 91 | 1,778 | 573 |
| cross-border | 37,503 | 32,733 | 2,349 | 606 | 105 | 638 | 1,072 |
| with non-financial customers | 45,752 | 37,937 | 4,326 | 1,132 | 75 | 1,688 | 594 |
| local | 15,061 | 8,853 | 3,470 | 751 | 58 | 1,574 | 355 |
| cross-border | 30,691 | 29,084 | 856 | 381 | 17 | 114 | 238 |
| Up to 7 days | 75,000 | 63,245 | 5,922 | 1,383 | 201 | 2,508 | 1,741 |
| Over 7 days and up to 1 year | 39,145 | 25,316 | 7,732 | 2,440 | 156 | 2,199 | 1,302 |
| Over 1 year | 966 | 644 | 178 | 47 | 3 | 69 | 25 |
| **Foreign exchange swaps** | **278,897** | **245,705** | **17,028** | **5,061** | **1,502** | **4,524** | **5,077** |
| with reporting dealers | 125,552 | 116,805 | 4,866 | 1,057 | 346 | 1,156 | 1,322 |
| local | 35,164 | 32,600 | 1,120 | 424 | 120 | 436 | 465 |
| cross-border | 90,388 | 84,204 | 3,747 | 633 | 226 | 721 | 857 |
| with other financial institutions | 126,072 | 109,094 | 8,135 | 2,924 | 911 | 2,020 | 2,987 |
| local | 32,917 | 27,084 | 2,760 | 1,019 | 274 | 1,113 | 667 |
| cross-border | 93,155 | 82,009 | 5,374 | 1,906 | 638 | 907 | 2,321 |
| with non-financial customers | 27,273 | 19,806 | 4,027 | 1,080 | 245 | 1,347 | 768 |
| local | 16,222 | 10,489 | 3,174 | 865 | 201 | 1,098 | 395 |
| cross-border | 11,051 | 9,317 | 853 | 214 | 44 | 249 | 373 |
| Up to 7 days | 201,122 | 180,217 | 9,066 | 4,005 | 1,322 | 2,295 | 4,217 |
| Over 7 days and up to 1 year | 75,844 | 63,746 | 7,857 | 1,044 | 180 | 2,217 | 801 |
| Over 1 year | 1,932 | 1,742 | 106 | 12 | 0 | 12 | 59 |

For footnotes, see facing page.

Table E.4

## OTC foreign exchange turnover by instrument, counterparty and currency in April 2010[1]

### Yen against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Euro | Australian dollar | New Zealand dollar | Currencies of other reporting countries[2] | Residual currencies[3] |
|---|---|---|---|---|---|---|---|
| **Currency swaps** | **6,597** | **5,646** | **770** | **73** | **...** | **68** | **40** |
| with reporting dealers | 2,707 | 2,576 | 95 | 8 | ... | 6 | 22 |
| local | 491 | 467 | 18 | 0 | ... | 2 | 4 |
| cross-border | 2,216 | 2,109 | 78 | 8 | ... | 4 | 18 |
| with other financial institutions | 3,320 | 2,572 | 664 | 61 | ... | 12 | 12 |
| local | 1,169 | 677 | 478 | ... | ... | 11 | 3 |
| cross-border | 2,151 | 1,894 | 186 | 61 | ... | 1 | 8 |
| with non-financial customers | 569 | 499 | 11 | 3 | ... | 50 | 6 |
| local | 279 | 216 | 4 | 3 | ... | 49 | 6 |
| cross-border | 290 | 282 | 7 | 0 | ... | 1 | 0 |
| **Options sold** | **34,497** | **27,545** | **4,070** | **1,374** | **99** | **469** | **940** |
| with reporting dealers | 12,229 | 9,130 | 1,606 | 683 | 56 | 256 | 498 |
| local | 4,990 | 3,983 | 551 | 157 | 18 | 138 | 143 |
| cross-border | 7,239 | 5,147 | 1,056 | 526 | 38 | 119 | 354 |
| with other financial institutions | 19,399 | 16,315 | 1,935 | 556 | 36 | 188 | 368 |
| local | 14,411 | 13,298 | 655 | 213 | 10 | 83 | 151 |
| cross-border | 4,988 | 3,017 | 1,280 | 343 | 26 | 106 | 216 |
| with non-financial customers | 2,869 | 2,099 | 529 | 134 | 7 | 24 | 75 |
| local | 1,386 | 1,023 | 310 | 21 | 3 | 14 | 15 |
| cross-border | 1,482 | 1,076 | 219 | 113 | 4 | 10 | 60 |
| **Options bought** | **31,397** | **24,865** | **3,492** | **1,375** | **163** | **454** | **1,047** |
| with reporting dealers | 10,629 | 7,550 | 1,619 | 701 | 116 | 211 | 431 |
| local | 3,171 | 2,252 | 509 | 154 | 17 | 101 | 138 |
| cross-border | 7,458 | 5,299 | 1,110 | 546 | 100 | 110 | 293 |
| with other financial institutions | 17,678 | 15,048 | 1,420 | 508 | 30 | 206 | 466 |
| local | 13,282 | 12,199 | 610 | 217 | 11 | 91 | 153 |
| cross-border | 4,396 | 2,849 | 810 | 291 | 19 | 114 | 312 |
| with non-financial customers | 3,090 | 2,267 | 453 | 166 | 17 | 37 | 150 |
| local | 1,343 | 1,007 | 226 | 38 | 6 | 22 | 42 |
| cross-border | 1,748 | 1,259 | 227 | 128 | 10 | 15 | 108 |
| **Total options** | **54,465** | **44,070** | **5,950** | **2,057** | **176** | **689** | **1,523** |
| **Other products** | **...** | **...** | **...** | **...** | **...** | **...** | **...** |
| **Total foreign exchange contracts** | **755,283** | **567,734** | **110,684** | **24,040** | **4,089** | **22,381** | **26,356** |

[1] Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. [2] Includes all participating countries' currencies other than the ones listed. [3] Calculated as the difference between the total and the sum of the listed components.

Table E.4 (cont)

## OTC foreign exchange turnover by country and currency in April 2010[1]

**Daily averages, in millions of US dollars**

| | Total | Specified currency against all other currencies[2] | | | | |
|---|---|---|---|---|---|---|
| | | US dollar | Euro | Yen | Pound sterling | Swiss franc |
| Argentina | 1,613 | 1,515 | 331 | 1 | 1 | 1 |
| Australia | 192,052 | 173,577 | 46,744 | 25,215 | 18,205 | 3,117 |
| Austria | 19,549 | 12,153 | 14,325 | 1,795 | 729 | 3,803 |
| Bahrain | 4,543 | 4,113 | 879 | 168 | 288 | 15 |
| Belgium | 32,524 | 27,190 | 19,651 | 1,876 | 6,625 | 1,775 |
| Brazil | 14,094 | 12,851 | 3,280 | 1,544 | 102 | 169 |
| Bulgaria | 866 | 249 | 802 | 9 | 47 | 26 |
| Canada | 61,892 | 58,224 | 8,019 | 2,827 | 2,806 | 716 |
| Chile | 5,544 | 5,488 | 426 | 32 | 60 | 1 |
| China | 19,774 | 16,565 | 2,821 | 2,454 | 1,158 | 87 |
| Chinese Taipei | 17,983 | 17,169 | 3,186 | 1,754 | 863 | 72 |
| Colombia | 2,794 | 2,781 | 86 | 9 | 11 | 1 |
| Czech Republic | 5,110 | 3,096 | 3,146 | 71 | 50 | 31 |
| Denmark | 120,463 | 85,757 | 68,132 | 6,639 | 8,851 | 15,968 |
| Estonia | 1,059 | 70 | 1,046 | 4 | 5 | 0 |
| Finland | 31,254 | 19,456 | 21,612 | 258 | 893 | 8,302 |
| France | 151,621 | 130,191 | 83,245 | 22,119 | 21,059 | 11,100 |
| Germany | 108,598 | 85,305 | 69,003 | 13,163 | 14,436 | 11,661 |
| Greece | 5,164 | 3,022 | 4,381 | 647 | 285 | 641 |
| Hong Kong SAR | 237,568 | 227,015 | 38,346 | 30,960 | 11,970 | 2,401 |
| Hungary | 4,196 | 2,949 | 1,877 | 22 | 32 | 259 |
| India | 27,358 | 26,474 | 3,401 | 750 | 1,987 | 93 |
| Indonesia | 3,381 | 3,192 | 236 | 498 | 74 | 7 |
| Ireland | 14,578 | 9,793 | 10,220 | 1,259 | 4,553 | 665 |
| Israel | 10,017 | 9,715 | 211 | 31 | 15 | 21 |
| Italy | 28,601 | 23,969 | 21,405 | 2,256 | 3,206 | 1,738 |
| Japan | 312,326 | 254,353 | 58,970 | 248,863 | 18,378 | 3,174 |
| Korea | 43,824 | 43,149 | 2,897 | 2,105 | 393 | 57 |
| Latvia | 2,226 | 1,832 | 1,735 | 60 | 112 | 32 |
| Lithuania | 1,154 | 158 | 1,090 | 25 | 26 | 8 |
| Luxembourg | 33,363 | 27,856 | 21,553 | 4,516 | 4,161 | 1,672 |
| Malaysia | 7,262 | 6,693 | 789 | 422 | 361 | 14 |
| Mexico | 17,019 | 16,796 | 476 | 18 | 22 | 6 |
| Netherlands | 18,253 | 12,931 | 14,002 | 1,262 | 3,006 | 669 |
| New Zealand | 8,754 | 7,950 | 683 | 623 | 669 | 92 |
| Norway | 22,191 | 17,826 | 6,178 | 913 | 1,832 | 434 |
| Peru | 1,425 | 1,423 | 184 | 12 | 64 | 69 |
| Philippines | 5,017 | 4,813 | 674 | 114 | 51 | 8 |
| Poland | 7,847 | 4,887 | 3,916 | 48 | 164 | 378 |
| Portugal | 3,654 | 2,899 | 2,419 | 240 | 401 | 444 |
| Romania | 3,169 | 721 | 2,928 | 14 | 85 | 147 |
| Russia | 41,658 | 39,786 | 13,700 | 469 | 1,119 | 203 |
| Saudi Arabia | 5,291 | 4,430 | 967 | 305 | 774 | 44 |
| Singapore | 265,977 | 238,125 | 62,202 | 41,356 | 27,246 | 7,097 |
| Slovakia | 443 | 154 | 379 | 18 | 24 | 8 |
| South Africa | 14,375 | 13,946 | 1,887 | 308 | 800 | 108 |
| Spain | 29,322 | 24,608 | 15,578 | 1,775 | 7,518 | 954 |
| Sweden | 44,796 | 31,102 | 22,606 | 1,389 | 2,331 | 1,297 |
| Switzerland | 262,582 | 219,073 | 112,868 | 29,610 | 31,458 | 78,375 |
| Thailand | 7,390 | 6,869 | 617 | 855 | 174 | 16 |
| Turkey | 16,817 | 15,727 | 5,960 | 247 | 1,189 | 179 |
| United Kingdom | 1,853,594 | 1,570,573 | 820,234 | 342,118 | 330,748 | 112,685 |
| United States | 904,357 | 785,223 | 376,392 | 140,417 | 104,610 | 61,597 |
| **Total** | **5,056,282** | **4,315,781** | **1,978,693** | **934,464** | **636,027** | **332,439** |

For footnotes, see facing page.

Table E.5

## OTC foreign exchange turnover by country and currency in April 2010[1]

**Daily averages, in millions of US dollars**

| Specified currency against all other currencies[2] | | | | | |
|---|---|---|---|---|---|
| **Canadian dollar** | **Australian dollar** | **Swedish krona** | **Currencies of other reporting countries[3]** | **Residual currencies[4]** | |
| 1 | 0 | 0 | 1,375 | 0 | Argentina |
| 5,919 | 85,782 | 855 | 23,146 | 1,546 | Australia |
| 299 | 409 | 40 | 3,390 | 2,157 | Austria |
| 17 | 8 | 3 | 1,797 | 1,798 | Bahrain |
| 462 | 1,318 | 574 | 5,068 | 508 | Belgium |
| 119 | 119 | 28 | 9,955 | 20 | Brazil |
| 17 | 7 | 1 | 543 | 33 | Bulgaria |
| 42,699 | 2,090 | 557 | 5,735 | 110 | Canada |
| 24 | 1 | 1 | 5,055 | 0 | Chile |
| 136 | 630 | 14 | 15,683 | 0 | China |
| 250 | 1,580 | 18 | 11,069 | 6 | Chinese Taipei |
| 9 | 0 | 0 | 2,687 | 2 | Colombia |
| 6 | 6 | 10 | 3,800 | 4 | Czech Republic |
| 1,525 | 1,912 | 21,326 | 30,338 | 480 | Denmark |
| 0 | 0 | 5 | 987 | 0 | Estonia |
| 588 | 35 | 10,187 | 1,143 | 33 | Finland |
| 5,352 | 8,205 | 2,869 | 14,539 | 4,562 | France |
| 1,458 | 2,812 | 1,376 | 9,840 | 8,141 | Germany |
| 100 | 171 | 21 | 678 | 384 | Greece |
| 3,662 | 27,097 | ... | 121,895 | 11,790 | Hong Kong SAR |
| 3 | ... | 2 | 3,245 | 2 | Hungary |
| 120 | 180 | 17 | 21,403 | 292 | India |
| 3 | 88 | 0 | 2,553 | 111 | Indonesia |
| 352 | 671 | 392 | 662 | 589 | Ireland |
| 20 | 0 | 0 | 4,576 | 5,444 | Israel |
| 679 | 1,286 | 490 | 2,048 | 125 | Italy |
| 6,088 | 19,522 | 1,189 | 13,593 | 522 | Japan |
| 369 | 185 | 14 | 38,369 | 109 | Korea |
| 15 | 17 | 65 | 550 | 35 | Latvia |
| 0 | 2 | 2 | 998 | 1 | Lithuania |
| 362 | 1,906 | 1,250 | 3,304 | 146 | Luxembourg |
| 12 | 444 | 1 | 5,479 | 307 | Malaysia |
| 40 | 20 | 0 | 16,658 | 1 | Mexico |
| 314 | 317 | 218 | 632 | 3,157 | Netherlands |
| 114 | 1,324 | 4 | 6,047 | 3 | New Zealand |
| 119 | 1,643 | 1,067 | 14,368 | 2 | Norway |
| 20 | 0 | 0 | 1,077 | ... | Peru |
| 9 | 52 | 0 | 4,309 | 2 | Philippines |
| 6 | 10 | 21 | 6,226 | 38 | Poland |
| 109 | 65 | 40 | 683 | 7 | Portugal |
| 3 | 1 | 2 | 2,439 | 0 | Romania |
| 110 | 199 | 26 | 27,669 | 35 | Russia |
| 14 | 43 | 8 | 2,429 | 1,565 | Saudi Arabia |
| 10,086 | 33,186 | 1,837 | 108,660 | 2,159 | Singapore |
| 2 | 1 | 1 | 297 | 3 | Slovakia |
| 117 | 150 | 49 | 11,205 | 179 | South Africa |
| 239 | 1,018 | 139 | 3,022 | 3,794 | Spain |
| 800 | 641 | 22,344 | 6,955 | 127 | Sweden |
| 7,714 | 11,450 | 6,651 | 22,287 | 5,677 | Switzerland |
| 6 | 144 | 3 | 6,096 | 2 | Thailand |
| 32 | 45 | 7 | 10,155 | 93 | Turkey |
| 86,266 | 122,645 | 36,958 | 205,536 | 79,425 | United Kingdom |
| 83,095 | 61,166 | 10,358 | 99,626 | 86,230 | United States |
| **259,882** | **390,604** | **121,041** | **921,876** | **221,757** | **Total** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting. Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. [2] Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover. [3] Includes all participating countries' currencies other than the ones listed. [4] Difference between the total and the sum of the listed components. Table E.5 (cont)

## OTC foreign exchange turnover by country and currency in April 2010[1]

## US dollar against:

**Daily averages, in millions of US dollars**

| | Total | Euro | Yen | Pound sterling | Swiss franc | Canadian dollar | Australian dollar | Swedish krona |
|---|---|---|---|---|---|---|---|---|
| Argentina | 1,515 | 240 | 0 | 0 | 1 | 0 | 0 | 0 |
| Australia | 173,577 | 37,993 | 18,840 | 14,060 | 1,153 | 4,384 | 75,472 | 538 |
| Austria | 12,153 | 7,347 | 1,006 | 437 | 1,199 | 253 | 381 | 22 |
| Bahrain | 4,113 | 582 | 113 | 199 | 14 | 17 | 8 | 1 |
| Belgium | 27,190 | 15,122 | 821 | 5,030 | 1,132 | 225 | 1,061 | 390 |
| Brazil | 12,851 | 2,774 | 891 | 64 | 51 | 74 | 65 | 21 |
| Bulgaria | 249 | 205 | 4 | 19 | 0 | 0 | ... | ... |
| Canada | 58,224 | 5,980 | 1,996 | 2,133 | 477 | 40,205 | 1,745 | 319 |
| Chile | 5,488 | 382 | 28 | 58 | 1 | 23 | 1 | 1 |
| China | 16,565 | 2,460 | 1,608 | 383 | 73 | 132 | 610 | 4 |
| Chinese Taipei | 17,169 | 2,743 | 1,387 | 620 | 54 | 210 | 1,407 | 17 |
| Colombia | 2,781 | 76 | 7 | 11 | 1 | 9 | 0 | 0 |
| Czech Republic | 3,096 | 1,173 | 21 | 16 | 18 | 6 | 6 | 5 |
| Denmark | 85,757 | 38,501 | 2,928 | 5,135 | 12,562 | 1,096 | 1,404 | 6,169 |
| Estonia | 70 | 59 | 1 | 4 | ... | 0 | 0 | 0 |
| Finland | 19,456 | 9,859 | 188 | 316 | 8,261 | 350 | 7 | 15 |
| France | 130,191 | 63,910 | 18,765 | 11,509 | 7,930 | 4,608 | 6,246 | 2,176 |
| Germany | 85,305 | 48,063 | 8,938 | 8,842 | 5,405 | 962 | 2,108 | 791 |
| Greece | 3,022 | 2,412 | 110 | 127 | 103 | 53 | 70 | 4 |
| Hong Kong SAR | 227,015 | 33,103 | 27,078 | 10,049 | 2,401 | 3,239 | 24,641 | ... |
| Hungary | 2,949 | 670 | 15 | 21 | 148 | 1 | ... | ... |
| India | 26,474 | 2,760 | 574 | 1,800 | 84 | 110 | 158 | 14 |
| Indonesia | 3,192 | 202 | 364 | 68 | 7 | 2 | 79 | 0 |
| Ireland | 9,793 | 6,057 | 588 | 1,668 | 404 | 213 | 248 | 226 |
| Israel | 9,715 | ... | ... | ... | ... | ... | ... | ... |
| Italy | 23,969 | 17,314 | 955 | 1,570 | 1,024 | 242 | 1,117 | 371 |
| Japan | 254,353 | 28,699 | 195,835 | 8,630 | 1,726 | 3,424 | 8,163 | 385 |
| Korea | 43,149 | 2,526 | 1,831 | 343 | 53 | 339 | 170 | 13 |
| Latvia | 1,832 | 1,393 | 11 | 93 | 14 | 13 | 12 | 62 |
| Lithuania | 158 | 117 | 0 | 1 | 1 | 0 | 0 | 0 |
| Luxembourg | 27,856 | 16,652 | 3,370 | 2,444 | 1,092 | 160 | 1,262 | 485 |
| Malaysia | 6,693 | 484 | 244 | 269 | 12 | 10 | 354 | 1 |
| Mexico | 16,796 | 264 | 15 | 20 | 4 | 36 | 20 | 0 |
| Netherlands | 12,931 | 9,126 | 693 | 1,335 | 509 | 186 | 202 | 146 |
| New Zealand | 7,950 | 552 | 551 | 606 | 82 | 87 | 762 | 4 |
| Norway | 17,826 | 2,852 | 366 | 1,392 | 239 | 58 | 1,611 | 665 |
| Peru | 1,423 | 183 | 12 | 63 | 69 | 20 | 0 | 0 |
| Philippines | 4,813 | 486 | 87 | 49 | 6 | 9 | 45 | 0 |
| Poland | 4,887 | 1,125 | 20 | 81 | 181 | 2 | 3 | 2 |
| Portugal | 2,899 | 1,697 | 178 | 262 | 231 | 77 | 46 | 14 |
| Romania | 721 | 500 | 2 | 44 | 57 | 1 | 1 | 0 |
| Russia | 39,786 | 11,945 | 332 | 962 | 118 | 106 | 169 | 22 |
| Saudi Arabia | 4,430 | 786 | 246 | 633 | 26 | 14 | 20 | 7 |
| Singapore | 238,125 | 48,667 | 30,709 | 18,806 | 4,619 | 6,065 | 27,568 | 746 |
| Slovakia | 154 | 95 | 7 | 7 | 3 | 1 | 0 | 0 |
| South Africa | 13,946 | 1,572 | 258 | 677 | 101 | 99 | 138 | 47 |
| Spain | 24,608 | 12,194 | 1,053 | 6,160 | 745 | 145 | 932 | 82 |
| Sweden | 31,102 | 11,265 | 730 | 1,140 | 827 | 554 | 451 | 12,097 |
| Switzerland | 219,073 | 75,997 | 23,053 | 22,900 | 54,648 | 6,345 | 10,080 | 5,327 |
| Thailand | 6,869 | 441 | 579 | 139 | 10 | 4 | 107 | 2 |
| Turkey | 15,727 | 4,984 | 144 | 1,051 | 124 | 28 | 19 | 4 |
| United Kingdom | 1,570,573 | 595,230 | 250,348 | 232,509 | 71,464 | 74,938 | 101,968 | 24,150 |
| United States | 785,223 | 283,948 | 115,617 | 85,503 | 46,268 | 77,100 | 56,059 | 6,903 |
| **Total** | **4,315,781** | **1,413,767** | **713,515** | **450,257** | **225,732** | **226,236** | **326,993** | **62,252** |

For footnotes, see facing page.

Table E.6

## OTC foreign exchange turnover by country and currency in April 2010[1]

### US dollar against:

**Daily averages, in millions of US dollars**

| Brazilian real | Renminbi | Hong Kong dollar | Indian rupee | Won | Rand | Local currency | Residual currencies[2] | |
|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 1,271 | 0 | Argentina |
| 146 | 173 | 2,776 | 130 | 357 | 392 | ... | 17,162 | Australia |
| 1 | 1 | 49 | 1 | ... | 44 | ... | 1,413 | Austria |
| 0 | ... | ... | 0 | ... | 1 | 81 | 3,096 | Bahrain |
| ... | 39 | 421 | 4 | ... | 159 | ... | 2,786 | Belgium |
| 8,480 | 4 | ... | 1 | 8 | 24 | ... | 395 | Brazil |
| ... | ... | ... | ... | ... | ... | 17 | 4 | Bulgaria |
| 1,331 | 533 | 207 | 63 | 128 | 127 | ... | 2,982 | Canada |
| 14 | ... | 0 | ... | 0 | 0 | 4,887 | 94 | Chile |
| ... | 9,742 | 1,398 | ... | 2 | 19 | ... | 135 | China |
| 3 | 201 | 390 | 31 | 45 | 187 | 9,274 | 600 | Chinese Taipei |
| 3 | ... | ... | ... | ... | ... | 2,661 | 12 | Colombia |
| ... | ... | ... | ... | ... | 2 | 1,793 | 56 | Czech Republic |
| 8 | 12 | 179 | 11 | 1 | 74 | 11,028 | 6,650 | Denmark |
| ... | ... | ... | ... | ... | ... | 4 | 2 | Estonia |
| 1 | 6 | 0 | 2 | 1 | 1 | ... | 449 | Finland |
| 48 | 76 | 854 | 17 | 103 | 622 | ... | 13,327 | France |
| ... | ... | ... | ... | ... | ... | ... | 10,197 | Germany |
| ... | ... | 0 | ... | ... | 6 | ... | 138 | Greece |
| ... | 10,690 | 69,790 | 4,555 | 7,412 | ... | ... | 34,057 | Hong Kong SAR |
| ... | ... | ... | ... | ... | ... | 2,049 | 45 | Hungary |
| ... | ... | 2 | 20,879 | 0 | 12 | ... | 81 | India |
| ... | ... | 10 | 0 | ... | 0 | 2,394 | 65 | Indonesia |
| 1 | 0 | 56 | 6 | 11 | 10 | ... | 304 | Ireland |
| ... | ... | ... | ... | ... | ... | 4,274 | 5,441 | Israel |
| 0 | ... | 270 | 1 | ... | 183 | ... | 922 | Italy |
| 15 | 111 | 687 | 89 | 134 | 1,516 | ... | 4,937 | Japan |
| 13 | 12 | 188 | 8 | 37,391 | 7 | ... | 255 | Korea |
| ... | ... | ... | ... | ... | 0 | 15 | 221 | Latvia |
| ... | ... | ... | ... | ... | 0 | 11 | 27 | Lithuania |
| 1,065 | 19 | 98 | 11 | 15 | 248 | ... | 934 | Luxembourg |
| 0 | 2 | 23 | 0 | ... | 1 | 4,823 | 469 | Malaysia |
| 99 | ... | ... | ... | ... | 0 | 16,323 | 14 | Mexico |
| 0 | ... | 17 | 1 | ... | 10 | ... | 705 | Netherlands |
| ... | ... | 30 | 0 | 0 | 1 | 5,235 | 39 | New Zealand |
| 2 | 13 | 4 | 1 | 1 | 10 | 9,982 | 630 | Norway |
| 0 | ... | 0 | ... | ... | 0 | 1,072 | 3 | Peru |
| ... | 39 | 8 | ... | 0 | ... | 4,050 | 33 | Philippines |
| ... | ... | ... | ... | ... | 1 | 3,301 | 171 | Poland |
| 200 | ... | 18 | ... | 1 | 10 | ... | 165 | Portugal |
| ... | ... | ... | ... | ... | ... | 114 | 3 | Romania |
| ... | 0 | 1 | ... | ... | 1 | 26,081 | 47 | Russia |
| 0 | ... | 0 | 11 | 4 | 5 | 2,221 | 457 | Saudi Arabia |
| 305 | 7,447 | 14,226 | 6,728 | 15,072 | 386 | 29,388 | 27,393 | Singapore |
| ... | ... | ... | ... | ... | 0 | ... | 42 | Slovakia |
| ... | ... | 0 | ... | ... | 10,764 | ... | 291 | South Africa |
| 357 | 128 | 249 | 1 | 25 | 33 | ... | 2,505 | Spain |
| 2 | 9 | 35 | 1 | 4 | 48 | ... | 3,940 | Sweden |
| 272 | 117 | 479 | 185 | 298 | 3,071 | ... | 16,301 | Switzerland |
| ... | 0 | 13 | 0 | 1 | ... | 5,531 | 44 | Thailand |
| 0 | ... | 0 | ... | ... | 18 | 9,265 | 89 | Turkey |
| 5,481 | 6,772 | 13,462 | 5,141 | 7,877 | 11,874 | ... | 169,357 | United Kingdom |
| 10,722 | 3,025 | 4,965 | 3,866 | 2,832 | 2,723 | ... | 85,692 | United States |
| **28,570** | **39,170** | **110,910** | **41,742** | **71,722** | **32,592** | **157,145** | **415,179** | **Total** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. [2] Calculated as the difference between the total and the sum of the listed components

Table E.6 (cont)

## OTC foreign exchange turnover by country and currency in April 2010[1]

### Euro against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Yen | Pound sterling | Swiss franc |
|---|---|---|---|---|---|
| Argentina | 331 | 240 | ... | ... | ... |
| Australia | 46,744 | 37,993 | 2,213 | 1,365 | 216 |
| Austria | 14,325 | 7,347 | 468 | 259 | 2,502 |
| Bahrain | 879 | 582 | 2 | 7 | 0 |
| Belgium | 19,651 | 15,122 | 822 | 1,183 | 471 |
| Brazil | 3,280 | 2,774 | 2 | 14 | 12 |
| Bulgaria | 802 | 205 | 2 | 16 | 20 |
| Canada | 8,019 | 5,980 | 259 | 215 | 145 |
| Chile | 426 | 382 | ... | 0 | ... |
| China | 2,821 | 2,460 | 29 | 37 | 7 |
| Chinese Taipei | 3,186 | 2,743 | 146 | 143 | 5 |
| Colombia | 86 | 76 | ... | ... | ... |
| Czech Republic | 3,146 | 1,173 | 42 | 19 | 7 |
| Denmark | 68,132 | 38,501 | 2,471 | 1,705 | 1,797 |
| Estonia | 1,046 | 59 | 3 | 1 | 0 |
| Finland | 21,612 | 9,859 | 64 | 564 | 41 |
| France | 83,245 | 63,910 | 2,376 | 8,758 | 2,855 |
| Germany | 69,003 | 48,063 | 2,882 | 5,594 | 6,256 |
| Greece | 4,381 | 2,412 | 495 | 110 | 446 |
| Hong Kong SAR | 38,346 | 33,103 | 2,032 | 876 | ... |
| Hungary | 1,877 | 670 | 7 | 4 | 94 |
| India | 3,401 | 2,760 | 62 | 63 | 0 |
| Indonesia | 236 | 202 | 9 | 1 | 0 |
| Ireland | 10,220 | 6,057 | 533 | 2,620 | 184 |
| Israel | 211 | ... | ... | ... | ... |
| Italy | 21,405 | 17,314 | 963 | 1,329 | 594 |
| Japan | 58,970 | 28,699 | 27,211 | 970 | 604 |
| Korea | 2,897 | 2,526 | 120 | 1 | 0 |
| Latvia | 1,735 | 1,393 | 8 | 1 | 17 |
| Lithuania | 1,090 | 117 | 6 | 6 | 7 |
| Luxembourg | 21,553 | 16,652 | 668 | 1,601 | 508 |
| Malaysia | 789 | 484 | 44 | 36 | 1 |
| Mexico | 476 | 264 | ... | ... | ... |
| Netherlands | 14,002 | 9,126 | 126 | 1,656 | 155 |
| New Zealand | 683 | 552 | 13 | 16 | 3 |
| Norway | 6,178 | 2,852 | 322 | 131 | 61 |
| Peru | 184 | 183 | ... | ... | ... |
| Philippines | 674 | 486 | 21 | 0 | 1 |
| Poland | 3,916 | 1,125 | 15 | 49 | 135 |
| Portugal | 2,419 | 1,697 | 50 | 127 | 208 |
| Romania | 2,928 | 500 | 8 | 30 | 83 |
| Russia | 13,700 | 11,945 | 76 | 67 | 65 |
| Saudi Arabia | 967 | 786 | 4 | 98 | 9 |
| Singapore | 62,202 | 48,667 | 4,646 | 3,740 | 1,026 |
| Slovakia | 379 | 95 | 10 | 13 | 2 |
| South Africa | 1,887 | 1,572 | 9 | 79 | 2 |
| Spain | 15,578 | 12,194 | 366 | 1,247 | 181 |
| Sweden | 22,606 | 11,265 | 413 | 514 | 265 |
| Switzerland | 112,868 | 75,997 | 4,098 | 5,621 | 20,291 |
| Thailand | 617 | 441 | 23 | 8 | ... |
| Turkey | 5,960 | 4,984 | 76 | 35 | 47 |
| United Kingdom | 820,234 | 595,230 | 55,608 | 75,081 | 35,223 |
| United States | 376,392 | 283,948 | 21,513 | 19,098 | 15,329 |
| **Total** | **1,978,693** | **1,413,767** | **131,333** | **135,110** | **89,877** |

For footnotes, see facing page.

Table E.7

## OTC foreign exchange turnover by country and currency in April 2010[1]

### Euro against:

**Daily averages, in millions of US dollars**

| Canadian dollar | Australian dollar | Swedish krona | Local currency | Residual currencies[2] | |
|---|---|---|---|---|---|
| ... | ... | ... | 91 | 0 | Argentina |
| 303 | 3,041 | 190 | ... | 1,423 | Australia |
| 38 | 18 | 18 | ... | 3,675 | Austria |
| ... | ... | ... | 0 | 288 | Bahrain |
| 117 | 128 | 132 | ... | 1,676 | Belgium |
| 1 | 1 | 4 | 444 | 28 | Brazil |
| 7 | 7 | 1 | 517 | 27 | Bulgaria |
| 1,127 | 59 | 46 | ... | 188 | Canada |
| 0 | ... | ... | 43 | 0 | Chile |
| 0 | 8 | 0 | 265 | 14 | China |
| 8 | 41 | ... | 90 | 11 | Chinese Taipei |
| ... | ... | ... | 10 | 0 | Colombia |
| 0 | 0 | 5 | 1,694 | 205 | Czech Republic |
| 145 | 121 | 13,518 | 8,013 | 1,861 | Denmark |
| 0 | ... | 4 | 80 | 900 | Estonia |
| 226 | 26 | 10,151 | ... | 680 | Finland |
| 457 | 955 | 576 | ... | 3,360 | France |
| 495 | 438 | 584 | ... | 4,689 | Germany |
| 42 | 50 | 14 | ... | 812 | Greece |
| ... | ... | ... | 1,274 | 1,061 | Hong Kong SAR |
| 2 | ... | 2 | 1,030 | 69 | Hungary |
| 1 | 6 | 0 | 264 | 245 | India |
| 0 | 2 | 0 | 20 | 2 | Indonesia |
| 65 | 251 | 102 | ... | 409 | Ireland |
| ... | ... | ... | 211 | ... | Israel |
| 319 | 109 | 63 | ... | 714 | Italy |
| 381 | 364 | 174 | ... | 568 | Japan |
| 15 | 0 | ... | 234 | 1 | Korea |
| 2 | 3 | 2 | 231 | 77 | Latvia |
| 0 | 1 | 1 | 937 | 15 | Lithuania |
| 183 | 444 | 736 | ... | 761 | Luxembourg |
| ... | 17 | 0 | 67 | 140 | Malaysia |
| ... | ... | ... | 204 | 7 | Mexico |
| 127 | 110 | 71 | ... | 2,630 | Netherlands |
| 1 | 7 | 0 | 85 | 6 | New Zealand |
| 1 | 3 | 199 | 2,497 | 112 | Norway |
| ... | ... | ... | 1 | 0 | Peru |
| ... | 3 | ... | 162 | 1 | Philippines |
| 1 | 0 | 16 | 2,418 | 156 | Poland |
| 27 | 11 | 16 | ... | 282 | Portugal |
| 2 | 0 | 1 | 2,258 | 46 | Romania |
| 1 | 2 | 2 | 1,530 | 12 | Russia |
| 0 | 1 | 1 | 6 | 61 | Saudi Arabia |
| 974 | 971 | 351 | 238 | 1,589 | Singapore |
| 1 | 1 | 0 | ... | 257 | Slovakia |
| 7 | 1 | 1 | 204 | 12 | South Africa |
| 85 | 83 | 42 | ... | 1,379 | Spain |
| 65 | 37 | 8,266 | ... | 1,782 | Sweden |
| 607 | 464 | 973 | ... | 4,817 | Switzerland |
| ... | 1 | ... | 145 | 0 | Thailand |
| 3 | 1 | 0 | 797 | 18 | Turkey |
| 4,400 | 5,040 | 10,617 | ... | 39,034 | United Kingdom |
| 5,947 | 1,920 | 3,455 | ... | 25,182 | United States |
| **16,185** | **14,748** | **50,333** | **26,059** | **101,281** | **Total** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.
[2] Calculated as the difference between the total and the sum of the listed components.

Table E.7 (cont)

## OTC foreign exchange turnover by country and currency in April 2010[1]

### Yen against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Euro | Australian dollar | New Zealand dollar | Local currency | Residual currencies[2] |
|---|---|---|---|---|---|---|---|
| Argentina | 1 | 0 | ... | ... | ... | 1 | ... |
| Australia | 25,215 | 18,840 | 2,213 | 2,769 | 180 | ... | 1,211 |
| Austria | 1,795 | 1,006 | 468 | 6 | 1 | ... | 314 |
| Bahrain | 168 | 113 | 2 | ... | ... | 1 | 53 |
| Belgium | 1,876 | 821 | 822 | 25 | 7 | ... | 202 |
| Brazil | 1,544 | 891 | 2 | 52 | 98 | 63 | 439 |
| Bulgaria | 9 | 4 | 2 | ... | ... | 0 | 3 |
| Canada | 2,827 | 1,996 | 259 | 62 | 58 | ... | 452 |
| Chile | 32 | 28 | ... | ... | ... | 4 | 0 |
| China | 2,454 | 1,608 | 29 | 10 | ... | 73 | 735 |
| Chinese Taipei | 1,754 | 1,387 | 146 | 64 | 21 | 68 | 67 |
| Colombia | 9 | 7 | ... | ... | ... | 0 | 2 |
| Czech Republic | 71 | 21 | 42 | ... | ... | 7 | 1 |
| Denmark | 6,639 | 2,928 | 2,471 | 220 | 16 | 105 | 900 |
| Estonia | 4 | 1 | 3 | ... | ... | ... | 0 |
| Finland | 258 | 188 | 64 | 0 | ... | ... | 6 |
| France | 22,119 | 18,765 | 2,376 | 552 | 13 | ... | 413 |
| Germany | 13,163 | 8,938 | 2,882 | 266 | ... | ... | 1,078 |
| Greece | 647 | 110 | 495 | 28 | 1 | ... | 14 |
| Hong Kong SAR | 30,960 | 27,078 | 2,032 | 904 | 92 | 238 | 615 |
| Hungary | 22 | 15 | 7 | ... | ... | 0 | 0 |
| India | 750 | 574 | 62 | 1 | 0 | 37 | 77 |
| Indonesia | 498 | 364 | 9 | 2 | 0 | 63 | 60 |
| Ireland | 1,259 | 588 | 533 | 8 | 1 | ... | 128 |
| Israel | 31 | ... | ... | ... | ... | 31 | ... |
| Italy | 2,256 | 955 | 963 | 23 | 37 | ... | 278 |
| Japan | 248,863 | 195,835 | 27,211 | 10,336 | 2,025 | ... | 13,456 |
| Korea | 2,105 | 1,831 | 120 | 3 | 0 | 144 | 7 |
| Latvia | 60 | 11 | 8 | 1 | ... | ... | 40 |
| Lithuania | 25 | 0 | 6 | 0 | ... | 0 | 18 |
| Luxembourg | 4,516 | 3,370 | 668 | 179 | 94 | ... | 205 |
| Malaysia | 422 | 244 | 44 | 8 | 0 | 37 | 89 |
| Mexico | 18 | 15 | ... | ... | ... | 2 | 1 |
| Netherlands | 1,262 | 693 | 126 | 2 | ... | ... | 441 |
| New Zealand | 623 | 551 | 13 | 15 | 40 | ... | 4 |
| Norway | 913 | 366 | 322 | ... | ... | 198 | 26 |
| Peru | 12 | 12 | ... | ... | ... | ... | ... |
| Philippines | 114 | 87 | 21 | 1 | ... | 2 | 3 |
| Poland | 48 | 20 | 15 | 6 | ... | 6 | 1 |
| Portugal | 240 | 178 | 50 | ... | ... | ... | 12 |
| Romania | 14 | 2 | 8 | ... | ... | 1 | 2 |
| Russia | 469 | 332 | 76 | 2 | ... | 2 | 57 |
| Saudi Arabia | 305 | 246 | 4 | 10 | 2 | 4 | 39 |
| Singapore | 41,356 | 30,709 | 4,646 | 1,671 | 249 | 285 | 3,796 |
| Slovakia | 18 | 7 | 10 | ... | ... | ... | 2 |
| South Africa | 308 | 258 | 9 | 4 | ... | 14 | 23 |
| Spain | 1,775 | 1,053 | 366 | 3 | 0 | ... | 352 |
| Sweden | 1,389 | 730 | 413 | 12 | 2 | ... | 233 |
| Switzerland | 29,610 | 23,053 | 4,098 | 221 | 35 | ... | 2,204 |
| Thailand | 855 | 579 | 23 | 0 | ... | 246 | 8 |
| Turkey | 247 | 144 | 76 | 0 | ... | 22 | 5 |
| United Kingdom | 342,118 | 250,348 | 55,608 | 7,835 | 1,437 | ... | 26,890 |
| United States | 140,417 | 115,617 | 21,513 | 3,061 | 226 | ... | 0 |
| **Total** | **934,464** | **713,515** | **131,333** | **28,361** | **4,633** | **1,657** | **54,965** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. [2] Calculated as the difference between the total and the sum of the listed components.

Table E.8

## OTC foreign exchange turnover by country and currency in April 2010[1]

### Local currency against:

**Daily averages, in millions of US dollars**

| | Total | US dollar | Euro | Yen | Pound sterling |
|---|---|---|---|---|---|
| Argentina | 1,369 | 1,271 | 91 | 1 | 1 |
| Australia | 85,782 | 75,472 | 3,041 | 2,769 | 1,465 |
| Austria | 14,325 | 7,347 | ... | 468 | 259 |
| Bahrain | 162 | 81 | 0 | 1 | 79 |
| Belgium | 19,651 | 15,122 | ... | 822 | 1,183 |
| Brazil | 9,071 | 8,480 | 444 | 63 | 8 |
| Bulgaria | 536 | 17 | 517 | 0 | 1 |
| Canada | 42,699 | 40,205 | 1,127 | 383 | 395 |
| Chile | 4,942 | 4,887 | 43 | 4 | 1 |
| China | 12,110 | 9,742 | 265 | 73 | 10 |
| Chinese Taipei | 9,507 | 9,274 | 90 | 68 | 11 |
| Colombia | 2,672 | 2,661 | 10 | 0 | 0 |
| Czech Republic | 3,527 | 1,793 | 1,694 | 7 | 13 |
| Denmark | 20,805 | 11,028 | 8,013 | 105 | 349 |
| Estonia | 85 | 4 | 80 | ... | 0 |
| Finland | 21,612 | 9,859 | ... | 64 | 564 |
| France | 83,245 | 63,910 | ... | 2,376 | 8,758 |
| Germany | 69,003 | 48,063 | ... | 2,882 | 5,594 |
| Greece | 4,381 | 2,412 | ... | 495 | 110 |
| Hong Kong SAR | 72,604 | 69,790 | 1,274 | 238 | 324 |
| Hungary | 3,113 | 2,049 | 1,030 | 0 | 5 |
| India | 21,301 | 20,879 | 264 | 37 | 82 |
| Indonesia | 2,507 | 2,394 | 20 | 63 | 4 |
| Ireland | 10,220 | 6,057 | ... | 533 | 2,620 |
| Israel | 4,576 | 4,274 | 211 | 31 | 15 |
| Italy | 21,405 | 17,314 | ... | 963 | 1,329 |
| Japan | 248,863 | 195,835 | 27,211 | ... | 7,994 |
| Korea | 37,918 | 37,391 | 234 | 144 | 49 |
| Latvia | 255 | 15 | 231 | ... | 1 |
| Lithuania | 953 | 11 | 937 | 0 | 1 |
| Luxembourg | 21,553 | 16,652 | ... | 668 | 1,601 |
| Malaysia | 5,043 | 4,823 | 67 | 37 | 18 |
| Mexico | 16,537 | 16,323 | 204 | 2 | 1 |
| Netherlands | 14,002 | 9,126 | ... | 126 | 1,656 |
| New Zealand | 5,962 | 5,235 | 85 | 40 | 43 |
| Norway | 13,471 | 9,982 | 2,497 | 198 | 273 |
| Peru | 1,074 | 1,072 | 1 | ... | 1 |
| Philippines | 4,223 | 4,050 | 162 | 2 | 1 |
| Poland | 5,880 | 3,301 | 2,418 | 6 | 31 |
| Portugal | 2,419 | 1,697 | ... | 50 | 127 |
| Romania | 2,389 | 114 | 2,258 | 1 | 8 |
| Russia | 27,638 | 26,081 | 1,530 | 2 | 7 |
| Saudi Arabia | 2,381 | 2,221 | 6 | 4 | 1 |
| Singapore | 31,741 | 29,388 | 238 | 285 | 206 |
| South Africa | 11,056 | 10,764 | 204 | 14 | 35 |
| Spain | 15,578 | 12,194 | ... | 366 | 1,247 |
| Sweden | 22,344 | 12,097 | 8,266 | 131 | 533 |
| Switzerland | 78,375 | 54,648 | 20,291 | 664 | 1,578 |
| Thailand | 6,012 | 5,531 | 145 | 246 | 19 |
| Turkey | 10,117 | 9,265 | 797 | 22 | 28 |
| United Kingdom | 330,748 | 232,509 | 75,081 | 12,228 | ... |
| United States | 785,223 | ... | 283,948 | 115,617 | 85,503 |
| **Total** | **2,242,964** | **1,134,709** | **445,025** | **143,303** | **124,142** |

For footnotes, see facing page.

Table E.9

## OTC foreign exchange turnover by country and currency in April 2010[1]

### Local currency against:

**Daily averages, in millions of US dollars**

| Swiss franc | Canadian dollar | Australian dollar | Swedish krona | Residual currencies[2] | |
|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 5 | Argentina |
| 170 | 700 | ... | 61 | 2,104 | Australia |
| 2,502 | 38 | 18 | 18 | 3,675 | Austria |
| 0 | ... | ... | ... | 1 | Bahrain |
| 471 | 117 | 128 | 132 | 1,676 | Belgium |
| 23 | 13 | 2 | 3 | 36 | Brazil |
| 0 | 0 | 0 | 0 | 0 | Bulgaria |
| 90 | ... | 175 | 190 | 134 | Canada |
| 0 | 1 | 0 | 0 | 5 | Chile |
| 6 | 3 | 2 | 9 | 2,000 | China |
| 3 | 6 | 17 | 0 | 38 | Chinese Taipei |
| 0 | 0 | 0 | 0 | 0 | Colombia |
| 6 | 0 | 0 | 0 | 12 | Czech Republic |
| 494 | 20 | 35 | 450 | 311 | Denmark |
| 0 | ... | 0 | 0 | 0 | Estonia |
| 41 | 226 | 26 | 10,151 | 680 | Finland |
| 2,855 | 457 | 955 | 576 | 3,360 | France |
| 6,256 | 495 | 438 | 584 | 4,689 | Germany |
| 446 | 42 | 50 | 14 | 812 | Greece |
| ... | 90 | 517 | ... | 371 | Hong Kong SAR |
| 14 | ... | ... | 0 | 15 | Hungary |
| 7 | 4 | 8 | 2 | 16 | India |
| 0 | 0 | 4 | 0 | 22 | Indonesia |
| 184 | 65 | 251 | 102 | 409 | Ireland |
| 21 | 20 | 0 | 0 | 3 | Israel |
| 594 | 319 | 109 | 63 | 714 | Italy |
| 536 | 1,794 | 10,336 | 260 | 4,897 | Japan |
| 4 | 8 | 12 | 0 | 76 | Korea |
| ... | ... | ... | 0 | 9 | Latvia |
| 0 | 0 | 0 | 1 | 3 | Lithuania |
| 508 | 183 | 444 | 736 | 761 | Luxembourg |
| 1 | 0 | 23 | 0 | 73 | Malaysia |
| 1 | 4 | 0 | 0 | 0 | Mexico |
| 155 | 127 | 110 | 71 | 2,630 | Netherlands |
| 7 | 15 | 530 | 0 | 8 | New Zealand |
| 126 | 59 | 28 | 189 | 119 | Norway |
| ... | ... | ... | ... | 0 | Peru |
| 0 | 0 | 0 | ... | 6 | Philippines |
| 62 | 3 | 0 | 3 | 56 | Poland |
| 208 | 27 | 11 | 16 | 282 | Portugal |
| 5 | 0 | 0 | 0 | 2 | Romania |
| 12 | 0 | 0 | 2 | 4 | Russia |
| 0 | 0 | 1 | 0 | 147 | Saudi Arabia |
| 74 | 106 | 395 | 24 | 1,025 | Singapore |
| 6 | 7 | 7 | 1 | 18 | South Africa |
| 181 | 85 | 83 | 42 | 1,379 | Spain |
| 141 | 88 | 89 | ... | 1,000 | Sweden |
| ... | 375 | 314 | 86 | 420 | Switzerland |
| 5 | 2 | 37 | 1 | 27 | Thailand |
| 1 | 0 | 0 | 2 | 3 | Turkey |
| 2,544 | 1,745 | 2,799 | 645 | 3,197 | United Kingdom |
| 46,268 | 77,100 | 56,059 | 6,903 | 113,825 | United States |
| **65,031** | **84,346** | **74,015** | **21,339** | **151,054** | **Total** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.
[2] Calculated as the difference between the total and the sum of the listed components.

Table E.9 (cont)

## Foreign exchange turnover by country and counterparty in April 2010[1]

**Daily averages, in millions of US dollars**

| | Gross turnover[2] | Net turnover[3] | | | | |
|---|---|---|---|---|---|---|
| | | Total | With reporting local dealers | With reporting dealers abroad | With other financial institutions | With non-financial customers |
| Argentina | 1,895 | 1,613 | 282 | ... | 349 | 982 |
| Australia | 218,158 | 192,052 | 26,106 | 91,598 | 61,045 | 13,304 |
| Austria | 20,039 | 19,549 | 490 | 13,029 | 5,327 | 704 |
| Bahrain | 4,619 | 4,543 | 76 | 2,881 | 1,476 | 110 |
| Belgium | 32,770 | 32,524 | 247 | 19,824 | 10,832 | 1,621 |
| Brazil | 15,609 | 14,094 | 1,516 | 3,854 | 5,951 | 2,773 |
| Bulgaria | 874 | 866 | 9 | 288 | 411 | 158 |
| Canada | 68,546 | 61,892 | 6,654 | 27,090 | 22,765 | 5,383 |
| Chile | 7,229 | 5,544 | 1,684 | 1,428 | 1,430 | 1,001 |
| China | 27,486 | 19,774 | 7,712 | 2,411 | 5,738 | 3,913 |
| Chinese Taipei | 20,034 | 17,983 | 2,050 | 6,060 | 5,740 | 4,132 |
| Colombia | 3,822 | 2,794 | 1,028 | 403 | 721 | 641 |
| Czech Republic | 5,489 | 5,110 | 379 | 3,822 | 168 | 742 |
| Denmark | 123,231 | 120,463 | 2,767 | 82,165 | 12,189 | 23,342 |
| Estonia | 1,063 | 1,059 | 4 | 997 | 10 | 48 |
| Finland | 31,316 | 31,254 | 62 | 28,911 | 507 | 1,775 |
| France | 162,906 | 151,509 | 11,397 | 90,000 | 39,438 | 10,674 |
| Germany | 115,740 | 108,598 | 7,142 | 58,985 | 34,452 | 8,019 |
| Greece | 5,244 | 5,164 | 79 | 3,702 | 812 | 571 |
| Hong Kong SAR | 257,327 | 237,542 | 19,785 | 160,049 | 44,587 | 13,121 |
| Hungary | 4,763 | 4,196 | 567 | 2,172 | 1,077 | 379 |
| India | 38,857 | 27,358 | 11,499 | 5,413 | 2,340 | 8,106 |
| Indonesia | 4,632 | 3,381 | 1,251 | 1,197 | 387 | 546 |
| Ireland | 14,994 | 14,578 | 416 | 7,305 | 6,003 | 854 |
| Israel | 10,333 | 10,017 | 317 | ... | 7,771 | 1,929 |
| Italy | 29,695 | 28,601 | 1,093 | 23,328 | 2,877 | 1,303 |
| Japan | 337,389 | 312,326 | 25,063 | 163,998 | 77,739 | 45,526 |
| Korea | 67,241 | 43,824 | 23,417 | 10,470 | 5,840 | 4,096 |
| Latvia | 2,359 | 2,226 | 133 | 340 | 804 | 950 |
| Lithuania | 1,183 | 1,154 | 29 | 903 | 88 | 134 |
| Luxembourg | 34,408 | 33,363 | 1,045 | 22,581 | 8,426 | 1,313 |
| Malaysia | 8,262 | 7,262 | 1,000 | 1,736 | 2,130 | 2,396 |
| Mexico | 18,156 | 17,019 | 1,137 | 12,594 | 2,005 | 1,282 |
| Netherlands | 18,626 | 18,253 | 372 | 9,892 | 6,690 | 1,300 |
| New Zealand | 9,460 | 8,754 | 706 | 2,557 | 4,811 | 680 |
| Norway | 22,450 | 22,191 | 260 | 13,078 | 5,363 | 3,490 |
| Peru | 1,856 | 1,425 | 431 | 455 | 200 | 338 |
| Philippines | 7,649 | 5,017 | 2,632 | 1,491 | 514 | 379 |
| Poland | 8,632 | 7,847 | 785 | 4,812 | 1,479 | 771 |
| Portugal | 3,831 | 3,654 | 177 | 1,976 | 1,090 | 411 |
| Romania | 3,518 | 3,169 | 349 | 2,063 | 375 | 383 |
| Russia | 49,217 | 41,658 | 7,559 | 10,793 | 15,520 | 7,785 |
| Saudi Arabia | 6,136 | 5,291 | 845 | 3,082 | 597 | 766 |
| Singapore | 278,929 | 265,899 | 13,030 | 161,046 | 72,693 | 19,131 |
| Slovakia | 445 | 443 | 1 | 297 | 50 | 95 |
| South Africa | 17,092 | 14,375 | 2,717 | 9,994 | 799 | 865 |
| Spain | 29,794 | 29,322 | 472 | 17,662 | 2,061 | 9,127 |
| Sweden | 45,640 | 44,796 | 844 | 16,548 | 17,529 | 9,874 |
| Switzerland | 273,640 | 262,582 | 11,058 | 149,097 | 79,536 | 22,890 |
| Thailand | 9,649 | 7,390 | 2,259 | 2,206 | 819 | 2,107 |
| Turkey | 17,677 | 16,817 | 860 | 13,913 | 918 | 1,127 |
| United Kingdom | 2,065,334 | 1,853,594 | 211,741 | 597,232 | 866,375 | 178,246 |
| United States | 963,283 | 904,357 | 58,926 | 283,301 | 451,019 | 111,111 |
| **Total** | **5,528,525** | **5,056,067** | **472,459** | **2,151,028** | **1,899,874** | **532,706** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. [2] Not adjusted for inter-dealer double-counting (ie "gross-gross" basis). [3] Adjusted for local inter-dealer double-counting (ie "net-gross" basis).

Table E.10

## Spot foreign exchange turnover by country and counterparty in April 2010[1]

**Daily averages, in millions of US dollars**

| | Total | Reporting dealers | | Other financial institutions | | Non-financial customers | |
|---|---|---|---|---|---|---|---|
| | | Local | Cross-border | Local | Cross-border | Local | Cross-border |
| Argentina | 1,581 | 282 | ... | 116 | 232 | 949 | 2 |
| Australia | 60,188 | 5,326 | 21,958 | 2,706 | 21,262 | 5,083 | 3,854 |
| Austria | 5,874 | 190 | 3,302 | 521 | 1,586 | 202 | 72 |
| Bahrain | 723 | 1 | 301 | 65 | 326 | 11 | 18 |
| Belgium | 7,909 | 65 | 5,188 | 77 | 2,355 | 111 | 113 |
| Brazil | 8,743 | 1,467 | 2,272 | 2,256 | 1,326 | 1,371 | 50 |
| Bulgaria | 595 | 9 | 83 | 366 | 3 | 134 | 1 |
| Canada | 18,281 | 1,185 | 9,786 | 1,359 | 4,258 | 1,382 | 310 |
| Chile | 2,695 | 990 | 452 | 618 | 8 | 623 | 3 |
| China | 8,604 | 4,460 | 1,522 | 1,406 | 757 | 458 | 0 |
| Chinese Taipei | 7,728 | 1,023 | 2,605 | 1,058 | 820 | 1,642 | 581 |
| Colombia | 1,760 | 823 | 54 | 434 | 11 | 433 | 5 |
| Czech Republic | 1,067 | 60 | 794 | 18 | 6 | 167 | 23 |
| Denmark | 33,032 | 543 | 12,987 | 146 | 2,850 | 1,277 | 15,230 |
| Estonia | 82 | 0 | 40 | 4 | 0 | 25 | 13 |
| Finland | 816 | 34 | 424 | 18 | 37 | 241 | 61 |
| France | 27,054 | 1,000 | 17,225 | 1,715 | 4,987 | 957 | 1,170 |
| Germany | 30,107 | 1,281 | 20,117 | 1,580 | 5,478 | 511 | 1,140 |
| Greece | 1,316 | 1 | 1,037 | 13 | 147 | 118 | ... |
| Hong Kong SAR | 43,783 | 2,275 | 30,416 | 864 | 5,874 | 2,555 | 1,800 |
| Hungary | 763 | 39 | 367 | 70 | 150 | 133 | 4 |
| India | 13,411 | 5,597 | 3,284 | 583 | 988 | 2,944 | 15 |
| Indonesia | 2,183 | 793 | 794 | 24 | 182 | 364 | 27 |
| Ireland | 3,535 | 6 | 1,553 | 223 | 1,614 | 84 | 55 |
| Israel | 3,880 | 107 | ... | 279 | 2,351 | 1,136 | 6 |
| Italy | 9,025 | 326 | 7,109 | 441 | 324 | 783 | 43 |
| Japan | 101,459 | 4,979 | 58,161 | 5,318 | 12,548 | 19,054 | 1,398 |
| Korea | 18,488 | 9,412 | 3,303 | 2,423 | 1,311 | 1,915 | 124 |
| Latvia | 779 | 38 | 108 | 14 | 163 | 25 | 432 |
| Lithuania | 260 | 3 | 79 | 73 | 2 | 92 | 11 |
| Luxembourg | 11,692 | 239 | 7,410 | 856 | 2,761 | 229 | 197 |
| Malaysia | 3,920 | 499 | 1,205 | 557 | 640 | 988 | 31 |
| Mexico | 5,296 | 446 | 2,846 | 590 | 260 | 1,143 | 11 |
| Netherlands | 5,081 | 53 | 4,256 | 352 | 289 | 84 | 47 |
| New Zealand | 1,533 | 75 | 530 | 108 | 639 | 174 | 7 |
| Norway | 2,296 | 22 | 1,126 | 159 | 198 | 756 | 35 |
| Peru | 1,017 | 349 | 266 | 85 | 5 | 312 | 0 |
| Philippines | 2,121 | 1,050 | 674 | 181 | 50 | 162 | 4 |
| Poland | 1,955 | 110 | 996 | 186 | 202 | 459 | 2 |
| Portugal | 1,060 | 107 | 565 | 7 | 224 | 150 | 7 |
| Romania | 1,263 | 171 | 640 | 71 | 59 | 314 | 7 |
| Russia | 22,544 | 4,523 | 4,128 | 4,775 | 2,256 | 2,323 | 4,540 |
| Saudi Arabia | 3,276 | 479 | 1,887 | 175 | 199 | 536 | ... |
| Singapore | 90,798 | 2,421 | 50,878 | 2,934 | 28,231 | 1,873 | 4,461 |
| Slovakia | 196 | 0 | 124 | 2 | 36 | 31 | 3 |
| South Africa | 4,036 | 563 | 2,809 | 80 | 269 | 274 | 42 |
| Spain | 8,274 | 52 | 5,504 | 114 | 306 | 514 | 1,785 |
| Sweden | 11,794 | 433 | 5,988 | 744 | 3,369 | 816 | 444 |
| Switzerland | 60,905 | 2,048 | 36,869 | 2,750 | 13,190 | 3,185 | 2,862 |
| Thailand | 2,941 | 405 | 1,145 | 51 | 317 | 973 | 50 |
| Turkey | 5,488 | 627 | 4,249 | 153 | 173 | 285 | 1 |
| United Kingdom | 696,514 | 82,440 | 210,377 | 115,491 | 228,579 | 13,198 | 46,429 |
| United States | 472,580 | 36,471 | 134,400 | 146,041 | 99,745 | 17,781 | 38,142 |
| **Total** | **1,832,302** | **175,900** | **684,193** | **301,247** | **453,955** | **91,339** | **125,667** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.11

## Outright forward foreign exchange turnover by country and counterparty in April 2010[1]

**Daily averages, in millions of US dollars**

| | Total | Reporting dealers | | Other financial institutions | | Non-financial customers | |
|---|---|---|---|---|---|---|---|
| | | Local | Cross-border | Local | Cross-border | Local | Cross-border |
| Argentina | 31 | ... | ... | ... | ... | 31 | ... |
| Australia | 8,015 | 459 | 1,760 | 2,399 | 1,863 | 1,340 | 194 |
| Austria | 1,841 | 29 | 1,300 | 173 | 141 | 187 | 11 |
| Bahrain | 101 | 9 | 14 | 20 | 39 | 2 | 18 |
| Belgium | 1,548 | 5 | 1,130 | 11 | 240 | 80 | 81 |
| Brazil | 3,801 | 21 | 1,423 | 486 | 907 | 700 | 265 |
| Bulgaria | 55 | ... | 30 | 6 | 2 | 18 | 0 |
| Canada | 6,287 | 440 | 1,490 | 1,847 | 1,256 | 1,042 | 212 |
| Chile | 2,120 | 225 | 865 | 545 | 147 | 338 | ... |
| China | 3,054 | 415 | 180 | 83 | 99 | 2,215 | 63 |
| Chinese Taipei | 1,222 | 67 | 376 | 181 | 11 | 505 | 81 |
| Colombia | 975 | 201 | 313 | 199 | 70 | 192 | ... |
| Czech Republic | 198 | 1 | 24 | 4 | 0 | 165 | 3 |
| Denmark | 11,110 | 353 | 6,593 | 503 | 2,109 | 1,077 | 475 |
| Estonia | 1 | ... | 0 | 0 | ... | ... | 0 |
| Finland | 462 | 9 | 20 | 17 | 1 | 290 | 125 |
| France | 9,918 | 729 | 4,688 | 803 | 1,718 | 847 | 1,133 |
| Germany | 8,094 | 505 | 952 | 1,132 | 4,280 | 855 | 370 |
| Greece | 196 | ... | 8 | ... | 19 | 168 | 1 |
| Hong Kong SAR | 32,022 | 1,689 | 20,032 | 431 | 5,401 | 1,125 | 3,344 |
| Hungary | 262 | ... | ... | 39 | 2 | 214 | 7 |
| India | 4,895 | 345 | 160 | 40 | 254 | 4,091 | 5 |
| Indonesia | 247 | 17 | 26 | 53 | 28 | 123 | ... |
| Ireland | 2,196 | 0 | 564 | 223 | 1,154 | 192 | 62 |
| Israel | 154 | 14 | ... | 42 | 79 | 18 | 1 |
| Italy | 1,266 | 117 | 607 | 250 | 46 | 204 | 43 |
| Japan | 31,625 | 857 | 7,187 | 9,873 | 529 | 12,247 | 931 |
| Korea | 6,101 | 570 | 3,867 | 400 | 422 | 805 | 37 |
| Latvia | 12 | ... | ... | 0 | 0 | 11 | 1 |
| Lithuania | 17 | ... | 16 | 0 | 0 | 1 | 0 |
| Luxembourg | 4,480 | 44 | 1,151 | 905 | 1,831 | 338 | 212 |
| Malaysia | 664 | 6 | 108 | 37 | 87 | 398 | 28 |
| Mexico | 954 | 8 | 647 | 179 | 45 | 68 | 9 |
| Netherlands | 8,540 | 138 | 3,103 | 1,196 | 3,660 | 190 | 254 |
| New Zealand | 685 | 1 | 307 | 108 | 54 | 214 | 1 |
| Norway | 1,819 | 4 | 339 | 505 | 126 | 800 | 45 |
| Peru | 385 | 81 | 172 | 102 | 8 | 22 | ... |
| Philippines | 598 | 33 | 265 | 14 | 86 | 201 | 0 |
| Poland | 318 | 3 | 20 | 69 | 4 | 221 | 1 |
| Portugal | 496 | 3 | 222 | 3 | 91 | 57 | 120 |
| Romania | 95 | 5 | 50 | 5 | 2 | 31 | 2 |
| Russia | 592 | 4 | 171 | 143 | 186 | 73 | 16 |
| Saudi Arabia | 665 | 139 | 458 | 3 | 7 | 58 | ... |
| Singapore | 36,474 | 1,722 | 22,867 | 1,146 | 7,683 | 1,170 | 1,887 |
| Slovakia | 33 | 0 | 13 | 0 | 1 | 16 | 4 |
| South Africa | 688 | 113 | 262 | 19 | 19 | 266 | 8 |
| Spain | 2,668 | 38 | 1,229 | 43 | 325 | 480 | 553 |
| Sweden | 1,944 | 16 | 97 | 417 | 226 | 990 | 198 |
| Switzerland | 11,238 | 998 | 2,462 | 709 | 1,483 | 2,498 | 3,088 |
| Thailand | 971 | 8 | 88 | 26 | 18 | 818 | 14 |
| Turkey | 2,517 | 131 | 2,037 | 102 | 12 | 234 | 1 |
| United Kingdom | 228,122 | 12,970 | 50,500 | 37,048 | 87,291 | 5,811 | 34,503 |
| United States | 116,107 | 5,092 | 27,555 | 36,563 | 31,011 | 10,027 | 5,859 |
| **Total** | **558,882** | **28,634** | **167,751** | **99,098** | **155,073** | **54,062** | **54,265** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.12

## Foreign exchange swap turnover by country and counterparty in April 2010[1]

**Daily averages, in millions of US dollars**

| | Total | Reporting dealers | | Other financial institutions | | Non-financial customers | |
|---|---|---|---|---|---|---|---|
| | | Local | Cross-border | Local | Cross-border | Local | Cross-border |
| Argentina | ... | ... | ... | ... | ... | ... | ... |
| Australia | 117,548 | 19,867 | 64,065 | 4,789 | 26,230 | 1,058 | 1,539 |
| Austria | 10,725 | 245 | 7,792 | 493 | 2,063 | 75 | 57 |
| Bahrain | 3,596 | 66 | 2,462 | 88 | 933 | 1 | 48 |
| Belgium | 22,473 | 165 | 13,088 | 508 | 7,509 | 501 | 701 |
| Brazil | 292 | ... | 30 | 60 | 75 | 95 | 33 |
| Bulgaria | 211 | ... | 171 | 16 | 19 | 5 | ... |
| Canada | 33,853 | 4,838 | 13,676 | 3,199 | 10,210 | 1,430 | 499 |
| Chile | 522 | 462 | 7 | 25 | 3 | 25 | ... |
| China | 8,024 | 2,837 | 666 | 3,281 | 90 | 1,128 | 22 |
| Chinese Taipei | 7,418 | 876 | 2,404 | 3,148 | 274 | 713 | 3 |
| Colombia | 29 | 4 | 17 | 1 | 3 | 4 | ... |
| Czech Republic | 3,775 | 318 | 2,965 | 110 | 25 | 208 | 150 |
| Denmark | 72,356 | 1,327 | 60,450 | 1,008 | 4,927 | 2,644 | 2,000 |
| Estonia | 973 | 4 | 955 | 6 | ... | 8 | 0 |
| Finland | 29,827 | 13 | 28,375 | 15 | 412 | 579 | 432 |
| France | 104,262 | 9,523 | 60,184 | 6,918 | 21,480 | 3,409 | 2,748 |
| Germany | 63,864 | 4,792 | 34,532 | 4,756 | 15,865 | 1,863 | 2,056 |
| Greece | 3,460 | 78 | 2,515 | 115 | 503 | 249 | 0 |
| Hong Kong SAR | 147,046 | 15,299 | 99,133 | 2,974 | 27,095 | 1,724 | 820 |
| Hungary | 3,117 | 528 | 1,771 | 306 | 502 | 11 | ... |
| India | 7,697 | 5,427 | 1,748 | 376 | 64 | 80 | ... |
| Indonesia | 896 | 439 | 376 | 51 | 0 | 27 | 3 |
| Ireland | 8,081 | 409 | 5,056 | 477 | 1,701 | 386 | 52 |
| Israel | 5,419 | 155 | ... | 411 | 4,230 | 603 | 20 |
| Italy | 17,726 | 559 | 15,283 | 385 | 1,339 | 73 | 88 |
| Japan | 168,260 | 18,453 | 93,599 | 9,351 | 36,718 | 9,182 | 958 |
| Korea | 18,420 | 13,088 | 3,047 | 1,035 | 139 | 990 | 122 |
| Latvia | 1,436 | 95 | 232 | 57 | 569 | 12 | 470 |
| Lithuania | 857 | 26 | 798 | 1 | 12 | 15 | 5 |
| Luxembourg | 16,858 | 752 | 13,817 | 552 | 1,490 | 98 | 149 |
| Malaysia | 2,429 | 451 | 367 | 479 | 304 | 644 | 183 |
| Mexico | 10,434 | 611 | 8,969 | 261 | 556 | 38 | ... |
| Netherlands | 3,241 | 176 | 1,898 | 281 | 237 | 167 | 482 |
| New Zealand | 6,353 | 622 | 1,619 | 393 | 3,483 | 227 | 9 |
| Norway | 17,524 | 232 | 11,410 | 864 | 3,288 | 1,397 | 332 |
| Peru | 16 | 2 | 14 | ... | ... | ... | ... |
| Philippines | 1,256 | 839 | 223 | 167 | 15 | 12 | ... |
| Poland | 5,368 | 662 | 3,687 | 307 | 675 | 29 | 7 |
| Portugal | 1,974 | 67 | 1,134 | 12 | 690 | 72 | ... |
| Romania | 1,774 | 172 | 1,355 | 9 | 227 | 12 | ... |
| Russia | 18,416 | 3,032 | 6,440 | 5,172 | 2,961 | 315 | 496 |
| Saudi Arabia | 1,273 | 227 | 694 | 57 | 149 | 36 | 110 |
| Singapore | 121,999 | 8,607 | 78,130 | 6,833 | 21,641 | 2,986 | 3,801 |
| Slovakia | 153 | 1 | 135 | 0 | 5 | 12 | ... |
| South Africa | 9,109 | 1,922 | 6,589 | 196 | 203 | 183 | 16 |
| Spain | 16,831 | 307 | 10,067 | 346 | 644 | 386 | 5,080 |
| Sweden | 29,312 | 376 | 9,972 | 3,306 | 8,661 | 4,160 | 2,837 |
| Switzerland | 181,979 | 7,816 | 105,827 | 8,354 | 50,917 | 5,432 | 3,632 |
| Thailand | 3,276 | 1,778 | 967 | 244 | 144 | 99 | 45 |
| Turkey | 6,831 | 19 | 6,274 | 150 | 316 | 65 | 7 |
| United Kingdom | 775,381 | 98,086 | 301,253 | 91,230 | 217,461 | 14,993 | 52,357 |
| United States | 267,099 | 14,514 | 105,441 | 57,839 | 59,696 | 13,298 | 16,311 |
| **Total** | **2,361,049** | **241,165** | **1,191,677** | **221,017** | **536,752** | **71,757** | **98,680** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.13

## Currency swap turnover by country and counterparty in April 2010[1]

**Daily averages, in millions of US dollars**

| | Total | Reporting dealers | | Other financial institutions | | Non-financial customers | |
|---|---|---|---|---|---|---|---|
| | | Local | Cross-border | Local | Cross-border | Local | Cross-border |
| Argentina | ... | ... | ... | ... | ... | ... | ... |
| Australia | 4,437 | 338 | 2,755 | 319 | 981 | 24 | 19 |
| Austria | 307 | 0 | 202 | 3 | 94 | 1 | 8 |
| Bahrain | 10 | ... | 10 | ... | 0 | ... | ... |
| Belgium | 83 | 3 | 57 | 0 | 21 | ... | 1 |
| Brazil | 417 | 22 | 58 | 136 | ... | 201 | ... |
| Bulgaria | 4 | ... | 4 | ... | ... | ... | ... |
| Canada | 1,240 | 76 | 602 | 23 | 263 | 267 | 9 |
| Chile | 204 | 7 | 103 | 15 | 70 | 10 | ... |
| China | 1 | ... | 0 | ... | 0 | 0 | ... |
| Chinese Taipei | 79 | 21 | 5 | 16 | ... | 37 | ... |
| Colombia | 13 | 0 | 12 | ... | 1 | ... | ... |
| Czech Republic | 35 | ... | 25 | ... | ... | 10 | ... |
| Denmark | 1,327 | 320 | 708 | 74 | 194 | 15 | 15 |
| Estonia | ... | ... | ... | ... | ... | ... | ... |
| Finland | 73 | 6 | 62 | ... | 6 | ... | ... |
| France | 4,025 | 43 | 3,153 | 89 | 670 | 5 | 67 |
| Germany | 1,344 | 37 | 878 | 109 | 201 | 107 | 12 |
| Greece | 4 | ... | 4 | ... | ... | ... | ... |
| Hong Kong SAR | 7,038 | 90 | 6,594 | 0 | 232 | 35 | 86 |
| Hungary | ... | ... | ... | ... | ... | ... | ... |
| India | 31 | 2 | 7 | 4 | 1 | 17 | ... |
| Indonesia | 54 | 1 | 1 | 49 | 0 | 2 | ... |
| Ireland | 692 | ... | 93 | 420 | 163 | 15 | 0 |
| Israel | 75 | 1 | ... | 10 | 49 | 16 | ... |
| Italy | 28 | ... | 24 | ... | 3 | ... | ... |
| Japan | 2,236 | 156 | 1,779 | 51 | 129 | 110 | 12 |
| Korea | 654 | 335 | 149 | 51 | 52 | 58 | 9 |
| Latvia | ... | ... | ... | ... | ... | ... | ... |
| Lithuania | 19 | ... | 10 | ... | ... | 10 | ... |
| Luxembourg | 28 | 8 | 18 | ... | 0 | ... | 3 |
| Malaysia | 156 | 29 | 29 | 3 | ... | 83 | 12 |
| Mexico | 153 | 70 | 37 | 9 | 34 | 4 | ... |
| Netherlands | 1,276 | 4 | 590 | 137 | 510 | 31 | 4 |
| New Zealand | 135 | 8 | 101 | 20 | 5 | 1 | ... |
| Norway | 408 | 1 | 184 | 214 | 1 | 4 | 4 |
| Peru | 3 | ... | 2 | ... | ... | 2 | ... |
| Philippines | 508 | 183 | 323 | ... | 2 | 0 | ... |
| Poland | 79 | 2 | 52 | 1 | 24 | ... | ... |
| Portugal | ... | ... | ... | ... | ... | ... | ... |
| Romania | 4 | ... | 4 | ... | ... | ... | ... |
| Russia | ... | ... | ... | ... | ... | ... | ... |
| Saudi Arabia | ... | ... | ... | ... | ... | ... | ... |
| Singapore | 687 | 12 | 556 | 15 | 91 | 5 | 7 |
| Slovakia | ... | ... | ... | ... | ... | ... | ... |
| South Africa | 39 | 1 | 36 | 1 | 0 | 0 | ... |
| Spain | 659 | 73 | 255 | 2 | 198 | 67 | 64 |
| Sweden | 92 | 2 | 6 | 29 | 50 | 5 | ... |
| Switzerland | 23 | ... | 11 | ... | 11 | ... | ... |
| Thailand | 111 | 59 | 6 | 19 | ... | 27 | ... |
| Turkey | 921 | 82 | 839 | ... | ... | ... | ... |
| United Kingdom | 18,177 | 2,318 | 4,397 | 4,134 | 6,366 | 146 | 816 |
| United States | 9,092 | 1,633 | 3,484 | 1,537 | 1,345 | 449 | 644 |
| **Total** | **56,978** | **5,944** | **28,224** | **7,488** | **11,767** | **1,764** | **1,791** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.14

## Options turnover by country and counterparty in April 2010[1]

**Daily averages, in millions of US dollars**

| | Total | Reporting dealers | | Other financial institutions | | Non-financial customers | |
|---|---|---|---|---|---|---|---|
| | | Local | Cross-border | Local | Cross-border | Local | Cross-border |
| Argentina | ... | ... | ... | ... | ... | ... | ... |
| Australia | 1,864 | 116 | 1,059 | 158 | 337 | 126 | 67 |
| Austria | 802 | 25 | 433 | 34 | 220 | 49 | 41 |
| Bahrain | 113 | ... | 95 | ... | 6 | 1 | 12 |
| Belgium | 510 | 8 | 360 | ... | 109 | 15 | 18 |
| Brazil | 841 | 6 | 71 | 11 | 694 | 28 | 32 |
| Bulgaria | ... | ... | ... | ... | ... | ... | ... |
| Canada | 2,232 | 114 | 1,535 | 20 | 330 | 125 | 108 |
| Chile | 2 | 1 | 0 | ... | ... | 1 | ... |
| China | 91 | 0 | 42 | ... | 21 | 28 | ... |
| Chinese Taipei | 1,536 | 64 | 672 | 74 | 158 | 386 | 183 |
| Colombia | 17 | 0 | 7 | 1 | 2 | 7 | ... |
| Czech Republic | 35 | 0 | 14 | ... | 4 | 16 | 1 |
| Denmark | 2,637 | 224 | 1,427 | 37 | 341 | 108 | 501 |
| Estonia | 3 | ... | 2 | ... | ... | 2 | ... |
| Finland | 76 | ... | 30 | ... | ... | 37 | 9 |
| France | 6,250 | 102 | 4,751 | 480 | 579 | 209 | 129 |
| Germany | 5,189 | 527 | 2,506 | 501 | 549 | 411 | 695 |
| Greece | 189 | ... | 138 | 0 | 15 | 35 | ... |
| Hong Kong SAR | 7,654 | 432 | 3,874 | 86 | 1,629 | 1,174 | 459 |
| Hungary | 53 | ... | 34 | ... | 10 | 9 | ... |
| India | 1,325 | 127 | 214 | 30 | ... | 954 | ... |
| Indonesia | 1 | 1 | 0 | ... | ... | ... | ... |
| Ireland | 75 | 1 | 39 | 8 | 20 | 2 | 6 |
| Israel | 489 | 41 | ... | 81 | 239 | 114 | 14 |
| Italy | 557 | 91 | 304 | 17 | 74 | 70 | 1 |
| Japan | 8,747 | 618 | 3,273 | 1,484 | 1,738 | 1,332 | 303 |
| Korea | 161 | 13 | 105 | 0 | 7 | 37 | ... |
| Latvia | ... | ... | ... | ... | ... | ... | ... |
| Lithuania | 1 | ... | 0 | ... | ... | 1 | ... |
| Luxembourg | 306 | 2 | 185 | 4 | 28 | 6 | 81 |
| Malaysia | 94 | 14 | 28 | 16 | 6 | 27 | 2 |
| Mexico | 181 | 2 | 96 | 33 | 39 | 10 | 1 |
| Netherlands | 117 | 1 | 44 | 21 | 9 | 35 | 7 |
| New Zealand | 48 | ... | ... | 1 | ... | 46 | 0 |
| Norway | 143 | ... | 19 | ... | 7 | 92 | 25 |
| Peru | 4 | ... | 2 | ... | ... | 2 | ... |
| Philippines | 534 | 527 | 6 | ... | ... | 0 | ... |
| Poland | 128 | 8 | 57 | 2 | 9 | 52 | ... |
| Portugal | 124 | ... | 55 | 0 | 63 | 5 | ... |
| Romania | 33 | ... | 13 | 0 | 2 | 17 | 1 |
| Russia | 105 | ... | 54 | ... | 28 | 22 | 1 |
| Saudi Arabia | 77 | ... | 43 | ... | 7 | 23 | 4 |
| Singapore | 15,941 | 267 | 8,613 | 407 | 3,711 | 620 | 2,321 |
| Slovakia | 61 | ... | 26 | ... | 6 | 29 | 0 |
| South Africa | 502 | 118 | 298 | 8 | 2 | 76 | ... |
| Spain | 891 | 2 | 607 | ... | 84 | 28 | 170 |
| Sweden | 1,653 | 17 | 485 | 112 | 614 | 304 | 121 |
| Switzerland | 8,437 | 197 | 3,928 | 341 | 1,778 | 819 | 1,374 |
| Thailand | 90 | 8 | 0 | 1 | 0 | 80 | 0 |
| Turkey | 1,060 | 1 | 515 | 7 | 3 | 531 | 3 |
| United Kingdom | 135,399 | 15,926 | 30,704 | 49,538 | 29,236 | 3,476 | 6,518 |
| United States | 39,479 | 1,216 | 12,421 | 7,718 | 9,524 | 1,819 | 6,782 |
| **Total** | **246,856** | **20,814** | **79,184** | **61,235** | **52,240** | **13,393** | **19,989** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.15

## Outright forward transactions by country and maturity in April 2010[1]

**Percentage share of country's total outright forward transactions**

| | Up to and including 7 days | Over 7 days and up to and including 1 year | Over 1 year |
|---|---|---|---|
| Argentina | 8 | 91 | 1 |
| Australia | 41 | 58 | 1 |
| Austria | 77 | 23 | 1 |
| Bahrain | 17 | 78 | 5 |
| Belgium | 22 | 77 | 1 |
| Brazil | 39 | 45 | 15 |
| Bulgaria | 31 | 69 | ... |
| Canada | 33 | 65 | 3 |
| Chile | 28 | 70 | 2 |
| China | 51 | 43 | 6 |
| Chinese Taipei | 17 | 82 | 2 |
| Colombia | 17 | 82 | 0 |
| Czech Republic | 63 | 34 | 3 |
| Denmark | 69 | 31 | 1 |
| Estonia | 49 | 51 | ... |
| Finland | 29 | 70 | 1 |
| France | 16 | 79 | 5 |
| Germany | 65 | 32 | 3 |
| Greece | 50 | 49 | 0 |
| Hong Kong SAR | 33 | 62 | 5 |
| Hungary | 39 | 59 | 2 |
| India | 29 | 49 | 22 |
| Indonesia | 74 | 26 | 0 |
| Ireland | 22 | 78 | 0 |
| Israel | 66 | 32 | 2 |
| Italy | 21 | 75 | 3 |
| Japan | 41 | 58 | 1 |
| Korea | 12 | 75 | 13 |
| Latvia | 85 | 15 | ... |
| Lithuania | 0 | 100 | 0 |
| Luxembourg | 15 | 84 | 0 |
| Malaysia | 64 | 34 | 2 |
| Mexico | 20 | 78 | 1 |
| Netherlands | 28 | 60 | 12 |
| New Zealand | 56 | 43 | 1 |
| Norway | 42 | 57 | 1 |
| Peru | 19 | 81 | 1 |
| Philippines | 20 | 75 | 5 |
| Poland | 40 | 57 | 2 |
| Portugal | 22 | 78 | 0 |
| Romania | 24 | 72 | 4 |
| Russia | 16 | 80 | 4 |
| Saudi Arabia | 92 | 8 | 0 |
| Singapore | 16 | 81 | 3 |
| Slovakia | 59 | 41 | 0 |
| South Africa | 41 | 56 | 3 |
| Spain | 34 | 60 | 6 |
| Sweden | 37 | 61 | 1 |
| Switzerland | 29 | 70 | 2 |
| Thailand | 25 | 75 | 1 |
| Turkey | 91 | 8 | 0 |
| United Kingdom | 60 | 39 | 1 |
| United States | 39 | 60 | 2 |
| **Total** | **45** | **52** | **2** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Since data on the maturity breakdown were only collected on a gross basis, data on a net basis have been calculated by adjusting the gross data proportionally. Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.16

## Foreign exchange swap transactions by country and maturity in April 2010[1]

**Percentage share of country's total FX swaps transactions**

| | Up to and including 7 days | Over 7 days and up to and including 1 year | Over 1 year |
|---|---|---|---|
| Argentina | ... | ... | ... |
| Australia | 84 | 16 | 0 |
| Austria | 72 | 27 | 1 |
| Bahrain | 75 | 24 | 1 |
| Belgium | 80 | 20 | 0 |
| Brazil | 14 | 42 | 44 |
| Bulgaria | 71 | 29 | ... |
| Canada | 71 | 29 | 1 |
| Chile | 25 | 73 | 3 |
| China | 64 | 36 | 1 |
| Chinese Taipei | 28 | 69 | 4 |
| Colombia | 40 | 16 | 43 |
| Czech Republic | 84 | 16 | 0 |
| Denmark | 80 | 20 | 0 |
| Estonia | 94 | 6 | ... |
| Finland | 94 | 6 | 0 |
| France | 74 | 26 | 1 |
| Germany | 66 | 33 | 1 |
| Greece | 58 | 42 | ... |
| Hong Kong SAR | 78 | 21 | 1 |
| Hungary | 65 | 31 | 4 |
| India | 47 | 42 | 10 |
| Indonesia | 77 | 23 | 0 |
| Ireland | 59 | 41 | 0 |
| Israel | 86 | 13 | 1 |
| Italy | 77 | 23 | 0 |
| Japan | 79 | 21 | 0 |
| Korea | 47 | 48 | 5 |
| Latvia | 95 | 5 | 0 |
| Lithuania | 95 | 5 | 0 |
| Luxembourg | 77 | 23 | 0 |
| Malaysia | 71 | 29 | 0 |
| Mexico | 95 | 5 | 0 |
| Netherlands | 52 | 48 | 0 |
| New Zealand | 85 | 15 | 0 |
| Norway | 62 | 37 | 0 |
| Peru | 14 | 86 | ... |
| Philippines | 48 | 52 | 0 |
| Poland | 82 | 17 | 1 |
| Portugal | 59 | 41 | 0 |
| Romania | 79 | 21 | 0 |
| Russia | 97 | 3 | 0 |
| Saudi Arabia | 44 | 45 | 11 |
| Singapore | 76 | 24 | 1 |
| Slovakia | 82 | 18 | ... |
| South Africa | 66 | 32 | 2 |
| Spain | 76 | 24 | 1 |
| Sweden | 54 | 45 | 1 |
| Switzerland | 69 | 30 | 1 |
| Thailand | 49 | 48 | 3 |
| Turkey | 65 | 35 | ... |
| United Kingdom | 75 | 25 | 1 |
| United States | 71 | 27 | 1 |
| **Total** | **74** | **25** | **1** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Since data on the maturity breakdown were only collected on a gross basis, data on a net basis have been calculated by adjusting the gross data proportionally. Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.17

## Total foreign exchange turnover by country in April, 1995—2010[1]

**Daily averages, in billions of US dollars**

| | Total | | | | | |
|---|---|---|---|---|---|---|
| | **April 1995** | **April 1998** | **April 2001** | **April 2004** | **April 2007** | **April 2010** |
| Argentina | ... | 2 | ... | 1 | 1 | 2 |
| Australia | 41 | 48 | 54 | 107 | 176 | 192 |
| Austria | 13 | 12 | 8 | 15 | 19 | 20 |
| Bahrain | 3 | 3 | 3 | 3 | 3 | 5 |
| Belgium | 29 | 27 | 10 | 21 | 50 | 33 |
| Brazil | ... | 5 | 6 | 4 | 6 | 14 |
| Bulgaria | ... | ... | ... | ... | 1 | 1 |
| Canada | 31 | 38 | 44 | 59 | 64 | 62 |
| Chile | ... | 1 | 2 | 2 | 4 | 6 |
| China | ... | 0 | ... | 1 | 9 | 20 |
| Chinese Taipei | ... | 5 | 5 | 9 | 16 | 18 |
| Colombia | ... | ... | 0 | 1 | 2 | 3 |
| Czech Republic | ... | 5 | 2 | 2 | 5 | 5 |
| Denmark | 32 | 28 | 24 | 42 | 88 | 120 |
| Estonia | ... | ... | ... | 0 | 1 | 1 |
| Finland | 5 | 4 | 2 | 2 | 8 | 31 |
| France | 62 | 77 | 50 | 67 | 127 | 152 |
| Germany | 79 | 100 | 91 | 120 | 101 | 109 |
| Greece | 3 | 7 | 5 | 4 | 5 | 5 |
| Hong Kong SAR | 91 | 80 | 68 | 106 | 181 | 238 |
| Hungary | ... | 1 | 1 | 3 | 7 | 4 |
| India | ... | 2 | 3 | 7 | 38 | 27 |
| Indonesia | ... | 2 | 4 | 2 | 3 | 3 |
| Ireland | 5 | 11 | 9 | 8 | 11 | 15 |
| Israel | ... | ... | 1 | 5 | 8 | 10 |
| Italy | 24 | 29 | 18 | 23 | 38 | 29 |
| Japan | 168 | 146 | 153 | 207 | 250 | 312 |
| Korea | ... | 4 | 10 | 21 | 35 | 44 |
| Latvia | ... | ... | ... | 2 | 3 | 2 |
| Lithuania | ... | ... | ... | 1 | 1 | 1 |
| Luxembourg | 19 | 23 | 13 | 15 | 44 | 33 |
| Malaysia | ... | 1 | 1 | 2 | 3 | 7 |
| Mexico | ... | 9 | 9 | 15 | 15 | 17 |
| Netherlands | 27 | 43 | 31 | 52 | 25 | 18 |
| New Zealand | 7 | 7 | 4 | 7 | 13 | 9 |
| Norway | 8 | 9 | 13 | 14 | 32 | 22 |
| Peru | ... | ... | 0 | 0 | 1 | 1 |
| Philippines | ... | 1 | 1 | 1 | 2 | 5 |
| Poland | ... | 3 | 5 | 7 | 9 | 8 |
| Portugal | 2 | 4 | 2 | 2 | 4 | 4 |
| Romania | ... | ... | ... | ... | 3 | 3 |
| Russia | ... | 7 | 10 | 30 | 50 | 42 |
| Saudi Arabia | ... | 2 | 2 | 2 | 4 | 5 |
| Singapore | 107 | 145 | 104 | 134 | 242 | 266 |
| Slovakia | ... | ... | 1 | 2 | 3 | 0 |
| Slovenia | ... | ... | 0 | 0 | 0 | ... |
| South Africa | 5 | 9 | 10 | 10 | 14 | 14 |
| Spain | 18 | 20 | 8 | 14 | 17 | 29 |
| Sweden | 20 | 16 | 25 | 32 | 44 | 45 |
| Switzerland | 88 | 92 | 76 | 85 | 254 | 263 |
| Thailand | ... | 3 | 2 | 3 | 6 | 7 |
| Turkey | ... | ... | 1 | 3 | 4 | 17 |
| United Kingdom | 479 | 685 | 542 | 835 | 1,483 | 1,854 |
| United States | 266 | 383 | 273 | 499 | 745 | 904 |
| **Total** | **1,633** | **2,099** | **1,705** | **2,608** | **4,281** | **5,056** |

[1] Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.18

## Spot foreign exchange turnover by country in April, 1995—2010[1]

**Daily averages, in billions of US dollars**

| | Spot | | | | | |
|---|---|---|---|---|---|---|
| | **April 1995** | **April 1998** | **April 2001** | **April 2004[2]** | **April 2007** | **April 2010** |
| Argentina | ... | 2 | ... | 1 | 1 | 2 |
| Australia | 18 | 20 | 13 | 36 | 44 | 60 |
| Austria | 9 | 5 | 4 | 6 | 6 | 6 |
| Bahrain | 2 | 2 | 1 | 1 | 2 | 1 |
| Belgium | 6 | 7 | 3 | 6 | 15 | 8 |
| Brazil | ... | 5 | 4 | 3 | 5 | 9 |
| Bulgaria | ... | ... | ... | ... | 0 | 1 |
| Canada | 12 | 11 | 11 | 18 | 14 | 18 |
| Chile | ... | 1 | 2 | 2 | 2 | 3 |
| China | ... | 0 | ... | 1 | 8 | 9 |
| Chinese Taipei | ... | 3 | 3 | 5 | 9 | 8 |
| Colombia | ... | ... | 0 | 1 | 1 | 2 |
| Czech Republic | ... | 2 | 1 | 1 | 1 | 1 |
| Denmark | 9 | 6 | 4 | 9 | 15 | 33 |
| Estonia | ... | ... | ... | 0 | 0 | 0 |
| Finland | 3 | 1 | 1 | 1 | 1 | 1 |
| France | 25 | 19 | 9 | 13 | 25 | 27 |
| Germany | 34 | 42 | 26 | 36 | 25 | 30 |
| Greece | 2 | 3 | 2 | 1 | 1 | 1 |
| Hong Kong SAR | 35 | 31 | 19 | 36 | 38 | 44 |
| Hungary | ... | 1 | 0 | 1 | 2 | 1 |
| India | ... | 1 | 2 | 3 | 14 | 13 |
| Indonesia | ... | 1 | 3 | 1 | 2 | 2 |
| Ireland | 3 | 5 | 4 | 5 | 4 | 4 |
| Israel | ... | ... | 1 | 3 | 4 | 4 |
| Italy | 13 | 12 | 5 | 9 | 11 | 9 |
| Japan | 55 | 57 | 37 | 53 | 101 | 101 |
| Korea | ... | 3 | 6 | 10 | 17 | 18 |
| Latvia | ... | ... | ... | 1 | 1 | 1 |
| Lithuania | ... | ... | ... | 1 | 1 | 0 |
| Luxembourg | 8 | 8 | 4 | 3 | 13 | 12 |
| Malaysia | ... | 0 | 0 | 1 | 2 | 4 |
| Mexico | ... | 6 | 4 | 11 | 5 | 5 |
| Netherlands | 11 | 15 | 5 | 10 | 3 | 5 |
| New Zealand | 3 | 2 | 1 | 1 | 2 | 2 |
| Norway | 3 | 3 | 3 | 3 | 3 | 2 |
| Peru | ... | ... | 0 | 0 | 1 | 1 |
| Philippines | ... | 0 | 0 | 0 | 1 | 2 |
| Poland | ... | 2 | 2 | 2 | 2 | 2 |
| Portugal | 1 | 2 | 1 | 1 | 2 | 1 |
| Romania | ... | ... | ... | ... | 1 | 1 |
| Russia | ... | 6 | 9 | 24 | 34 | 23 |
| Saudi Arabia | ... | 1 | 1 | 1 | 3 | 3 |
| Singapore | 44 | 60 | 34 | 43 | 89 | 91 |
| Slovakia | ... | ... | 0 | 0 | 0 | 0 |
| Slovenia | ... | ... | 0 | 0 | 0 | ... |
| South Africa | 2 | 4 | 2 | 2 | 3 | 4 |
| Spain | 7 | 6 | 3 | 4 | 6 | 8 |
| Sweden | 9 | 5 | 6 | 7 | 8 | 12 |
| Switzerland | 44 | 34 | 23 | 23 | 108 | 61 |
| Thailand | ... | 1 | 1 | 1 | 1 | 3 |
| Turkey | ... | ... | 0 | 1 | 1 | 5 |
| United Kingdom | 186 | 217 | 151 | 223 | 335 | 697 |
| United States | 134 | 148 | 104 | 217 | 311 | 473 |
| **Total** | **680** | **762** | **519** | **840** | **1,305** | **1,832** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. Table E.19

## Outright forward foreign exchange turnover by country in April, 1995—2010[1]

**Daily averages, in billions of US dollars**

| | Outright forward | | | | | |
|---|---|---|---|---|---|---|
| | **April 1995** | **April 1998** | **April 2001** | **April 2004** | **April 2007** | **April 2010** |
| Argentina | ... | 0 | ... | ... | 0 | 0 |
| Australia | 1 | 2 | 3 | 6 | 14 | 8 |
| Austria | 0 | 1 | 0 | 1 | 2 | 2 |
| Bahrain | 0 | 0 | 1 | 1 | 1 | 0 |
| Belgium | 0 | 1 | 1 | 2 | 7 | 2 |
| Brazil | ... | ... | 1 | 0 | 0 | 4 |
| Bulgaria | ... | ... | ... | ... | 0 | 0 |
| Canada | 3 | 1 | 2 | 4 | 4 | 6 |
| Chile | ... | 0 | 1 | 1 | 1 | 2 |
| China | ... | ... | ... | ... | 0 | 3 |
| Chinese Taipei | ... | 1 | 0 | 1 | 2 | 1 |
| Colombia | ... | ... | 0 | 0 | 0 | 1 |
| Czech Republic | ... | ... | 0 | 0 | 1 | 0 |
| Denmark | 2 | 1 | 1 | 2 | 10 | 11 |
| Estonia | ... | ... | ... | 0 | 0 | 0 |
| Finland | 0 | 0 | 0 | 0 | 0 | 0 |
| France | 2 | 3 | 1 | 5 | 7 | 10 |
| Germany | 4 | 8 | 12 | 12 | 23 | 8 |
| Greece | 1 | 1 | 0 | 0 | 0 | 0 |
| Hong Kong SAR | 3 | 4 | 4 | 5 | 15 | 32 |
| Hungary | ... | 0 | 0 | 0 | 0 | 0 |
| India | ... | 0 | 0 | 1 | 6 | 5 |
| Indonesia | ... | 0 | 0 | 0 | 1 | 0 |
| Ireland | 0 | 1 | 1 | 0 | 1 | 2 |
| Israel | ... | ... | ... | ... | ... | 0 |
| Italy | 2 | 2 | 1 | 1 | 3 | 1 |
| Japan | 17 | 17 | 20 | 21 | 26 | 32 |
| Korea | ... | 0 | 1 | 4 | 5 | 6 |
| Latvia | ... | ... | ... | 0 | 0 | 0 |
| Lithuania | ... | ... | ... | 0 | 0 | 0 |
| Luxembourg | 1 | 1 | 1 | 2 | 5 | 4 |
| Malaysia | ... | 0 | 0 | 0 | 0 | 1 |
| Mexico | ... | 0 | 0 | 1 | 0 | 1 |
| Netherlands | 3 | 6 | 3 | 4 | 6 | 9 |
| New Zealand | 0 | 0 | 0 | 1 | 1 | 1 |
| Norway | 0 | 0 | 0 | 0 | 2 | 2 |
| Peru | ... | ... | 0 | 0 | 0 | 0 |
| Philippines | ... | 0 | 0 | 0 | 0 | 1 |
| Poland | ... | 0 | 0 | 0 | 1 | 0 |
| Portugal | 0 | 0 | 0 | 0 | 1 | 0 |
| Romania | ... | ... | ... | ... | 0 | 0 |
| Russia | ... | 1 | 0 | 1 | 1 | 1 |
| Saudi Arabia | ... | 0 | 0 | 0 | 0 | 1 |
| Singapore | 3 | 4 | 8 | 11 | 25 | 36 |
| Slovakia | ... | ... | 0 | 0 | 0 | 0 |
| Slovenia | ... | ... | 0 | 0 | 0 | ... |
| South Africa | 1 | 2 | 0 | 0 | 1 | 1 |
| Spain | 1 | 1 | 1 | 1 | 2 | 3 |
| Sweden | 1 | 1 | 1 | 1 | 2 | 2 |
| Switzerland | 8 | 5 | 6 | 7 | 17 | 11 |
| Thailand | ... | 0 | 0 | 0 | 1 | 1 |
| Turkey | ... | ... | 0 | 0 | 1 | 3 |
| United Kingdom | 34 | 48 | 53 | 103 | 124 | 228 |
| United States | 28 | 37 | 36 | 61 | 114 | 116 |
| **Total** | **115** | **155** | **164** | **261** | **434** | **559** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.20

## Foreign exchange swap turnover by country in April, 1995—2010[1]

**Daily averages, in billions of US dollars**

| | Foreign exchange swap | | | | | |
|---|---|---|---|---|---|---|
| | **April 1995** | **April 1998** | **April 2001** | **April 2004** | **April 2007** | **April 2010** |
| Argentina | ... | ... | ... | ... | ... | ... |
| Australia | 21 | 25 | 35 | 61 | 111 | 118 |
| Austria | 4 | 5 | 3 | 7 | 10 | 11 |
| Bahrain | 1 | 0 | 1 | 0 | 1 | 4 |
| Belgium | 22 | 18 | 7 | 11 | 26 | 22 |
| Brazil | ... | ... | 0 | 0 | 0 | 0 |
| Bulgaria | ... | ... | ... | ... | 0 | 0 |
| Canada | 15 | 25 | 29 | 32 | 42 | 34 |
| Chile | ... | ... | ... | 0 | 0 | 1 |
| China | ... | ... | ... | ... | 1 | 8 |
| Chinese Taipei | ... | 1 | 1 | 2 | 4 | 7 |
| Colombia | ... | ... | 0 | 0 | 0 | 0 |
| Czech Republic | ... | 3 | 1 | 1 | 3 | 4 |
| Denmark | 20 | 20 | 18 | 30 | 61 | 72 |
| Estonia | ... | ... | ... | 0 | 1 | 1 |
| Finland | 3 | 3 | 1 | 1 | 7 | 30 |
| France | 30 | 50 | 38 | 46 | 87 | 104 |
| Germany | 38 | 44 | 51 | 70 | 52 | 64 |
| Greece | 1 | 3 | 3 | 3 | 4 | 3 |
| Hong Kong SAR | 53 | 44 | 44 | 61 | 122 | 147 |
| Hungary | ... | 0 | 0 | 2 | 4 | 3 |
| India | ... | 1 | 1 | 2 | 13 | 8 |
| Indonesia | ... | 1 | 0 | 1 | 1 | 1 |
| Ireland | 1 | 4 | 4 | 2 | 6 | 8 |
| Israel | ... | ... | 1 | 2 | 4 | 5 |
| Italy | 8 | 15 | 11 | 10 | 22 | 18 |
| Japan | 89 | 61 | 90 | 125 | 112 | 168 |
| Korea | ... | 1 | 3 | 6 | 11 | 18 |
| Latvia | ... | ... | ... | 1 | 2 | 1 |
| Lithuania | ... | ... | ... | 0 | 0 | 1 |
| Luxembourg | 10 | 13 | 8 | 10 | 24 | 17 |
| Malaysia | ... | 1 | 1 | 0 | 1 | 2 |
| Mexico | ... | 2 | 4 | 3 | 10 | 10 |
| Netherlands | 12 | 20 | 21 | 36 | 15 | 3 |
| New Zealand | 4 | 5 | 3 | 5 | 10 | 6 |
| Norway | 4 | 6 | 9 | 11 | 26 | 18 |
| Peru | ... | ... | 0 | 0 | ... | 0 |
| Philippines | ... | 0 | 0 | 0 | 1 | 1 |
| Poland | ... | 0 | 3 | 4 | 6 | 5 |
| Portugal | 1 | 2 | 1 | 1 | 1 | 2 |
| Romania | ... | ... | ... | ... | 1 | 2 |
| Russia | ... | 0 | ... | 5 | 15 | 18 |
| Saudi Arabia | ... | 1 | 1 | 1 | 1 | 1 |
| Singapore | 58 | 75 | 58 | 72 | 116 | 122 |
| Slovakia | ... | ... | 0 | 1 | 3 | 0 |
| Slovenia | ... | ... | ... | 0 | 0 | ... |
| South Africa | 2 | 4 | 7 | 8 | 10 | 9 |
| Spain | 10 | 12 | 4 | 9 | 8 | 17 |
| Sweden | 11 | 10 | 17 | 22 | 33 | 29 |
| Switzerland | 34 | 42 | 41 | 49 | 116 | 182 |
| Thailand | ... | 2 | 1 | 1 | 4 | 3 |
| Turkey | ... | ... | 0 | 2 | 2 | 7 |
| United Kingdom | 244 | 372 | 300 | 428 | 899 | 775 |
| United States | 83 | 166 | 114 | 183 | 239 | 267 |
| **Total** | **777** | **1,052** | **934** | **1,329** | **2,250** | **2,361** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.21

## Currency swap turnover by country in April, 1995—2010[1]

**Daily averages, in billions of US dollars**

| | Currency swaps | | | | | |
|---|---|---|---|---|---|---|
| | **April 1995** | **April 1998** | **April 2001** | **April 2004** | **April 2007** | **April 2010** |
| Argentina | ... | ... | ... | ... | ... | ... |
| Australia | 0 | 0 | 1 | 1 | 2 | 4 |
| Austria | 0 | 0 | 0 | 0 | 0 | 0 |
| Bahrain | ... | 0 | 0 | 0 | 0 | 0 |
| Belgium | 0 | 0 | 0 | 0 | 0 | 0 |
| Brazil | ... | ... | 0 | 0 | 0 | 0 |
| Bulgaria | ... | ... | ... | ... | 0 | 0 |
| Canada | 0 | 0 | 0 | 1 | 2 | 1 |
| Chile | ... | ... | ... | 0 | 0 | 0 |
| China | ... | ... | ... | ... | ... | 0 |
| Chinese Taipei | ... | 0 | 0 | 0 | 0 | 0 |
| Colombia | ... | ... | 0 | 0 | 0 | 0 |
| Czech Republic | ... | ... | 0 | 0 | 0 | 0 |
| Denmark | 1 | 0 | 0 | 0 | 1 | 1 |
| Estonia | ... | ... | ... | ... | 0 | ... |
| Finland | 0 | 0 | 0 | 0 | 0 | 0 |
| France | 0 | 1 | 0 | 1 | 1 | 4 |
| Germany | 0 | 1 | 0 | 0 | 0 | 1 |
| Greece | 0 | 0 | 0 | ... | 0 | 0 |
| Hong Kong SAR | 0 | 0 | 0 | 1 | 1 | 7 |
| Hungary | ... | 0 | ... | ... | 0 | ... |
| India | ... | 0 | 0 | 0 | 0 | 0 |
| Indonesia | ... | 0 | 0 | 0 | 0 | 0 |
| Ireland | 0 | 0 | 0 | 0 | 0 | 1 |
| Israel | ... | ... | ... | ... | ... | 0 |
| Italy | 0 | 0 | 0 | 0 | 0 | 0 |
| Japan | 1 | 1 | 1 | 1 | 1 | 2 |
| Korea | ... | 0 | 0 | 0 | 1 | 1 |
| Latvia | ... | ... | ... | ... | ... | ... |
| Lithuania | ... | ... | ... | ... | ... | 0 |
| Luxembourg | 0 | 0 | 0 | 0 | 1 | 0 |
| Malaysia | ... | ... | ... | 0 | 0 | 0 |
| Mexico | ... | ... | 0 | 0 | 0 | 0 |
| Netherlands | 0 | 0 | 0 | 0 | 0 | 1 |
| New Zealand | 0 | 0 | 0 | 0 | 0 | 0 |
| Norway | 0 | 0 | 0 | 0 | 0 | 0 |
| Peru | ... | ... | ... | 0 | ... | 0 |
| Philippines | ... | ... | 0 | 0 | 0 | 1 |
| Poland | ... | ... | ... | 0 | 0 | 0 |
| Portugal | 0 | 0 | 0 | ... | 0 | ... |
| Romania | ... | ... | ... | ... | ... | 0 |
| Russia | ... | ... | ... | ... | ... | ... |
| Saudi Arabia | ... | ... | ... | 0 | 0 | ... |
| Singapore | 1 | 1 | 0 | 0 | 1 | 1 |
| Slovakia | ... | ... | 0 | ... | ... | ... |
| Slovenia | ... | ... | ... | 0 | ... | ... |
| South Africa | ... | 0 | 0 | 0 | 0 | 0 |
| Spain | 0 | 1 | 0 | 0 | 0 | 1 |
| Sweden | 0 | 0 | 0 | 0 | 0 | 0 |
| Switzerland | 0 | 0 | 0 | 0 | 0 | 0 |
| Thailand | ... | 0 | 0 | 0 | 0 | 0 |
| Turkey | ... | ... | ... | 0 | 1 | 1 |
| United Kingdom | 1 | 5 | 4 | 16 | 18 | 18 |
| United States | 0 | 1 | 1 | 2 | 6 | 9 |
| **Total** | **5** | **13** | **9** | **26** | **40** | **57** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.22

## Options turnover by country in April, 1995—2010[1]

**Daily averages, in billions of US dollars**

| | Options | | | | | |
|---|---|---|---|---|---|---|
| | **April 1995** | **April 1998** | **April 2001** | **April 2004** | **April 2007** | **April 2010** |
| Argentina | ... | ... | ... | ... | ... | ... |
| Australia | 1 | 1 | 2 | 4 | 5 | 2 |
| Austria | 0 | 1 | 0 | 1 | 1 | 1 |
| Bahrain | 0 | 0 | 0 | 0 | 0 | 0 |
| Belgium | 0 | 1 | 0 | 1 | 2 | 1 |
| Brazil | ... | ... | 0 | 0 | 0 | 1 |
| Bulgaria | ... | ... | ... | ... | 0 | ... |
| Canada | 1 | 1 | 2 | 5 | 3 | 2 |
| Chile | ... | ... | ... | ... | 0 | 0 |
| China | ... | ... | ... | ... | ... | 0 |
| Chinese Taipei | ... | 0 | 0 | 1 | 1 | 2 |
| Colombia | ... | ... | 0 | 0 | 0 | 0 |
| Czech Republic | ... | 0 | 0 | 0 | 0 | 0 |
| Denmark | 0 | 1 | 0 | 1 | 1 | 3 |
| Estonia | ... | ... | ... | ... | 0 | 0 |
| Finland | 0 | 0 | 0 | 0 | 0 | 0 |
| France | 3 | 4 | 1 | 2 | 6 | 6 |
| Germany | 3 | 5 | 3 | 3 | 2 | 5 |
| Greece | 0 | 0 | 0 | 0 | 0 | 0 |
| Hong Kong SAR | 1 | 1 | 1 | 3 | 6 | 8 |
| Hungary | ... | 0 | 0 | 0 | 0 | 0 |
| India | ... | 0 | 0 | 0 | 4 | 1 |
| Indonesia | ... | 0 | ... | 0 | 0 | 0 |
| Ireland | 0 | 0 | 0 | 0 | 0 | 0 |
| Israel | ... | ... | ... | 0 | 0 | 0 |
| Italy | 0 | 0 | 1 | 3 | 2 | 1 |
| Japan | 6 | 9 | 5 | 8 | 11 | 9 |
| Korea | ... | 0 | 0 | 0 | 1 | 0 |
| Latvia | ... | ... | ... | ... | ... | ... |
| Lithuania | ... | ... | ... | ... | 0 | 0 |
| Luxembourg | 0 | 0 | 0 | 0 | 1 | 0 |
| Malaysia | ... | 0 | 0 | 0 | 0 | 0 |
| Mexico | ... | 0 | 0 | 0 | 0 | 0 |
| Netherlands | 1 | 2 | 0 | 3 | 1 | 0 |
| New Zealand | 0 | 0 | 0 | 0 | 0 | 0 |
| Norway | 0 | 0 | 0 | 0 | 0 | 0 |
| Peru | ... | ... | ... | ... | ... | 0 |
| Philippines | ... | ... | ... | 0 | 0 | 1 |
| Poland | ... | ... | ... | 0 | 0 | 0 |
| Portugal | 0 | 0 | 0 | 0 | 1 | 0 |
| Romania | ... | ... | ... | ... | 0 | 0 |
| Russia | ... | 0 | ... | ... | 0 | 0 |
| Saudi Arabia | ... | 0 | 0 | 0 | 0 | 0 |
| Singapore | 1 | 5 | 3 | 8 | 10 | 16 |
| Slovakia | ... | ... | ... | ... | 0 | 0 |
| Slovenia | ... | ... | ... | 0 | 0 | ... |
| South Africa | 0 | 0 | 0 | 0 | 0 | 1 |
| Spain | 0 | 0 | 0 | 0 | 1 | 1 |
| Sweden | 0 | 1 | 1 | 1 | 2 | 2 |
| Switzerland | 2 | 10 | 5 | 6 | 12 | 8 |
| Thailand | ... | 0 | 0 | 0 | 0 | 0 |
| Turkey | ... | ... | ... | 0 | 0 | 1 |
| United Kingdom | 14 | 43 | 33 | 65 | 106 | 135 |
| United States | 21 | 31 | 18 | 36 | 75 | 39 |
| **Total** | **55** | **117** | **79** | **152** | **253** | **247** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.23

## Foreign exchange turnover by execution method in April 2010[1]

**Daily averages, in millions of US dollars**

| | Inter-dealer direct | Customer direct | Electronic Trading Systems | | Multibank dealing systems | Voice broker |
|---|---|---|---|---|---|---|
| | | | Electronic Broking System | Single-bank proprietary platforms | | |
| Spot | 237,433 | 343,390 | 413,502 | 227,733 | 231,199 | 136,271 |
| Outright forwards | 76,530 | 178,371 | 46,365 | 84,614 | 69,329 | 38,432 |
| FX swaps | 403,454 | 369,321 | 302,338 | 145,580 | 152,942 | 452,761 |
| FX options | 46,043 | 109,284 | 12,729 | 12,525 | 4,198 | 29,388 |

[1] Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. Adjusted for local and cross-boder inter-dealer double-counting (ie "net-net" basis). Due to incomplete allocation by execution method, components do not sum to the aggregates published in Table D.1.

Table E.24

# 2. Amounts outstanding at end-June 2010

## Notional amounts outstanding of OTC foreign exchange by instrument, counterparty and currency at end-June 2010[1]

### All currencies

**In millions of US dollars**

| | Total | US dollar | Euro | Yen | Pound sterling |
|---|---|---|---|---|---|
| **Forwards and swaps** | **31,935,312** | **27,775,021** | **10,825,619** | **4,633,047** | **4,031,984** |
| with reporting dealers | 10,178,437 | 9,356,050 | 3,210,128 | 1,743,162 | 1,034,301 |
| with other financial institutions | 15,065,960 | 13,290,515 | 4,781,705 | 2,056,037 | 2,034,589 |
| with non-financial customers | 6,690,924 | 5,128,459 | 2,833,794 | 833,848 | 963,101 |
| **Currency swaps** | **18,890,095** | **16,430,215** | **7,702,510** | **3,777,790** | **2,394,091** |
| with reporting dealers | 7,906,256 | 7,203,382 | 3,047,769 | 1,977,914 | 936,423 |
| with other financial institutions | 8,611,532 | 7,446,154 | 3,488,850 | 1,316,708 | 1,088,792 |
| with non-financial customers | 2,372,315 | 1,780,678 | 1,165,888 | 483,164 | 368,872 |
| **Options sold** | **8,550,830** | **6,806,025** | **2,922,539** | **3,119,424** | **672,804** |
| with reporting dealers | 4,826,250 | 3,793,261 | 1,596,739 | 1,971,487 | 355,646 |
| with other financial institutions | 2,393,299 | 1,924,467 | 768,618 | 772,861 | 201,611 |
| with non-financial customers | 1,331,289 | 1,088,298 | 557,187 | 375,076 | 115,548 |
| **Options bought** | **8,414,627** | **6,638,007** | **2,842,115** | **3,101,505** | **637,739** |
| with reporting dealers | 4,891,384 | 3,863,850 | 1,569,578 | 2,069,455 | 351,056 |
| with other financial institutions | 2,235,461 | 1,738,668 | 751,132 | 723,255 | 176,147 |
| with non-financial customers | 1,287,794 | 1,035,490 | 521,405 | 308,797 | 110,536 |
| **Total options** | **12,106,637** | **9,615,479** | **4,181,502** | **4,200,459** | **957,194** |
| **Other products** | **1,075** | … | **...** | **...** | **...** |
| **Total contracts** | **62,933,119** | **53,820,715** | **22,709,631** | **12,611,296** | **7,383,269** |

For footnotes, see facing page.

Table E.25

## Notional amounts outstanding of OTC foreign exchange by instrument, counterparty and currency at end-June 2010[1]

### All currencies

**In millions of US dollars**

| Swiss franc | Canadian dollar | Swedish krona | Other currencies[2] | |
|---|---|---|---|---|
| **2,395,214** | **1,656,914** | **1,001,917** | **11,550,908** | **Forwards and swaps** |
| 1,030,850 | 428,130 | 277,289 | 3,276,964 | with reporting dealers |
| 910,873 | 823,115 | 359,718 | 5,875,368 | with other financial institutions |
| 453,499 | 405,673 | 364,914 | 2,398,560 | with non-financial customers |
| **963,087** | **825,386** | **451,473** | **5,235,638** | **Currency swaps** |
| 408,002 | 261,087 | 180,591 | 1,797,344 | with reporting dealers |
| 427,957 | 364,771 | 208,136 | 2,881,696 | with other financial institutions |
| 127,129 | 199,525 | 62,745 | 556,629 | with non-financial customers |
| **690,313** | **220,762** | **94,878** | **2,574,915** | **Options sold** |
| 407,859 | 117,821 | 53,564 | 1,356,123 | with reporting dealers |
| 199,774 | 65,916 | 22,968 | 830,383 | with other financial institutions |
| 82,683 | 37,022 | 18,344 | 388,420 | with non-financial customers |
| **675,505** | **214,614** | **94,338** | **2,625,431** | **Options bought** |
| 401,545 | 116,427 | 52,377 | 1,358,480 | with reporting dealers |
| 181,050 | 62,652 | 21,877 | 816,141 | with other financial institutions |
| 92,911 | 35,534 | 20,084 | 450,831 | with non-financial customers |
| **961,114** | **318,253** | **136,249** | **3,843,024** | **Total options** |
| **...** | **...** | **...** | **2,150** | **Other products** |
| **4,319,415** | **2,800,553** | **1,589,639** | **20,631,720** | **Total contracts** |

[1] Data adjusted for inter-dealer double-counting. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. Due to incomplete counterparty breakdown, components do not always add to totals. [2] Calculated as the difference between the total and the sum of the listed components.

Table E.25 (cont)

## Gross market values of OTC foreign exchange by instrument, counterparty and currency at end-June 2010[1]

### All currencies

**In millions of US dollars**

| | Total | US dollar | Euro | Yen | Pound sterling |
|---|---|---|---|---|---|
| Positive market values | | | | | |
| **Forwards and FX swaps** | **886,143** | **694,135** | **366,976** | **143,339** | **190,548** |
| with reporting dealers | 452,804 | 353,002 | 183,794 | 80,149 | 116,375 |
| with other financial institutions | 280,336 | 227,528 | 108,798 | 40,581 | 50,984 |
| with non-financial customers | 152,997 | 113,603 | 74,384 | 22,605 | 23,191 |
| **Currency swaps** | **864,547** | **672,975** | **362,928** | **207,179** | **154,955** |
| with reporting dealers | 461,548 | 382,283 | 180,273 | 132,325 | 75,042 |
| with other financial institutions | 286,332 | 213,048 | 123,840 | 47,651 | 55,785 |
| with non-financial customers | 116,668 | 77,643 | 58,815 | 27,201 | 24,118 |
| **Options bought** | **335,921** | **254,349** | **115,237** | **161,383** | **16,869** |
| with reporting dealers | 202,042 | 157,875 | 64,934 | 108,936 | 9,309 |
| with other financial institutions | 75,061 | 50,694 | 28,978 | 23,598 | 4,256 |
| with non-financial customers | 58,813 | 45,785 | 21,328 | 28,845 | 3,304 |
| **Total contracts** | **2,086,628** | **1,621,464** | **845,153** | **511,901** | **362,369** |
| Negative market values | | | | | |
| **Forwards and FX swaps** | **970,183** | **655,740** | **357,968** | **133,335** | **441,190** |
| with reporting dealers | 526,723 | 338,266 | 172,655 | 75,813 | 294,661 |
| with other financial institutions | 305,737 | 221,968 | 122,299 | 40,430 | 109,636 |
| with non-financial customers | 137,723 | 95,510 | 63,022 | 17,097 | 36,894 |
| **Currency swaps** | **990,369** | **760,281** | **405,837** | **221,474** | **245,356** |
| with reporting dealers | 482,579 | 382,879 | 178,075 | 115,866 | 134,815 |
| with other financial institutions | 357,979 | 273,916 | 151,627 | 74,242 | 75,519 |
| with non-financial customers | 149,810 | 103,487 | 76,133 | 31,360 | 35,017 |
| **Options sold** | **324,478** | **241,261** | **118,773** | **140,713** | **23,164** |
| with reporting dealers | 204,158 | 156,468 | 68,435 | 109,170 | 11,573 |
| with other financial institutions | 79,165 | 53,085 | 30,762 | 21,754 | 7,073 |
| with non-financial customers | 41,155 | 31,710 | 19,576 | 9,790 | 4,516 |
| **Total contracts** | **2,285,052** | **1,657,299** | **882,592** | **495,525** | **709,717** |

For footnotes, see facing page.

Table E.26

## Gross market values of OTC foreign exchange by instrument, counterparty and currency at end-June 2010[1]

### All currencies

**In millions of US dollars**

| Swiss franc | Canadian dollar | Swedish krona | Other currencies[2] | |
|---|---|---|---|---|
| Positive market values | | | | |
| **73,787** | **38,268** | **19,931** | **245,302** | **Forwards and FX swaps** |
| 42,035 | 16,569 | 8,997 | 104,687 | with reporting dealers |
| 22,020 | 13,718 | 5,334 | 91,709 | with other financial institutions |
| 9,731 | 7,979 | 5,597 | 48,904 | with non-financial customers |
| **45,805** | **35,784** | **10,518** | **238,950** | **Currency swaps** |
| 23,469 | 13,216 | 6,234 | 110,254 | with reporting dealers |
| 16,603 | 12,783 | 2,947 | 100,007 | with other financial institutions |
| 5,733 | 9,780 | 1,332 | 28,714 | with non-financial customers |
| **26,589** | **5,333** | **1,949** | **90,133** | **Options bought** |
| 16,327 | 2,908 | 929 | 42,866 | with reporting dealers |
| 7,286 | 1,617 | 511 | 33,182 | with other financial institutions |
| 2,976 | 812 | 510 | 14,066 | with non-financial customers |
| **146,183** | **79,387** | **32,400** | **574,399** | **Total contracts** |
| Negative market values | | | | |
| **65,177** | **39,186** | **19,731** | **228,039** | **Forwards and FX swaps** |
| 37,246 | 16,808 | 10,100 | 107,897 | with reporting dealers |
| 16,405 | 14,252 | 4,938 | 81,546 | with other financial institutions |
| 11,525 | 8,124 | 4,693 | 38,581 | with non-financial customers |
| **56,142** | **35,960** | **13,027** | **242,661** | **Currency swaps** |
| 22,670 | 11,827 | 7,148 | 111,878 | with reporting dealers |
| 21,070 | 13,137 | 3,683 | 102,764 | with other financial institutions |
| 12,401 | 10,994 | 2,192 | 28,036 | with non-financial customers |
| **26,033** | **6,008** | **2,224** | **90,780** | **Options sold** |
| 15,953 | 2,966 | 899 | 42,852 | with reporting dealers |
| 7,357 | 2,055 | 866 | 35,378 | with other financial institutions |
| 2,718 | 983 | 455 | 12,562 | with non-financial customers |
| **147,353** | **81,155** | **34,986** | **561,477** | **Total contracts** |

[1] Counterparty breakdown partially estimated. [2] Calculated as the difference between the total and the sum of the listed components.

Table E.26 (cont)

## Notional amounts outstanding of OTC foreign exchange by instrument, counterparty and remaining maturity at end-June 2010[1]

**In millions of US dollars**

| | Total | One year or less | Over 1 year and up to 5 years | Over 5 years |
|---|---|---|---|---|
| **Forwards and swaps** | **50,825,407** | **32,282,575** | **10,159,882** | **8,389,912** |
| with reporting dealers | 18,084,693 | 11,714,146 | 4,059,140 | 2,305,296 |
| with other financial institutions | 23,677,492 | 14,051,372 | 4,514,795 | 5,102,349 |
| with non-financial customers | 9,063,239 | 6,494,612 | 1,585,296 | 982,247 |
| **Options sold** | **8,550,830** | **6,128,066** | **1,939,216** | **483,556** |
| with reporting dealers | 4,826,250 | 3,275,891 | 1,216,854 | 330,780 |
| with other financial institutions | 2,393,299 | 1,867,443 | 440,450 | 85,375 |
| with non-financial customers | 1,331,289 | 982,604 | 280,373 | 67,402 |
| **Options bought** | 8,414,627 | **5,560,605** | **1,872,315** | **981,749** |
| with reporting dealers | **4,891,384** | 3,325,528 | 1,237,236 | 327,636 |
| with other financial institutions | 2,235,461 | 1,271,612 | 391,104 | 572,726 |
| with non-financial customers | 1,287,794 | 961,463 | 242,414 | 81,390 |
| **Total options** | 12,106,637 | **8,387,966** | **2,584,491** | **1,136,101** |
| **Other products** | **1,075** | **...** | **...** | **...** |
| **Total contracts** | **62,933,119** | **40,670,527** | **12,744,367** | **9,526,012** |
| **Total contracts including gold** | **63,602,498** | **...** | **...** | **...** |

[1] Data adjusted for inter-dealer double-counting. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. Due to incomplete allocation, the maturity breakdown does not always sum to totals.

Table E.27

## Notional amounts outstanding of OTC foreign exchange by instrument and counterparty at end-June 2004, 2007 and 2010[1]

**In millions of US dollars**

| | End-June 2004 | | End-June 2007 | | End-June 2010 | |
|---|---|---|---|---|---|---|
| | **Notional amounts outstanding** | **Gross market values** | **Notional amounts outstanding** | **Gross market values** | **Notional amounts outstanding** | **Gross market values** |
| **Forwards and FX swaps** | **16,763,791** | **459,617** | **29,775,280** | **667,587** | **31,935,312** | **1,329,600** |
| with reporting dealers | 6,834,095 | 191,668 | 10,580,077 | 254,317 | 10,178,437 | 452,804 |
| with other financial institutions | 6,579,777 | 165,060 | 12,280,687 | 256,313 | 15,065,960 | 586,073 |
| with non-financial customers | 3,349,930 | 102,886 | 6,914,531 | 156,973 | 6,690,924 | 290,720 |
| **Total including gold** | 16,920,203 | ... | 30,486,523 | ... | 32,320,119 | ... |
| **Currency swaps** | **7,938,591** | **505,366** | **14,130,193** | **666,201** | **18,890,095** | **1,372,342** |
| with reporting dealers | 3,078,941 | 114,194 | 5,714,743 | 174,697 | 7,906,256 | 461,548 |
| with other financial institutions | 3,112,463 | 229,223 | 5,941,666 | 308,004 | 8,611,532 | 644,311 |
| with non-financial customers | 1,747,196 | 161,950 | 2,473,788 | 183,495 | 2,372,315 | 266,478 |
| **Options sold** | **4,702,476** | **98,624** | **9,915,023** | **204,856** | **8,550,830** | **324,478** |
| with reporting dealers | 2,565,614 | 50,516 | 6,127,064 | 124,230 | 4,826,250 | 204,158 |
| with other financial institutions | 1,144,366 | 22,220 | 2,282,195 | 49,391 | 2,393,299 | 79,165 |
| with non-financial customers | 992,505 | 25,895 | 1,505,781 | 31,238 | 1,331,289 | 41,155 |
| **Total including gold** | 4,792,802 | ... | 10,066,243 | ... | 8,722,762 | ... |
| **Options bought** | **4,646,972** | **100,603** | **9,880,162** | **197,877** | **8,414,627** | **335,921** |
| with reporting dealers | 2,554,475 | 52,989 | 6,139,281 | 125,530 | 4,891,384 | 202,042 |
| with other financial institutions | 1,102,087 | 20,518 | 2,215,249 | 44,442 | 2,235,461 | 75,061 |
| with non-financial customers | 990,416 | 27,100 | 1,525,647 | 27,909 | 1,287,794 | 58,813 |
| **Total including gold** | 4,804,363 | ... | 10,144,470 | ... | 8,590,477 | ... |
| **Total options** | **6,789,401** | **148,712** | **13,662,018** | **278,507** | **12,106,637** | **456,243** |
| **Other products** | **7,229** | **...** | **36,724** | **...** | **1,075** | **...** |
| **Total contracts** | **31,499,012** | **1,113,695** | **57,604,215** | **1,612,295** | **62,933,119** | **3,158,185** |
| **Total contracts including gold** | **31,857,932** | **1,159,925** | **58,655,148** | **1,668,515** | **63,602,238** | **3,212,349** |

[1] Data adjusted for inter-dealer double-counting. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. The counterparty breakdown for the gross market values was estimated.

Table E.28

# Table 1
## Global foreign exchange market turnover by instrument[1]

Average daily turnover in April, in billions of US dollars

| Instrument | 1998 | 2001 | 2004 | 2007 | 2010 |
|---|---|---|---|---|---|
| **Foreign exchange instruments** | **1,527** | **1,239** | **1,934** | **3,324** | **3,981** |
| Spot transactions[2] | 568 | 386 | 631 | 1,005 | 1,490 |
| Outright forwards[2] | 128 | 130 | 209 | 362 | 475 |
| Foreign exchange swaps[2] | 734 | 656 | 954 | 1,714 | 1,765 |
| Currency swaps | 10 | 7 | 21 | 31 | 43 |
| Options and other products[3] | 87 | 60 | 119 | 212 | 207 |
| *Memo:* | | | | | |
| *Turnover at April 2010 exchange rates [4]* | *1,705* | *1,505* | *2,040* | *3,370* | *3,981* |
| *Exchange-traded derivatives [5]* | *11* | *12* | *26* | *80* | *168* |

[1] Adjusted for local and cross-border inter-dealer double-counting (ie “net-net” basis). [2] Previously classified as part of the so-called "Traditional FX market". [3] The category "other FX products" covers highly leveraged transactions and/or trades whose notional amount is variable and where a decomposition into individual plain vanilla components was impractical or impossible. [4] Non-US dollar legs of foreign currency transactions were converted into original currency amounts at average exchange rates for April of each survey year and then reconverted into US dollar amounts at average April 2010 exchange rates. [5] Sources: FOW TRADEdata; Futures Industry Association; various futures and options exchanges. Reported monthly data were converted into daily averages of 20.5 days in 1998, 19.5 days in 2001, 20.5 in 2004, 20 in 2007 and 20 in 2010.

# Table 2

## Global foreign exchange market turnover by instrument, counterparty and maturity[1]

Daily averages in April, in billions of US dollars and percentages

| Instrument/counterparty/ maturity | 1998 | | 2001 | | 2004 | | 2007 | | 2010 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % |
| **Spot** | **568** | **37** | **386** | **31** | **631** | **33** | **1,005** | **30** | **1,490** | **37** |
| with reporting dealers | 347 | 61 | 216 | 56 | 310 | 49 | 426 | 42 | 518 | 35 |
| with other financial institutions | 121 | 21 | 111 | 29 | 213 | 34 | 394 | 39 | 755 | 51 |
| with non-financial customers | 99 | 18 | 58 | 15 | 108 | 17 | 184 | 18 | 217 | 15 |
| **Outright forwards** | **128** | **8** | **130** | **11** | **209** | **11** | **362** | **11** | **475** | **12** |
| with reporting dealers | 49 | 38 | 52 | 40 | 73 | 35 | 96 | 27 | 113 | 24 |
| with other financial institutions | 34 | 27 | 41 | 31 | 80 | 38 | 159 | 44 | 254 | 54 |
| with non-financial customers | 44 | 35 | 37 | 29 | 56 | 27 | 107 | 30 | 108 | 23 |
| **Foreign exchange swaps** | **734** | **48** | **656** | **53** | **954** | **49** | **1,714** | **52** | **1,765** | **44** |
| with reporting dealers | 511 | 70 | 419 | 64 | 573 | 60 | 796 | 46 | 837 | 47 |
| with other financial institutions | 124 | 17 | 177 | 27 | 293 | 31 | 682 | 40 | 758 | 43 |
| with non-financial customers | 98 | 13 | 60 | 9 | 89 | 9 | 236 | 14 | 170 | 10 |
| **Currency swaps** | **10** | **1** | **7** | **1** | **21** | **1** | **31** | **1** | **43** | **1** |
| with reporting dealers | 5 | 55 | 4 | 53 | 12 | 58 | 12 | 39 | 20 | 47 |
| with other financial institutions | 2 | 23 | 2 | 21 | 5 | 23 | 13 | 41 | 19 | 45 |
| with non-financial customers | 2 | 22 | 2 | 25 | 3 | 14 | 6 | 20 | 4 | 8 |
| **FX options and other instruments[2]** | **87** | **6** | **60** | **5** | **119** | **6** | **212** | **6** | **207** | **5** |
| with reporting dealers | 48 | 55 | 28 | 47 | 49 | 41 | 62 | 29 | 60 | 29 |
| with other financial institutions | 18 | 20 | 15 | 26 | 44 | 37 | 91 | 43 | 113 | 55 |
| with non-financial customers | 21 | 24 | 16 | 27 | 21 | 18 | 59 | 28 | 33 | 16 |
| **Total** | **1,527** | **100** | **1,239** | **100** | **1,934** | **100** | **3,324** | **100** | **3,981** | **100** |
| with reporting dealers | 961 | 63 | 719 | 58 | 1,018 | 53 | 1,392 | 42 | 1,548 | 39 |
| with other financial institutions | 299 | 20 | 346 | 28 | 634 | 33 | 1,339 | 40 | 1,900 | 48 |
| with non-financial customers | 266 | 17 | 174 | 14 | 276 | 14 | 593 | 18 | 533 | 13 |
| Local | 698 | 46 | 525 | 42 | 743 | 38 | 1,274 | 38 | 1,395 | 35 |
| Cross-border | 828 | 54 | 713 | 58 | 1,185 | 61 | 2,051 | 62 | 2,586 | 65 |
| **Outright forwards** | **128** | **100** | **130** | **100** | **209** | **100** | **362** | **100** | **475** | **100** |
| Up to 7 days | 65 | 51 | 51 | 39 | 92 | 44 | 154 | 43 | 219 | 46 |
| Over 7 days and up to 1 year | 57 | 45 | 76 | 58 | 111 | 53 | 200 | 55 | 245 | 52 |
| Over 1 year | 5 | 4 | 4 | 3 | 5 | 3 | 7 | 2 | 11 | 2 |
| **Foreign exchange swaps** | **734** | **100** | **656** | **100** | **954** | **100** | **1,714** | **100** | **1,765** | **100** |
| Up to 7 days | 528 | 72 | 451 | 69 | 700 | 73 | 1,329 | 78 | 1,304 | 74 |
| Over 7 days and up to 1 year | 192 | 26 | 196 | 30 | 242 | 25 | 365 | 21 | 444 | 25 |
| Over 1 year | 10 | 1 | 8 | 1 | 10 | 1 | 18 | 1 | 15 | 1 |

[1] Adjusted for local and cross-border inter-dealer double-counting (ie “net-net” basis). Due to incomplete reporting, components do not always add up to totals. [2] The category "other FX products" covers highly leveraged transactions and/or trades whose notional amount is variable and where a decomposition into individual plain vanilla components was impractical or impossible.

## Table 3

### Currency distribution of global foreign exchange market turnover[1]

Percentage shares of average daily turnover in April

| Currency | 1998 | 2001 | 2004 | 2007 | 2010 |
|---|---|---|---|---|---|
| US dollar | 86.8 | 89.9 | 88.0 | 85.6 | 84.9 |
| Euro | ... | 37.9 | 37.4 | 37.0 | 39.1 |
| Deutsche mark | 30.5 | ... | ... | ... | ... |
| French franc | 5.0 | ... | ... | ... | ... |
| ECU and other EMS currencies | 16.8 | ... | ... | ... | ... |
| Slovak koruna[2] | ... | 0.0 | 0.0 | 0.1 | ... |
| Japanese yen | 21.7 | 23.5 | 20.8 | 17.2 | 19.0 |
| Pound sterling | 11.0 | 13.0 | 16.5 | 14.9 | 12.9 |
| Australian dollar | 3.0 | 4.3 | 6.0 | 6.6 | 7.6 |
| Swiss franc | 7.1 | 6.0 | 6.0 | 6.8 | 6.4 |
| Canadian dollar | 3.5 | 4.5 | 4.2 | 4.3 | 5.3 |
| Hong Kong dollar[3, 4] | 1.0 | 2.2 | 1.8 | 2.7 | 2.4 |
| Swedish krona[5] | 0.3 | 2.5 | 2.2 | 2.7 | 2.2 |
| New Zealand dollar[3, 4] | 0.2 | 0.6 | 1.1 | 1.9 | 1.6 |
| Korean won[3,4] | 0.2 | 0.8 | 1.1 | 1.2 | 1.5 |
| Singapore dollar[3] | 1.1 | 1.1 | 0.9 | 1.2 | 1.4 |
| Norwegian krone[3] | 0.2 | 1.5 | 1.4 | 2.1 | 1.3 |
| Mexican peso[3] | 0.5 | 0.8 | 1.1 | 1.3 | 1.3 |
| Indian rupee[3,4] | 0.1 | 0.2 | 0.3 | 0.7 | 0.9 |
| Russian Rouble[3] | 0.3 | 0.3 | 0.6 | 0.7 | 0.9 |
| Chinese renminbi[4] | 0.0 | 0.0 | 0.1 | 0.5 | 0.9 |
| Polish zloty[3] | 0.1 | 0.5 | 0.4 | 0.8 | 0.8 |
| Turkish new lira[2] | ... | 0.0 | 0.1 | 0.2 | 0.7 |
| South African rand[3, 4] | 0.4 | 0.9 | 0.7 | 0.9 | 0.7 |
| Brazilian real[3, 4] | 0.2 | 0.5 | 0.3 | 0.4 | 0.7 |
| Danish krone[3] | 0.3 | 1.2 | 0.9 | 0.8 | 0.6 |
| New Taiwan dollar[3] | 0.1 | 0.3 | 0.4 | 0.4 | 0.5 |
| Hungarian forint[3] | 0.0 | 0.0 | 0.2 | 0.3 | 0.4 |
| Malaysian ringgit[2] | 0.0 | 0.1 | 0.1 | 0.1 | 0.3 |
| Thai baht[3] | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 |
| Czech koruna[3] | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 |
| Philipine peso[2] | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 |
| Chilean peso[2] | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 |
| Indonesian rupiah[2] | 0.1 | 0.0 | 0.1 | 0.1 | 0.2 |
| Israeli new shekel[2] | ... | 0.1 | 0.1 | 0.2 | 0.2 |
| Colombian peso[2] | ... | 0.0 | 0.0 | 0.1 | 0.1 |
| Saudi Riyal[2] | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 |
| Other currencies | 8.9 | 6.5 | 6.6 | 7.6 | 4.8 |
| **All currencies** | **200.0** | **200.0** | **200.0** | **200.0** | **200.0** |

[1] Because two currencies are involved in each transaction, the sum of the percentage shares of individual currencies totals 200% instead of 100%. Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). [2] Data previous to 2007 cover local home currency trading only. [3] For 1998, the data cover local home currency trading only. [4] Included as main currency from 2010. For more details on the set of new currencies covered by the 2010 survey, see the statistical notes in Section IV. [5] For 1998, the data cover local home currency trading only. Included as main currency from 2007.

# Table 4

## Global foreign exchange market turnover by currency pair[1]

Daily averages in April, in billions of US dollars and percentages

| Currency pair | 1998 | | 2001 | | 2004 | | 2007 | | 2010 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % |
| USD/EUR | . | . | 372 | 30 | 541 | 28 | 892 | 27 | 1,101 | 28 |
| USD/DEM | 309 | 20 | . | . | . | . | . | . | . | . |
| USD/FRF | 60 | 4 | . | . | . | . | . | . | . | . |
| USD/XEU | 17 | 1 | . | . | . | . | . | . | . | . |
| USD/OthEMS | 178 | 12 | . | . | . | . | . | . | . | . |
| USD/JPY | 292 | 19 | 250 | 20 | 328 | 17 | 438 | 13 | 568 | 14 |
| USD/Oth | 140 | 9 | 152 | 12 | 251 | 13 | 498 | 15 | 445 | 11 |
| USD/GBP | 122 | 8 | 129 | 10 | 259 | 13 | 384 | 12 | 360 | 9 |
| USD/AUD | 44 | 3 | 51 | 4 | 107 | 6 | 185 | 6 | 249 | 6 |
| USD/CAD | 52 | 3 | 54 | 4 | 77 | 4 | 126 | 4 | 182 | 5 |
| USD/CHF | 82 | 5 | 59 | 5 | 83 | 4 | 151 | 5 | 168 | 4 |
| EUR/JPY | . | . | 36 | 3 | 61 | 3 | 86 | 3 | 111 | 3 |
| EUR/GBP | . | . | 27 | 2 | 47 | 2 | 69 | 2 | 109 | 3 |
| EUR/Oth | 0 | 0 | 17 | 1 | 35 | 2 | 83 | 2 | 102 | 3 |
| USD/HKD[2] | 14 | 1 | 19 | 2 | 19 | 1 | 51 | 2 | 85 | 2 |
| EUR/CHF | . | . | 13 | 1 | 30 | 2 | 62 | 2 | 72 | 2 |
| USD/KRW[2] | 2 | 0 | 8 | 1 | 16 | 1 | 25 | 1 | 58 | 1 |
| JPY/Oth | 9 | 1 | 4 | 0 | 11 | 1 | 43 | 1 | 49 | 1 |
| USD/SEK[3] | 3 | 0 | 6 | 0 | 7 | 0 | 57 | 2 | 45 | 1 |
| USD/INR[2] | 1 | 0 | 3 | 0 | 5 | 0 | 17 | 1 | 36 | 1 |
| EUR/SEK[3] | . | . | 3 | 0 | 3 | 0 | 24 | 1 | 35 | 1 |
| USD/CNY[2] | 0 | 0 | . | . | 1 | 0 | 9 | 0 | 31 | 1 |
| USD/BRL[2] | 3 | 0 | 5 | 0 | 3 | 0 | 5 | 0 | 25 | 1 |
| USD/ZAR[2] | 6 | 0 | 7 | 1 | 6 | 0 | 7 | 0 | 24 | 1 |
| JPY/AUD[2] | 1 | 0 | 1 | 0 | 3 | 0 | 6 | 0 | 24 | 1 |
| EUR/CAD | . | . | 1 | 0 | 2 | 0 | 7 | 0 | 14 | 0 |
| EUR/AUD | . | . | 1 | 0 | 4 | 0 | 9 | 0 | 12 | 0 |
| JPY/NZD[2] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| DEM/JPY | 30 | 2 | . | . | . | . | . | . | . | . |
| DEM/GBP | 36 | 2 | . | . | . | . | . | . | . | . |
| DEM/CHF | 21 | 1 | . | . | . | . | . | . | . | . |
| DEM/FRF | 10 | 1 | . | . | . | . | . | . | . | . |
| DEM/XEU | 3 | 0 | . | . | . | . | . | . | . | . |
| DEM/OthEMS | 37 | 2 | . | . | . | . | . | . | . | . |
| DEM/Oth | 22 | 1 | . | . | . | . | . | . | . | . |
| OthEMS[4] | 4 | 0 | . | . | . | . | . | . | . | . |
| Other pairs | 30 | 2 | 23 | 2 | 36 | 2 | 90 | 3 | 72 | 2 |
| All currency pairs | 1,527 | 100 | 1,239 | 100 | 1,934 | 100 | 3,324 | 100 | 3,981 | 100 |

[1] Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). [2] Included as main currency pair from 2010. For more details on the set of currency pairs covered by the 2010 survey, see the statistical notes in Section IV. [3] Included as main currency pair from 2007. [4] OthEMS/OthEMS: the data cover local home currency trading only.

# Table 5

## Geographical distribution of global foreign exchange market turnover[1]

Daily averages in April, in billions of US dollars and percentages

| Country | 1995 | | 1998 | | 2001 | | 2004 | | 2007 | | 2010 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % |
| Argentina | … | … | 2.2 | 0.1 | … | … | 0.7 | 0.0 | 1.1 | 0.0 | 1.6 | 0.0 |
| Australia | 40.5 | 2.5 | 48.3 | 2.3 | 54.0 | 3.2 | 107.1 | 4.1 | 176.3 | 4.1 | 192.1 | 3.8 |
| Austria | 13.5 | 0.8 | 11.8 | 0.6 | 8.4 | 0.5 | 14.6 | 0.6 | 18.8 | 0.4 | 19.5 | 0.4 |
| Bahrain | 3.2 | 0.2 | 2.6 | 0.1 | 3.0 | 0.2 | 2.7 | 0.1 | 3.2 | 0.1 | 4.5 | 0.1 |
| Belgium | 28.5 | 1.7 | 27.3 | 1.3 | 10.4 | 0.6 | 20.8 | 0.8 | 50.1 | 1.2 | 32.5 | 0.6 |
| Brazil[2] | … | … | 5.1 | 0.2 | 5.5 | 0.3 | 3.8 | 0.1 | 5.8 | 0.1 | 14.1 | 0.3 |
| Bulgaria | … | … | … | … | … | … | … | … | 0.5 | 0.0 | 0.9 | 0.0 |
| Canada | 30.7 | 1.9 | 37.9 | 1.8 | 44.2 | 2.6 | 59.3 | 2.3 | 64.0 | 1.5 | 61.9 | 1.2 |
| Chile | … | … | 1.3 | 0.1 | 2.3 | 0.1 | 2.5 | 0.1 | 4.0 | 0.1 | 5.5 | 0.1 |
| China[3] | … | … | 0.2 | 0.0 | … | … | 0.6 | 0.0 | 9.3 | 0.2 | 19.8 | 0.4 |
| Chinese Taipei | … | … | 4.9 | 0.2 | 4.8 | 0.3 | 9.5 | 0.4 | 15.5 | 0.4 | 18.0 | 0.4 |
| Colombia | … | … | … | … | 0.4 | 0.0 | 0.8 | 0.0 | 1.9 | 0.0 | 2.8 | 0.1 |
| Czech Republic | … | … | 5.1 | 0.2 | 2.1 | 0.1 | 2.4 | 0.1 | 5.0 | 0.1 | 5.1 | 0.1 |
| Denmark | 31.8 | 1.9 | 28.0 | 1.3 | 23.8 | 1.4 | 42.1 | 1.6 | 88.2 | 2.1 | 120.5 | 2.4 |
| Estonia | … | … | … | … | … | … | 0.2 | 0.0 | 1.3 | 0.0 | 1.1 | 0.0 |
| Finland | 5.4 | 0.3 | 4.4 | 0.2 | 1.6 | 0.1 | 1.8 | 0.1 | 8.3 | 0.2 | 31.3 | 0.6 |
| France | 61.5 | 3.8 | 77.2 | 3.7 | 49.6 | 2.9 | 66.5 | 2.6 | 126.8 | 3.0 | 151.6 | 3.0 |
| Germany | 79.2 | 4.8 | 99.6 | 4.7 | 91.5 | 5.4 | 120.4 | 4.6 | 101.4 | 2.4 | 108.6 | 2.1 |
| Greece | 3.3 | 0.2 | 7.2 | 0.3 | 4.8 | 0.3 | 4.3 | 0.2 | 5.0 | 0.1 | 5.2 | 0.1 |
| Hong Kong SAR | 90.9 | 5.6 | 79.9 | 3.8 | 68.4 | 4.0 | 106.0 | 4.1 | 181.0 | 4.2 | 237.6 | 4.7 |
| Hungary | … | … | 1.4 | 0.1 | 0.6 | 0.0 | 2.8 | 0.1 | 6.9 | 0.2 | 4.2 | 0.1 |
| India | … | … | 2.4 | 0.1 | 3.4 | 0.2 | 6.9 | 0.3 | 38.4 | 0.9 | 27.4 | 0.5 |
| Indonesia | … | … | 1.8 | 0.1 | 3.9 | 0.2 | 2.3 | 0.1 | 3.0 | 0.1 | 3.4 | 0.1 |
| Ireland | 4.9 | 0.3 | 10.7 | 0.5 | 8.7 | 0.5 | 7.5 | 0.3 | 11.4 | 0.3 | 14.6 | 0.3 |
| Israel | … | … | … | … | 1.5 | 0.1 | 5.0 | 0.2 | 8.4 | 0.2 | 10.0 | 0.2 |
| Italy | 24.2 | 1.5 | 28.6 | 1.4 | 17.6 | 1.0 | 23.5 | 0.9 | 37.6 | 0.9 | 28.6 | 0.6 |
| Japan | 167.7 | 10.3 | 146.3 | 7.0 | 152.7 | 9.0 | 207.4 | 8.0 | 250.2 | 5.8 | 312.3 | 6.2 |
| Korea | … | … | 3.6 | 0.2 | 9.8 | 0.6 | 20.5 | 0.8 | 35.2 | 0.8 | 43.8 | 0.9 |
| Latvia | … | … | … | … | … | … | 2.0 | 0.1 | 2.6 | 0.1 | 2.2 | 0.0 |
| Lithuania | … | … | … | … | … | … | 1.0 | 0.0 | 1.0 | 0.0 | 1.2 | 0.0 |
| Luxembourg | 19.2 | 1.2 | 22.7 | 1.1 | 13.1 | 0.8 | 14.6 | 0.6 | 43.9 | 1.0 | 33.4 | 0.7 |
| Malaysia | … | … | 1.1 | 0.1 | 1.4 | 0.1 | 1.7 | 0.1 | 3.5 | 0.1 | 7.3 | 0.1 |
| Mexico | … | … | 8.7 | 0.4 | 8.6 | 0.5 | 15.3 | 0.6 | 15.3 | 0.4 | 17.0 | 0.3 |
| Netherlands | 26.6 | 1.6 | 42.8 | 2.0 | 30.5 | 1.8 | 52.1 | 2.0 | 24.8 | 0.6 | 18.3 | 0.4 |
| New Zealand | 7.2 | 0.4 | 7.0 | 0.3 | 4.0 | 0.2 | 7.0 | 0.3 | 12.8 | 0.3 | 8.8 | 0.2 |
| Norway | 7.6 | 0.5 | 8.9 | 0.4 | 13.0 | 0.8 | 14.5 | 0.6 | 32.1 | 0.7 | 22.2 | 0.4 |
| Peru | … | … | … | … | 0.2 | 0.0 | 0.3 | 0.0 | 0.8 | 0.0 | 1.4 | 0.0 |
| Philippines | … | … | 0.8 | 0.0 | 1.1 | 0.1 | 0.7 | 0.0 | 2.3 | 0.1 | 5.0 | 0.1 |
| Poland | … | … | 2.7 | 0.1 | 5.1 | 0.3 | 6.5 | 0.3 | 9.2 | 0.2 | 7.8 | 0.2 |
| Portugal | 2.4 | 0.1 | 4.4 | 0.2 | 1.7 | 0.1 | 1.9 | 0.1 | 4.3 | 0.1 | 3.7 | 0.1 |
| Romania | … | … | … | … | … | … | … | … | 2.5 | 0.1 | 3.2 | 0.1 |
| Russia | … | … | 6.9 | 0.3 | 9.6 | 0.6 | 29.8 | 1.1 | 50.2 | 1.2 | 41.7 | 0.8 |
| Saudi Arabia | … | … | 2.4 | 0.1 | 2.1 | 0.1 | 2.1 | 0.1 | 4.5 | 0.1 | 5.3 | 0.1 |
| Singapore | 107.3 | 6.6 | 144.9 | 6.9 | 103.7 | 6.1 | 133.6 | 5.1 | 241.8 | 5.6 | 266.0 | 5.3 |
| Slovakia | … | … | … | … | 0.8 | 0.0 | 1.6 | 0.1 | 3.5 | 0.1 | 0.4 | 0.0 |
| Slovenia | … | … | … | … | 0.1 | 0.0 | 0.1 | 0.0 | 0.3 | 0.0 | … | … |
| South Africa | 5.2 | 0.3 | 8.9 | 0.4 | 9.9 | 0.6 | 9.8 | 0.4 | 14.0 | 0.3 | 14.4 | 0.3 |
| Spain | 18.4 | 1.1 | 20.0 | 1.0 | 8.1 | 0.5 | 13.9 | 0.5 | 17.1 | 0.4 | 29.3 | 0.6 |
| Sweden | 20.4 | 1.2 | 16.1 | 0.8 | 24.9 | 1.5 | 31.9 | 1.2 | 43.9 | 1.0 | 44.8 | 0.9 |
| Switzerland | 88.4 | 5.4 | 91.6 | 4.4 | 76.3 | 4.5 | 85.3 | 3.3 | 253.6 | 5.9 | 262.6 | 5.2 |
| Thailand | … | … | 3.1 | 0.1 | 1.9 | 0.1 | 3.1 | 0.1 | 6.3 | 0.1 | 7.4 | 0.1 |
| Turkey | … | … | … | … | 1.0 | 0.1 | 3.5 | 0.1 | 4.1 | 0.1 | 16.8 | 0.3 |
| United Kingdom | 478.8 | 29.3 | 685.2 | 32.6 | 541.7 | 31.8 | 835.3 | 32.0 | 1,483.2 | 34.6 | 1,853.6 | 36.7 |
| United States | 265.8 | 16.3 | 383.4 | 18.3 | 272.6 | 16.0 | 498.6 | 19.1 | 745.2 | 17.4 | 904.4 | 17.9 |
| **Total** | **1,632.7** | **100.0** | **2,099.4** | **100.0** | **1,704.7** | **100.0** | **2,608.5** | **100.0** | **4,281.1** | **100.0** | **5,056.3** | **100.0** |

[1] Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Tables 1, 2, 3 and 4 are expressed on a "net-net" basis. Estimated coverage of the foreign exchange market ranged between 90% and 100% in most countries. [2] Data for 1998 only cover spot transactions. [3] Data from 1998 to 2004 only cover spot transactions.

## Table 6

## Global OTC interest rate derivatives market turnover by instrument[1]

Average daily turnover in April, in billions of US dollars

| Instrument | 1998 | 2001 | 2004 | 2007 | 2010 |
|---|---|---|---|---|---|
| **Interest rate instruments**[2] | **265** | **489** | **1,025** | **1,686** | **2,057** |
| FRAs | 74 | 129 | 233 | 258 | 600 |
| Swaps | 155 | 331 | 621 | 1,210 | 1,275 |
| Options and other instruments[3] | 36 | 29 | 171 | 217 | 182 |
| *Memo:* | | | | | |
| *Turnover at April 2010 exchange rates*[4] | *310* | *640* | *1,085* | *1,680* | *2,057* |
| *Exchange-traded derivatives*[5] | *1,381* | *2,188* | *4,524* | *6,099* | *8,142* |

[1] Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). [2] Single currency interest rate contracts only. [3] The category "other interest rate products" covers highly leveraged transactions and/or trades whose notional amount is variable and where a decomposition into individual plain vanilla components was impractical or impossible. [4] Non-US dollar legs of foreign currency transactions were converted into original currency amounts at average exchange rates for April of each survey year and then reconverted into US dollar amounts at average April 2010 exchange rates. [5] Sources: FOW TRADEdata; Futures Industry Association; various futures and options exchanges. Reported monthly data were converted into daily averages of 20.5 days in 1998, 19.5 days in 2001, 20.5 in 2004, 20 in 2007 and 20 in 2010.

## Table 7

## Gobal OTC interest rate market turnover by instrument, counterparty[1]

Daily averages in April, in billions of US dollars and percentages

| Instrument/counterparty | 1998 | | 2001 | | 2004 | | 2007 | | 2010 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % |
| **FRAs** | **74** | **28** | **129** | **26** | **233** | **23** | **258** | **15** | **600** | **29** |
| with reporting dealers | 46 | 61 | 88 | 68 | 112 | 48 | 143 | 55 | 296 | 49 |
| with other financial institutions | 21 | 29 | 37 | 28 | 113 | 48 | 89 | 34 | 267 | 44 |
| with non-financial customers | 7 | 10 | 5 | 4 | 8 | 3 | 27 | 10 | 37 | 6 |
| **Swaps** | **155** | **58** | **331** | **68** | **621** | **61** | **1,210** | **72** | **1,275** | **62** |
| with reporting dealers | 87 | 56 | 219 | 66 | 325 | 52 | 552 | 46 | 537 | 42 |
| with other financial institutions | 56 | 36 | 98 | 30 | 241 | 39 | 574 | 47 | 585 | 46 |
| with non-financial customers | 11 | 7 | 14 | 4 | 55 | 9 | 85 | 7 | 154 | 12 |
| **Options and other instruments[2]** | **36** | **14** | **29** | **6** | **171** | **17** | **217** | **13** | **182** | **9** |
| with reporting dealers | 17 | 46 | 16 | 55 | 57 | 34 | 106 | 49 | 65 | 36 |
| with other financial institutions | 12 | 32 | 7 | 26 | 96 | 56 | 85 | 39 | 86 | 47 |
| with non-financial customers | 8 | 21 | 5 | 18 | 16 | 9 | 24 | 11 | 30 | 16 |
| **Total** | **265** | **100** | **489** | **100** | **1,025** | **100** | **1,686** | **100** | **2,057** | **100** |
| with reporting dealers | 150 | 56 | 323 | 66 | 494 | 48 | 800 | 47 | 898 | 44 |
| with other financial institutions | 89 | 34 | 142 | 29 | 450 | 44 | 747 | 44 | 939 | 46 |
| with non-financial customers | 27 | 10 | 25 | 5 | 79 | 8 | 136 | 8 | 221 | 11 |
| Local | 133 | 50 | 207 | 42 | 414 | 40 | 564 | 33 | 757 | 37 |
| Cross-border | 132 | 50 | 282 | 58 | 609 | 59 | 1,120 | 66 | 1,300 | 63 |

[1] Adjusted for local and cross-border inter-dealer double-counting (ie “net-net” basis). Due to incomplete reporting, components do not always add up to totals. [2] The category "other interest rate products" covers highly leveraged transactions and/or trades whose notional amount is variable and where a decomposition into individual plain vanilla components was impractical or impossible.

# Table 8

## Global OTC interest rate derivatives turnover by currency[1]

Daily averages in April, in billions of US dollars

| Currency | 1998 | 2001 | 2004 | 2007 | 2010 |
|---|---|---|---|---|---|
| **FRAs** | **74** | **129** | **233** | **258** | **600** |
| US dollar | 23 | 39 | 59 | 98 | 282 |
| Euro | . | 48 | 116 | 66 | 202 |
| Japanese yen | 3 | 9 | 0 | 4 | 2 |
| Pound sterling | 8 | 12 | 25 | 42 | 53 |
| Swiss franc | 4 | 2 | 2 | 4 | 12 |
| Canadian dollar | 3 | 1 | 2 | 1 | 9 |
| Australian dollar | 2 | 4 | 5 | 3 | 8 |
| Swedish krona | 1 | 4 | 9 | 18 | 10 |
| Other | 31 | 10 | 16 | 22 | 22 |
| **Swaps** | **155** | **331** | **621** | **1,210** | **1,275** |
| US dollar | 36 | 100 | 195 | 322 | 302 |
| Euro | . | 173 | 288 | 528 | 562 |
| Japanese yen | 14 | 16 | 35 | 110 | 114 |
| Pound sterling | 8 | 23 | 59 | 124 | 142 |
| Swiss franc | 5 | 4 | 7 | 14 | 8 |
| Canadian dollar | 3 | 4 | 5 | 12 | 38 |
| Australian dollar | 1 | 4 | 7 | 14 | 28 |
| Swedish krona | 0 | 1 | 4 | 13 | 7 |
| Other | 87 | 5 | 20 | 74 | 73 |
| **Options and other instruments[2]** | **36** | **29** | **171** | **217** | **182** |
| US dollar | 12 | 12 | 93 | 113 | 70 |
| Euro | . | 11 | 57 | 62 | 70 |
| Japanese yen | 10 | 2 | 10 | 23 | 8 |
| Pound sterling | 1 | 2 | 6 | 6 | 19 |
| Swiss franc | 0 | 0 | 1 | 0 | 0 |
| Canadian dollar | 1 | 1 | 1 | 3 | 1 |
| Australian dollar | 0 | 0 | 1 | 1 | 1 |
| Swedish krona | 0 | 0 | 0 | 1 | 4 |
| Other | 11 | 0 | 1 | 6 | 8 |
| **Total** | **265** | **489** | **1,025** | **1,686** | **2,057** |
| US dollar | 71 | 152 | 347 | 532 | 654 |
| Euro | . | 232 | 461 | 656 | 835 |
| Japanese yen | 27 | 27 | 46 | 137 | 124 |
| Pound sterling | 17 | 37 | 90 | 172 | 214 |
| Swiss franc | 9 | 6 | 10 | 19 | 21 |
| Canadian dollar | 7 | 6 | 8 | 15 | 48 |
| Australian dollar | 3 | 8 | 12 | 19 | 37 |
| Swedish krona | 2 | 5 | 13 | 33 | 20 |
| Other | 129 | 16 | 38 | 102 | 103 |

[1] Adjusted for local and cross-border inter-dealer double-counting (ie “net-net” basis). Single currency interest rate contracts only. [2] The category "other interest rate products" covers highly leveraged transactions and/or trades whose notional amount is variable and where a decomposition into individual plain vanilla components was impractical or impossible.

# Table 9

## Geographical distribution of global interest rate derivatives turnover[1]

Daily averages in April, in billions of US dollars and percentages

| Country | 1998 | | 2001 | | 2004 | | 2007 | | 2010 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % |
| Argentina | 0.0 | 0.0 | … | … | … | … | 0.0 | 0.0 | 0.0 | 0.0 |
| Australia | 2.8 | 0.8 | 9.8 | 1.5 | 12.8 | 1.0 | 22.7 | 1.0 | 40.6 | 1.5 |
| Austria | 3.3 | 1.0 | 4.2 | 0.6 | 13.5 | 1.0 | 4.9 | 0.2 | 4.8 | 0.2 |
| Bahrain | 0.2 | 0.1 | 0.2 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Belgium | 4.9 | 1.4 | 14.1 | 2.1 | 30.5 | 2.3 | 21.6 | 1.0 | 10.0 | 0.4 |
| Brazil | … | … | 0.3 | 0.0 | 0.9 | 0.1 | 0.1 | 0.0 | 7.0 | 0.3 |
| Bulgaria | … | … | … | … | … | … | 0.0 | 0.0 | 0.0 | 0.0 |
| Canada | 6.4 | 1.9 | 9.9 | 1.5 | 12.1 | 0.9 | 20.6 | 0.9 | 41.7 | 1.6 |
| Chile | … | … | … | … | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 |
| China | … | … | … | … | … | … | 0.0 | 0.0 | 1.5 | 0.1 |
| Chinese Taipei | 0.1 | 0.0 | 0.1 | 0.0 | 1.5 | 0.1 | 1.5 | 0.1 | 1.6 | 0.1 |
| Colombia | … | … | … | … | … | … | 0.0 | 0.0 | 0.0 | 0.0 |
| Czech Republic | … | … | 0.2 | 0.0 | 0.6 | 0.0 | 0.7 | 0.0 | 0.3 | 0.0 |
| Denmark | 4.2 | 1.2 | 5.8 | 0.9 | 10.8 | 0.8 | 10.0 | 0.5 | 16.4 | 0.6 |
| Estonia | … | … | … | … | … | … | 0.0 | 0.0 | 0.0 | 0.0 |
| Finland | 2.1 | 0.6 | 0.5 | 0.1 | 0.3 | 0.0 | 3.0 | 0.1 | 1.3 | 0.1 |
| France | 40.6 | 11.8 | 65.1 | 9.6 | 151.3 | 11.4 | 176.1 | 8.1 | 193.3 | 7.3 |
| Germany | 29.1 | 8.5 | 94.0 | 13.9 | 42.8 | 3.2 | 90.2 | 4.2 | 48.5 | 1.8 |
| Greece | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.2 | 0.0 | 0.2 | 0.0 |
| Hong Kong SAR | 2.4 | 0.7 | 2.6 | 0.4 | 11.3 | 0.8 | 17.3 | 0.8 | 18.5 | 0.7 |
| Hungary | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.8 | 0.0 | 0.2 | 0.0 |
| India | … | … | 0.1 | 0.0 | 0.7 | 0.1 | 3.4 | 0.2 | 3.5 | 0.1 |
| Indonesia | … | … | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Ireland | 1.8 | 0.5 | 5.8 | 0.9 | 12.4 | 0.9 | 7.2 | 0.3 | 7.1 | 0.3 |
| Israel | … | … | … | … | … | … | 0.0 | 0.0 | 0.0 | 0.0 |
| Italy | 4.1 | 1.2 | 23.7 | 3.5 | 37.9 | 2.8 | 29.8 | 1.4 | 27.3 | 1.0 |
| Japan | 31.6 | 9.2 | 15.7 | 2.3 | 30.9 | 2.3 | 76.4 | 3.5 | 89.9 | 3.4 |
| Korea | 0.0 | 0.0 | 0.1 | 0.0 | 0.9 | 0.1 | 5.4 | 0.2 | 10.7 | 0.4 |
| Latvia | … | … | … | … | … | … | 0.0 | 0.0 | 0.0 | 0.0 |
| Lithuania | … | … | … | … | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Luxembourg | 2.0 | 0.6 | 4.5 | 0.7 | 7.3 | 0.6 | 3.4 | 0.2 | 2.4 | 0.1 |
| Malaysia | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 1.0 | 0.0 |
| Mexico | 0.2 | 0.1 | 0.4 | 0.1 | 1.4 | 0.1 | 2.9 | 0.1 | 1.4 | 0.1 |
| Netherlands | 3.5 | 1.0 | 24.2 | 3.6 | 18.8 | 1.4 | 27.0 | 1.2 | 61.3 | 2.3 |
| New Zealand | 0.4 | 0.1 | 0.3 | 0.0 | 1.3 | 0.1 | 2.8 | 0.1 | 1.5 | 0.1 |
| Norway | 2.8 | 0.8 | 2.9 | 0.4 | 5.2 | 0.4 | 6.6 | 0.3 | 11.9 | 0.5 |
| Peru | … | … | … | … | … | … | 0.0 | 0.0 | 0.0 | 0.0 |
| Philippines | 0.0 | 0.0 | … | … | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 0.0 |
| Poland | … | … | 0.4 | 0.1 | 1.0 | 0.1 | 2.7 | 0.1 | 1.6 | 0.1 |
| Portugal | 1.0 | 0.3 | 0.3 | 0.0 | 0.7 | 0.1 | 0.8 | 0.0 | 0.7 | 0.0 |
| Romania | … | … | … | … | … | … | 0.0 | 0.0 | 0.0 | 0.0 |
| Russia | 0.0 | 0.0 | … | … | … | … | 0.0 | 0.0 | 0.0 | 0.0 |
| Saudi Arabia | 0.2 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | 0.3 | 0.0 | 0.1 | 0.0 |
| Singapore | 5.3 | 1.6 | 3.2 | 0.5 | 8.6 | 0.6 | 57.4 | 2.6 | 34.6 | 1.3 |
| Slovakia | … | … | 0.0 | 0.0 | … | … | 0.0 | 0.0 | 0.0 | 0.0 |
| Slovenia | … | … | … | … | … | … | 0.0 | 0.0 | … | … |
| South Africa | 0.7 | 0.2 | 0.6 | 0.1 | 3.0 | 0.2 | 4.5 | 0.2 | 6.0 | 0.2 |
| Spain | 2.9 | 0.8 | 20.5 | 3.0 | 11.9 | 0.9 | 16.8 | 0.8 | 30.7 | 1.2 |
| Sweden | 3.6 | 1.0 | 3.2 | 0.5 | 7.4 | 0.6 | 12.3 | 0.6 | 18.2 | 0.7 |
| Switzerland | 5.9 | 1.7 | 9.6 | 1.4 | 12.0 | 0.9 | 60.7 | 2.8 | 78.8 | 3.0 |
| Thailand | … | … | 0.0 | 0.0 | 0.1 | 0.0 | 0.4 | 0.0 | 0.7 | 0.0 |
| Turkey | … | … | … | … | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| United Kingdom | 122.9 | 35.8 | 237.8 | 35.2 | 563.0 | 42.3 | 957.1 | 44.0 | 1234.9 | 46.5 |
| United States | 58.4 | 17.0 | 115.7 | 17.1 | 317.4 | 23.8 | 525.0 | 24.2 | 641.8 | 24.2 |
| **Total** | **343.6** | **100.0** | **676.0** | **100.0** | **1331.1** | **100.0** | **2173.2** | **100.0** | **2653.7** | **100.0** |

[1] Adjusted for local inter-dealer double-counting (ie “net-gross” basis). Tables 6, 7 and 8 are expressed on a "net-net" basis.

**EXHIBIT B**

**CME Submission 12-053**

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CME Group

Lisa Dunsky
Director and Associate General Counsel
Legal Department

February 22, 2012

**BY ELECTRONIC SUBMISION AND OVERNIGHT DELIVERY**

Mr. David Stawick
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.
Washington, DC 20581

Re: **Mandatory Clearing Determination for Pre-Enactment Swaps and Swaps Cleared as of February 1, 2012, CME Submission No. 12-053**

Dear Mr. Stawick:

This is in response to Sarah Josephson's letter of February 1, 2012 to Kim Taylor, president of the clearing house division of Chicago Mercantile Exchange Inc. ("CME Clearing"), with respect to the CFTC's mandatory clearing determinations. Among other things, the letter requests derivatives clearing organizations ("DCOs") to agree to further extend the deadline for a determination by the CFTC on pre-enactment swaps until the review process outlined in Regulation 39.5(b) is completed. CME Clearing agrees to such an extension, per the CFTC's request.

For the sake of clarity, we thought it best to identify those pre-enactment swaps that CME Clearing continued to accept for clearing as of February 1, 2012 (the relevant date specified in Ms. Josephson's letter for purposes of this submission). Those "swaps" (utilizing the CFTC's proposed definition of that term) consist of the following:

- Credit Default Swaps ("CDS"): CDX Indices (IG 12 and IG 13, 5-year tenors)
- Denatured Fuel Ethanol Forward Month Swaps, and Cash-Settled Options on those swaps
- Freight Route Forwards
- Grain Calendar Swaps (corn, soybean and wheat)
- Equity Index Swaps:
  - S&P GSCI Excess Return ("ER") Index Swaps and Index Forwards
  - S&P GSCI Gold ER Index Swaps and Crude Oil ER Index Swaps
  - S&P GSCI ER Index Forward Swaps (2-Month and 3-Month)
  - Dow Jones-UBS Commodity Index Swaps
  - Dow-Jones Index Forward Swaps (2-Month and 3-Month)

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Since the date of enactment of the Dodd-Frank Act, CME Clearing began clearing other CDS CDX Indices, and we are seeking a mandatory clearing determination for CDX North American Investment Grade series 9 and forward (including all future on-the-runs), and High Yield series 11 and forward (including all future on-the-runs). Also since Dodd-Frank was enacted, CME Clearing began clearing certain interest rate swaps (IRS). We are seeking a mandatory clearing determination for all non-option interest rate swaps denominated in a currency cleared by any qualified DCO.[1] Also included in this submission are Fertilizer Swaps, which CME Clearing accepted for clearing as of February 1, 2012, but not as of the enactment date of the Dodd-Frank Act.

In addition, as of February 1, 2012, but not as of the date of enactment of the Dodd-Frank Act, CME Clearing listed for clearing 38 OTC FX products that fall within the CFTC proposed definition of "swap". We are not seeking a mandatory clearing determination for these products, some of which we understand Treasury may exempt from a central-clearing requirement under its Dodd-Frank authority. For these reasons, CME's OTC FX products are not part of this submission.

Pursuant to Regulation 39.5(b)(3)(i), we hereby state that CME Clearing is eligible to accept each swap and each group, category, type and class of swaps that is the subject of this submission. If the CFTC determines that each such swap and group, category, type and class of swap is required to be cleared, CME Clearing will be able to maintain compliance with the 15 DCO core principles set forth in section 5b(c)(2) of the Commodity Exchange Act, and the regulations promulgated thereunder. In accordance with Regulation 39.5(b)(3)(ii)-(viii), we are providing the following information in support of this submission:

39.5(b)(3)(ii)(A): Outstanding Notional Exposures, Trading Liquidity and Pricing Data

We have enclosed an Excel spreadsheet with information regarding the relevant products' outstanding notional exposures, trading liquidity and pricing data (as applicable) at CME Clearing, as of February 1, 2012. This document has been marked for Confidential Treatment.[2]

39.5(b)(3)(ii)(B): Rule Framework, Capacity, Operational Expertise and Resources, Credit Support Infrastructure

In general, the rule framework for the products that are the subject of this submission can be found in the rule books of CME, the Chicago Board of Trade ("CBOT") for Grain Calendar and Ethanol Swaps, and the New York Mercantile Exchange ("NYMEX") for Freight Route Forwards. Each of these rule books is available at http://www.cmegroup.com/market-regulation/rulebook/index.html.

Attached is a product-specifications document that describes each "swap" that is part of this submission. The document includes links to pertinent product chapters in the CME, CBOT and NYMEX rule books.[3] Also relevant to the rule framework are three CME Clearing House Manuals (one for CDS, one for IRS, and one for all remaining products), copies of which are enclosed and which have been designated for

[1] We believe that the CFTC should clarify that any swap (or group, category, type or class of swap) subject to mandatory clearing based on a submission made by one DCO may be cleared by any other qualified DCO. The legislative intent of the Dodd-Frank Act and the open-access provisions therein are strong authority for the proposition that any swap determined to be subject to mandatory clearing may be cleared by any qualified DCO.

[2] For purposes of this submission, we have separated the documents that are marked for Confidential Treatment from those that are not so marked.

[3] To utilize the links in the attached document, place your cursor over the underlined link and press the Control button on your computer. This will turn the cursor into a hand icon and activate the link.

Confidential Treatment.[4] The enclosed document entitled *CME Clearing Financial Safeguards* contains information regarding CME Clearing's capacity, expertise, resources and financial safeguards system.

39.5(b)(3)(ii)(C): Effect on Mitigation of Systemic Risk

While markets in certain OTC derivatives asset classes continued to function well during the recent financial crisis, the crisis demonstrated the potential for systemic risk arising from the interconnectedness of OTC derivatives market participants and the limited transparency of bilateral counterparty relationships. To help mitigate systemic risk in the OTC derivatives markets, the G-20 Leaders agreed that all standardized OTC derivatives contracts should be cleared through central counterparties by the end of 2012. One of the key goals of the Dodd-Frank Act is the reduction of systemic risk through the use of central clearing for OTC derivatives.

As a central counterparty, CME Clearing interposes itself between counterparties to the swaps (and other derivatives products) that it clears, becoming the buyer to every seller and the seller to every buyer. For each swap that it clears, CME Clearing provides all clearing house services, including a mark-to-market function, on a daily basis. Depending upon the particular asset class, CME Clearing may standardize contract-critical dates (*e.g.*, start dates, last trade dates, expiry dates) and other contract terms. This may enable customers who hold positions to liquidate or to adjust positions simply by buying back or selling the relevant contracts. The associated benefits are considerable:

- *Centralized clearing.* Clearing OTC swaps through CME Clearing allows market participants to free up counterparty credit lines. The daily mark-to-market process employed by CME Clearing enhances customer risk management.

- *Operational efficiencies.* Centralized clearing of swaps reduces operational burdens in several ways. Standardization and centralized clearing enables consolidation of collateral management and cash flows and eliminates the need for novations or tear-ups.

- *Ease of position adjustment.* In non-cleared markets, the only means to completely eliminate the risk of a swap is to (i) enter into a tear-up agreement with the swap counterparty, or (ii) enter into a novation (*i.e.*, find another entity willing to assume its side of the swap). In either case, the tear-up or the novation must be approved by the bilateral swap counterparty. For most asset classes, central clearing may be used to offset by a contra trade.

As further described in the enclosed document entitled *CME Clearing Financial Safeguards*, and as reflected in the enclosed Clearing House Manuals, CME Clearing has the necessary resources available to clear the swaps that are the subject of this submission. With respect to margining in particular, please see Chapter 7 of the IRS Manual and the CDS Manual, and the enclosed document entitled *CME SPAN* (the margin methodology utilized for our Grain Calendar Swaps, Ethanol Swaps, Equity Index Swaps, Freight Route Forwards and Fertilizer Swaps). With regard to the size of the OTC markets for the products that are the subject of this submission, please see the enclosed copy of Table 19 (Amounts of outstanding OTC derivatives) from the BIS Quarterly Review, December 2011.

39.5(b)(3)(ii)(D): Effect on Competition – Fees and Charges

We have enclosed documents regarding fees and charges for the "swaps" that are the subject of this submission.

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[4] Portions of the CME, CBOT and NYMEX rule books, and the enclosed Clearing House Manuals, will be revised, as necessary and appropriate, to comply with new CFTC DCO regulations that go into effect on May 7 and November 8, 2012.

39.5(b)(3)(ii)(E): Reasonable Legal Certainty in DCO or Clearing Member Insolvency

The bankruptcy of a DCO would be governed by subchapter IV of Chapter 7 of the U.S. Bankruptcy Code (11 U.S.C. §§ 761-767), and by the CFTC's Part 190 bankruptcy regulations. Also relevant in the event that CME were to enter into bankruptcy proceedings is CME Rule 818 (Close-Out Netting), a copy of which is enclosed.

The bankruptcy of a clearing member that is a U.S. futures commission merchant ("FCM") would be governed by subchapter IV of Chapter 7 of the U.S. Bankruptcy Code (11 U.S.C. §§ 761-767) and the CFTC's Part 190 bankruptcy regulations. If an FCM is also registered as a broker-dealer, certain aspects of its insolvency proceeding may also be governed by the Securities Investor Protection Act. For further details regarding the legal certainty provided under the relevant U.S. insolvency laws, please see pages 17-18 of the enclosed *CME Clearing Financial Safeguards* document.

39.5(b)(3)(iii): Product Specifications

With regard to product specifications for the "swaps" that are included in this submission, please see the attached product-specifications document and the enclosed Clearing House Manuals, including but not limited to, in the CDS Manual, Chapter 4 Appendix 1 – Cleared CDS Trade Confirmation, and Chapter 9, Credit Event/Succession Event Processing, and in the IRS Manual, Chapter 4 Appendix 1 – Cleared IRS Trade Processing.

39.5(b)(3)(iv): Participant Eligibility Standards

We have enclosed a *Summary of Requirements* for clearing membership, and the *CME Handbook for OTC Clearing Membership*. In addition, please see CME Rule 8F004 (OTC Clearing Member Obligations), 8G04 (IRS Clearing Member Obligations) and 8H04 (CDS Clearing Member Obligations). Certain of these rules and requirements will be revised, as necessary and appropriate, to comply with new CFTC regulations regarding Participant and Product Eligibility, which go into effect on May 7, 2012.

39.5(b)(3)(v): Pricing Sources, Models and Procedures

We have enclosed documents concerning settlement procedures for certain swaps that are the subject of this submission. Please also see Chapter VII (Daily Settlements and Asset Management) of the Clearing House Manual of Operations, and Chapter 8 (End of Day Valuations) of the CDS and IRS Manuals. In addition, we have enclosed a copy of a services agreement between CME and Credit Market Analysis Ltd. relating to CME's CDS products, which has been marked for Confidential Treatment.

39.5(b)(3)(vi): Risk Management Procedures

We have enclosed documents concerning CME Clearing's risk management procedures, which have been marked for Confidential Treatment. In addition, please refer to the Clearing House Manual of Operations, including but not limited to Chapters VI (Performance Bonds/Margin) and VII (Daily Settlements and Asset Management); the CDS Manual, including but not limited to Chapters 7 (CDS Margining), 8 (End of Day Valuations), 10 (Guaranty Fund Calculation) and 11 (CDS Default Management); and the IRS Manual, including but not limited to Chapters 7 (Interest Rates Margining), 8 (End of Day Valuations), 9 (Financial Safeguards – Guaranty Fund Calculation) and 11 (Interest Rate Swaps Default Management). Certain of these materials will be revised, as necessary and appropriate, to comply with new CFTC regulations regarding Risk Management, which go into effect on May 7, 2012.

39.5(b)(3)(vii): Applicable Rules, Manuals, Policies and Procedures

Links to applicable rule books are included in this submission, and copies of Clearing House Manuals and relevant policies and procedures are enclosed.

39.5(b)(3)(viii): Notice of Submission

Notice of this submission (without enclosures, many of which have been designated for Confidential Treatment) has been concurrently posted on CME's web site at http://www.cmegroup.com/market-regulation/rule-filings.html.

Because of the large volume of enclosures with this letter, we are sending you a copy of the letter with a complete set of the enclosures via overnight courier. Should you have any questions regarding this submission, or if any additional information is required, please contact me at (312) 338-2483 or via e-mail at lisa.dunsky@cmegroup.com.

Sincerely,



Lisa Dunsky
Director and Associate General Counsel

Enclosures

cc: Sarah Josephson (by e-mail and overnight courier, w/ encl.)

**EXHIBIT C**

**CME Submission 11-360R**
**&**
**CME Submission 11-144**

20 South Wacker Drive, Chicago, Illinois 60606 T 212 299 2228 F 212 299 2299 jason.silverstein@cmegroup.com cmegroup.com

**Timothy R. Elliott**
Director and Associate General Counsel
Legal Department

September 22, 2011

Mr. David Stawick
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.
Washington, DC 20581

**RE: Section 5c(c)(1), Rules 39.4(c)(2), 40.2 and 40.6(a) – Exchange Certification of CME Rule Amendments and Notification of Launch Date for Selected Cash Settlement, Cleared OTC CME WM/Reuters Foreign Exchange (FX) Spot, Forward and Swaps and Non-Deliverable Forward (NDF) Transactions. CME Submission 11-360**

Dear Mr. Stawick:

Chicago Mercantile Exchange Inc. hereby notifies the Commission that on Tuesday, January 3, 2012, CME will launch certain new Cash Settlement, Cleared Over-the-Counter (OTC) CME WM/Reuters Spot, Forward and Swaps and Non-Deliverable Forward (NDF) Transactions. This submission includes rule amendments supporting the new product offerings, which are summarized as follows.

## CLEARED OTC SPOT, FORWARD AND SWAP TRANSACTIONS

Effective Tuesday, January 3, 2012, Chicago Mercantile Exchange Inc. will begin offering clearing services for 26 new foreign exchange (FX) pairs for over-the-counter (OTC) cash settlement as CME WM/Reuters spot, forward and swap transactions. These FX pairs will include: GBP/USD; USD/CAD; USD/JPY; USD/CHF; AUD/USD; USD/MXN; NZD/USD; USD/ZAR; EUR/USD; USD/NOK; USD/SEK; USD/CZK; USD/HUF; USD/PLN; USD/ILS; USD/TRY; USD/DKK; EUR/GBP; EUR/JPY; EUR/CHF; AUD/JPY; CAD/JPY; EUR/AUD; USD/HKD; USD/SGD; and USD/THB.

Also, at this same time, CME will begin offering clearing services for 11 new FX pairs for traditional OTC cash settlement non-deliverable spot, forward and swap transactions. CME has already offered clearing services for traditional Cleared OTC U.S. Dollar / Chilean Peso (USD/CLP) non-deliverable forward (NDF) transactions, beginning on Monday, April 18, 2011, as the first step of a broad product suite. Like the OTC USD/CLP products that CME is already offering for clearing, the new OTC USD/Brazilian real (BRL), USD/Chinese Renminbi (RMB), USD/Russian ruble (RUB), USD/Colombian peso (COP), USD/Peruvian sol (PEN), USD/Korean won (KRW), USD/Indian rupee (INR), USD/Malaysian ringgit (MYR), USD/Indonesian rupiah (IDR), USD/Taiwan dollar (TWD) and USD/Philippines peso (PHP) products that are included in this submission are cash-settlement NDFs.

Please note that the new 26 FX pairs OTC CME WM/Reuters (branded) spot, forward and swap products that are described in this submission, although capable of being physically deliverable, are also cash settlement in U.S. dollars to the OTC FX benchmark WM/Reuters London FX Closing Spot Rate (4 PM London time). These 26 new offerings constitute two-thirds of the second phase of CME Group plans to introduce clearing services for a wide range of OTC FX spot, forward, swaps; and options on FX spot and forward contracts. OTC FX transactions that are executed bilaterally through brokers, ECNs or other FX trading platforms, when submitted to the CME Clearing House, are novated for purposes of clearing and

application of financial safeguards, bookkeeping, trade processing, and final delivery or cash settlement. These contracts will be carried in the new OTC sequestered account class.

**Contract Summary –** There will be NDF-style transactions for U.S. dollar (USD) versus BRL, RMB, RUB, COP, PEN, KRW, INR, MYR, IDR, TWD and PHP; where original trades can be submitted for clearing that were conducted, for example, in the standard "USD/BRL" or "USD/RMB" interbank terms of Brazilian reais per U.S. dollar or Chinese renminbi per U.S. dollar, respectively. At termination only U.S. dollars are paid from or to the counterparties depending upon the final settlement price and notional amounts of the trade based upon OTC NDF standard rates published oftentimes by the central banks or their designated agents of the country of the counter currency. The CME WM/Reuters contracts are cash settled also in major currencies (mostly USD) at termination based upon the benchmark 4:00 PM London time WM/Reuters Closing Spot Prices on the valid value dates for cash settlement. CME Clearing systems are flexible to accommodate any style of quoted trade with any size notional amounts down to the precision of $0.01 and any date. Some notable contract details are highlighted as follows.

- **Sequestered Accounts:** The contracts are carried as OTC instruments in the clearing system. These positions will be carried in the OTC sequestered account class.

- **Held as True OTC FX Spot & Forwards in Clearing:** Positions shall remain open until the final cash settlement date, except that participants may request that offsetting positions be compressed prior to contract maturity.

- **Cash Settlement, NDF-Style:** Like the initial CME OTC FX products for USD/CLP, which are currently offered, the USD versus BRL, RMB, RUB, COP, PEN, KRW, INR, MYR, IDR, TWD and PHP products are offered NDF-style contracts financially or cash settled in U.S. dollars with positions held in clearing at the original trade price marked to the applicable standard OTC NDF settlement rate option (many are central bank determined/sanctioned rates). For example, final settlements for USD/BRL spot transactions are concluded based on the difference between (1) the spot exchange rate of Brazilian real per U.S. dollar, "Central Bank of Brazil PTAX offered rate" as reported for the valid value date for cash settlement by Banco Central do Brasil for the formal exchange market, and (2) the original trade price for each transaction, and (3) the result divided by the BRL per USD spot exchange rate to convert notional BRLs to USDs. Cash settlement of cleared only transactions occurs on a net basis at the customer account level.

- **Cash Settlement to WM/Reuters FX Benchmark Rates:** Analogous to the OTC NDF, cash settlement style products discussed above, the cleared OTC WM/Reuters FX spot, forward or swap products are cash settled mostly in U.S. dollars with positions held in clearing at the original trade price, but marked at termination to the applicable WM/Reuters 4:00 PM London Closing Spot Rate for the twenty-six FX pairs, such as, U.S. dollar/Mexican peso rate on the valid value date for cash settlement. Please note that CME will list for clearing FX pairs, where the spot, forward and swaps represent currency pairs where both currencies in the pair are physically deliverable. However, due to customer preferences and operational efficiencies, CME is co-branding a selection of cash settlement OTC spot, forwards and swap products with the WM/Reuters Company, based upon the OTC FX benchmark 4:00 PM London FX Closing Spot Rates.

- **Allowable Maturities:** CME Clearing will accept spot and forward transactions into clearing with delivery or cash settlement dates starting with the next business day for spot and extending outward into the future two years initially for forwards. At a later date, CME Clearing expects to expand maturity dates out an additional three years for a total maturity out five years.

- **Swaps:** Swap transactions accepted into clearing are a combination (spread) of a spot or forward position and another deferred date forward.

- **CME Clearing Set Up Structures for Cleared OTC FX:** CME Clearing operational infrastructure defines FX pair products by the price nomenclature of the trade. For example, USD/MXN OTC transactions, where the normal quotation mechanism is "MXN per USD," will be processed in the clearing structure for transactions quoted in "MXN per USD."

- **Normalization Rule:** CME Rule 856 – NORMALIZATION OF OTC FX SPOT, FORWARD, SWAP AND OPTIONS TRANSACTIONS, enables CME Clearing to accept OTC FX transactions negotiated in notional amounts of either currency. OTC FX conventions imply deals to be struck in notional amounts of a specific currency for a given currency pair. For example, the USD/MXN or "Dollar/Mexican Peso" transaction described above defines price in numbers of MXN per USD with the notional amount given in U.S. dollars. The normalization rule explains CME Clearing procedures for taking non-standard notional amounts in the contra-currency (here MXN) and "normalizing" it into standard amounts of base currency (here USD). See Appendix 1 for the Normalization rule.

- **Definitions:** New DEFINITIONS have been added to the CME Rulebook to support the Cleared OTC FX initiative. Appendix 2 provides the new definitions.

- **Position Accountability & Position Limits:** Individual rule chapters for each FX pair for cleared OTC FX will specify either Position Accountability (PA) or Position Limits (PL) or a combination of both (*e.g.,* PA with spot month PL) depending generally on the liquidity in the underlying OTC instruments and coordinating with existing and similar FX futures and options on futures contracts. Highly liquid underlying FX pair activity enable Position Accountability trigger levels as opposed to finite limits, and less liquid underlying FX pair activity require the more restrictive Position Limits. Since FX futures, options on FX futures, cleared OTC FX spot, forwards and swaps; and OTC FX options on spot and forwards, are essentially extensions of the same market, CME rules will aggregate positions for an account holder across all of these product lines per FX pair. Notional level equivalents for the existing FX pair futures contracts for Position Accountability and/or Position Limits are carried over to the Cleared OTC FX rules. Also carried over to the Cleared OTC FX rules is a new provision for an exemption from finite position limits, where the account holder demonstrates to Market Regulation a bona fide hedging strategy meeting the requirements of Regulation 1.3(z)(1) of the CFTC and other exchange rules. See Appendices 4 to 16 for the CME Rules 300.01.E.8., 257H01.F.5, 270H01.F.6, 260H01.F.7, 271H01.F.6, 273H01.F.6, 277H01.F.6, 279H01.F.6, 280H01.F.6, 281H01.F.6, 282H01.F.6, 283H01.F.6, providing for the exemptions.

  Please note, when there is not an underlying FX pair futures or options on futures contract for an FX pair listed for cleared OTC transactions, then notional amounts of cleared OTC FX positions will be translated into contract equivalents and amendments to the Chapter 5 interpretation table will be added. See Appendix 3 for Position Accountability and Position Limits changes for such cases as cleared only U.S. dollar/Chilean peso, U.S. dollar/Hong Kong dollar, U.S. dollar/Singapore dollar, U.S. dollar/Thailand baht, U.S. dollar/Colombian peso, U.S. dollar/Peruvian sol, U.S. dollar/Indian rupee, U.S. dollar/Malaysian ringgit, U.S. dollar/Indonesian rupiah, U.S. dollar/Taiwan dollar and U.S. dollar/Philippines peso. The notional contract equivalent level for these Cleared OTC FX spot, forwards and swaps is 100,000 U.S. dollars for purposes of Position Accountability and Position Limits. Therefore, the position accountability trigger level for these Cleared OTC FX spot, forwards and swaps is 600,000,000 U.S. dollars (6,000 contracts x 100,000 U.S. dollar per contract = 600 million USD).

  CME is continuing its Position Limits and Position Accountability rule structure for these Cleared OTC FX Spot, Forward and Swap Transactions in an analogous manner to the existing Cleared OTC USD/CLP Spot, Forward and Swap Transactions, to enable the exchange's Market Regulation Department to aggregate positions for a given FX pair that settle between the second and third Wednesdays (inclusive) of March, June, September and December and make these positions applicable to a 20,000 contract (USD 100,000 notional per contract) "Spot Position Limit" during this time period only. CME expects business in various cross-currency swaps to be booked on the

exchange in the future, and in particular, Latin American (LATAM) currencies versus other LATAM currencies, including OTC USD/CLP, USD/COP and USD/PEN Spot, Forwards and Swaps. The exchange wants the OTC portion of such cross-currency swaps to roll up into the Spot Position Limit rule, but be restrictive during the week preceding CME FX futures deliveries. Therefore, the exchange's Mexican peso futures contract Spot Position Limit rule is used as the template for the OTC USD/CLP contract Spot Position Limit rule. As the exchange rolls out additional cleared only OTC non-deliverable forward (NDF) products, it will adhere to this template, if applicable. See Appendices 4 to 15 for the amendments to the Position Limits and Position Accountability rules in each contract chapter and the 5.C. Position Limit and Reportable Level Table in the Interpretations section of Chapter 5.

- **Reportable Positions:** As with the USD/CLP product, please note that currently, service bureaus used by clearing firms do not have the capability to aggregate cleared OTC FX positions of clearing firm customers for subsequent reporting of the information by the clearing firms to the CFTC and CME. Therefore, CME has not set reportable level requirements characteristic of FX futures and options contracts at this time for the cleared OTC FX spot, forward and swap products. However, as noted in the section above, CME will aggregate cleared OTC spot, forward and swap positions by account holder for Position Accountability and Position Limits purposes.

- **Rule Chapters:** Appendices 4 through 15 illustrate the format that will be followed for the cleared OTC FX initiative. All CME WM/Reuters branded products will be contained in Chapter 300. Appendix 4 displays the rules for these first 26 such products. Appendices 5 through 15 illustrate the 11 new traditional OTC NDF, cash settlement products (analogous to current OTC USD/CLP NDF contract). A revised "number" and "letter" format for the FX product rulebook chapters was developed to rationalize the growing permutations of the CME Group FX product suite.

- **Cleared Only Transactions:** Note that CME Group does not intend at this time to provide a trading platform for such transactions. Rather, such transactions will be executed on a bi-lateral, privately negotiated basis amongst the two counterparties. These transactions are submitted to the CME Clearing House on a post-trade basis. Once submitted and accepted ("novated") to the CME Clearing House, these transactions are assigned the trade type "OPNT" which acronym stands for Over-the-counter Privately Negotiated Trade.

**Performance Bonds & Daily Mark to Market –** Recent conversations with key customers has resulted in CME moving from a "collateralization" method of valuing open positions in cleared only OTC FX spot, forward and swap transactions, to a daily mark-to-market method. Hence, in the near future, CME plans to implement a revised clearing method for its USD/CLP NDF products (there is no open interest to date). Currently, CME Clearing has deployed the SPAN system to establish performance bond or "margin" requirements for FX spot, forwards and swaps. Initial performance bond requirements are established at levels that are consistent with observed levels of volatility in the particular currency pairing and generally aligned with initial margin levels applied to current CME FX futures and option contracts, where applicable. These components of the clearing system are unchanged. However, the administration of the new margin regime will require a daily mark-to-market (MTM) on a cash basis, similar to traded FX futures. Variation margins may be satisfied with the posting of appropriate amounts of collateral, where CME Clearing collects and pays in cash between the counterparties each day.

CME Clearing will accept as collateral cash or any other instruments currently designated as approved collateral for posting for performance bonds. In order to calculate variation requirements, settlement prices will be established for each contract and for each delivery date referencing data collected from a variety of market sources.

Operationally, the CME clearing system recognizes two types of cash settled, cleared OTC FX spot, forward and swap products, namely, either as an non-deliverable forward (NDF) or cash-settled forward

(CSF). Further, CME Clearing defines the cleared OTC FX products' "valuation method" with two new values:

- **FWDB** – "forward banked" -- cash mark-to-market denominated in the contra currency or minimum fluctuation currency (the normal case)
- **FWDBI** – "forward banked inverse" – cash mark-to-market denominated in the primary currency or clearing unit currency (the inverse case)

The "mark-to-market currency," or "MTMCur," is the currency code in which the mark-to-market is denominated, which is either the contra currency (FWDB) or the primary currency (FWDBI).

So for all the NDF's, the MTM currency is USD. For the CSF's, the MTM currency is primarily USD, with some in EUR, and a couple in JPY. For each pair, CME Clearing picks the convention so that it has the minimum number of currencies in which MTM is denominated.

The mark to market amount is calculated as follows:

For the normal, forward banked pairs:

> Express the trade quantity as a positive number for a buy, and a negative number for a sell.
> Subtract the trade price from the settlement price.
> Take the product of this price difference and the trade quantity.
> Round normally to the normal precision of the contra currency.

For the inverse pairs:

> Express the trade quantity as a positive number for a buy, and a negative number for a sell.
> Subtract the trade price from the settlement price.
> Take the product of this price difference and the trade quantity.
> Divide by the current day's settlement price.
> Round normally to the normal precision of the primary currency.

In other words, the inverse calculation is the same as the normal calculation, except that it adds the additional factor of dividing by the settlement price.

The cash amount to be banked, then, is determined by subtracting the mark-to-market amount calculated on the prior business date from the MTM amount on the current date. The calculation sign convention reflects that a positive number reflects cash the firm is receiving, and a negative number reflects cash the firm is paying.

The "normal precision" of USD and EUR is two decimal places, and the normal precision of JPY is two decimal places. The clearing system specifies rules to determine the date on which the final marking price is determined. For the current slate of products, this is either "1 day prior" for USD or "2 days prior" for EUR and JPY to the value date. Appendix 16 is a table illustrating the various attributes of the cleared OTC FX clearing system that reflects daily mark to market in cash for open positions.

**ICAP / CME Group Collaboration –** As with the cleared OTC USD/CLP Non-Deliverable Forward (NDF), CME Group may collaborate with ICAP in the introduction of additional cleared only OTC FX NDF transaction services. ICAP has strong institutional and customer relationships especially in Latin America, developed from operating as a multi-service broker. CME Group believes that ICAP may be in a good position to assist with daily valuations of more OTC NDF positions cleared on the books of CME Clearing. As with the current OTC USD/CLP NDF, ICAP may be engaged to coordinate the collection of daily valuation curves from market participants used to perform open position mark to market (or daily settlement valuation). CME may name additional partners in the future that will assist with daily

valuations of open positions in other Cleared OTC FX products. To remove any doubt, CME will always retain complete control and final authority on the settlement process.

**GDP, FX Turnover & Stock Market Capitalization Statistics for Countries of Listed Currencies –** Appendix 17 provides data on the Gross Domestic Product (GDP), Bank for International Settlements (BIS) average daily foreign exchange turnover and stock market capitalization for the countries for whom CME is listing clearing services for cash settlement, OTC FX spot, forward and swap products on their currencies. Demand for these cleared only services arises from market participants who trade foreign exchange in their normal course of business and desire to limit counterparty credit risk. The BIS estimates in its "Triennial Central Bank Survey for April 2010" that the world foreign exchange market is on average a 4.0 trillion U.S. dollar per day market, of which 37.4% is spot, 11.9% is outright forwards, 44.4% is FX swaps, 1.1% is currency swaps and 5.2% is options and other instruments. CME currently lists 52 FX futures and 31 options contracts covering 40 currency pairs. However, the financial market crisis of 2008, the resulting Dodd-Frank Wall Street Reform and Consumer Protection Act (2009-2010) and recent financial market volatility, has increased our customer interest in cleared OTC FX products, especially, the traditional NDF currency pairs. Proactive CME customers have requested the timely listing of many more currency pairs, both deliverable and non-deliverable as cash settlement, cleared OTC products. These customers wish to be in compliance with the mandated central counterparty clearing requirement for OTC FX NDF transactions. Therefore, CME is listing cash settlement cleared products for ten new currencies, namely, Hong Kong dollar, Singapore dollar, Indian rupee, Denmark kroner, Taiwan dollar, Malaysian ringgit, Indonesian rupiah, Thailand baht, Philippines peso and Peruvian sol versus the U.S. dollar. In the future, CME plans to list for clearing a broad array of physical delivery FX pairs as well.

**Initial Performance Bonds** – CME will provide performance bonds to market participants prior to launch of cleared only OTC FX spot, forwards and swaps.

The Exchange certifies that these rule amendments and procedures comply with the Act and the rules thereunder.

Members/shareholders will be notified of the information contained herein in CME Group Special Executive Report, S-5954, dated Tuesday, September 27, 2011.

If you require any additional information regarding this action, please do not hesitate to contact Steve Youngren, at 312-930-4583 or via e-mail at Steve.Youngren@cmegroup.com or me. Please reference our CME Submission #11-360 in any related correspondence.

Sincerely,

/s/ Timothy Elliott
Director and Associate General Counsel

Enclosure

# Appendix 1

**[Current rules for reference purposes only.]**

**CME GROUP OTC FX NORMALIZATION RULE**

**856. NORMALIZATION OF OTC FX SPOT, FORWARD, SWAP AND OPTIONS TRANSACTIONS FOR CLEARING.**

For over-the-counter (OTC) foreign exchange (FX) transactions submitted for clearing and any non-standard specification of the transaction as defined by the price format shall be normalized by CME Group Clearing to standard or normal specifications by the following "normalization process."

Instrument: Currency 1/Currency 2 (CCY1/CCY2)

**Generically, for spot and forward OTC FX transactions…**

*Standard or Normal:* Buy (B)/Sell (S) CCY1 notional amount at CCY2 per CCY1 rate.

*Non-standard or Non-normal:* B/S CCY2 notional amount at CCY2 per CCY1 rate.

To normalize:

1. Convert B to S, or S to B
2. Convert CCY2 notional to CCY1: CCY2 amount divided by CCY2 per CCY1 rate to obtain CCY1 amount.

For example, for Instrument: EUR/USD …
*Standard:* EUR/USD- Quote USD per EUR; notional amount in EUR
Trade comes in as SELL €15 million at 1.350000 USD per EUR →BUY $20,250,000 (€15 million x 1.350000 USD/EUR)

*Non-standard:* EUR/USD- Notional amount in USD, but quote still in USD per EUR.
Trade comes in as buy $20 million at 1.350000 USD per EUR →SELL €14,814,814.81 ($20 million / 1.350000 USD/EUR).

To normalize the non-standard EUR/USD transaction, CME Clearing shall:

3. Convert Buy to Sell, or Sell to Buy
4. Convert USD notional to EUR: USD amount divided by USD per EUR rate.

Example: The trade "BUY $20 million at 1.350000 ⇨SELL €14,814,814.81 ($20/1.350000) at 1.350000 USD per EUR" shall be normalized and held in CME Clearing as:

The trade "SELL €14,814,814.81 ($20/1.350000) at 1.350000 USD per EUR⇨ BUY $20 million at 1.350000."

**For swap OTC FX transactions, …**
*Standard or Normal:* Leg 1 B/S CCY1 notional amount at $CCY2_t$ per CCY1 rate.

Leg 2 S/B CCY1 notional amount at $CCY2_{t+n}$ per CCY1 rate.

*Non-standard or Non-normal:*

Leg 1 B/S CCY2 notional amount at $CCY2_t$ per CCY1 rate.

Leg 2 S/B CCY2 notional amount at $CCY2_{t+n}$ per CCY1 rate.

To normalize:

1. Convert B to S, or S to B
2. Convert CCY2 notional to CCY1: CCY2 amount divided by CCY2 per CCY1 rate to obtain CCY1 amount.

For example, for instrument: EUR/USD…

*Standard:* Leg 1 EUR/USD- Quote USD per EUR; notional amount in EUR
Leg 2 EUR/USD- Quote USD per EUR; notional amount in EUR

Trade comes in as "Leg 1 BUY €20 million at 1.305000 ⇨SELL $26,100,000 ($20 million x 1.305000) at 1.305000 USD per EUR; Leg 2 SELL €20 million at 1.315000 USD per EUR (1.3050 + 0.0100 swap points)"

*Non-Standard:* Leg 1 EUR/USD- Notional amount in USD, but quote still in USD per EUR.
Leg 2 EUR/USD- Notional amount in USD, but quote still in USD per EUR.

Trade comes in as "Leg 1 SELL $26.1 million at 1.305000 ⇨BUY €20 million ($26.1 million / 1.305000) at 1.305000 USD per EUR; Leg 2 BUY $26.3 million at 1.315000 USD per EUR (1.3050 + 0.0100 swap points)."
To normalize the non-standard EUR/USD transaction, CME Clearing shall:

3. Convert Buy to Sell, or Sell to Buy
4. Convert USD notional to EUR: USD amount divided by USD per EUR rate.

Example: The trade "Leg 1 SELL $26.1 million at 1.305000 ⇨BUY €20 million ($26.1 million / 1.305000) at 1.305000 USD per EUR; Leg 2 BUY $26.3 million at 1.315000 USD per EUR (1.3050 + 0.0100 swap points)" shall be normalized and held in CME Clearing as:

The trade "Leg 1 BUY €20 million at 1.305000 ⇨SELL $26,100,000 ($20 million x 1.305000) at 1.305000 USD per EUR; Leg 2 SELL €20 million at 1.315000 USD per EUR (1.3050 + 0.0100 swap points)"

**For option OTC FX transactions, …**

*Standard or Normal:* B/S CCY1/CCY2 CALL (PUT) at STRIKE PRICE in units of CCY2 per CCY1 for a notional amount of CCY1 for a premium in CCY2 (CCY1 amount x premium price in CCY2 per CCY1, that is, CCY2 pips) or % of CCY1 (CCY1 premium / CCY1 notional amount).

*Non-standard or Non-normal:* B/S CCY1/CCY2 CALL (PUT) at STRIKE PRICE in units of CCY2 per CCY1 for a notional amount of CCY2 for a premium in CCY1 (CCY2 amount / premium price in CCY2 per CCY1, that is, CCY1 pips) or % of CCY2 (CCY2 premium / CCY2 notional amount).
To normalize:

1. Retain B/S direction
2. Convert CCY2 Put to CCY1 Call, CCY2 Call to CCY1 Put
3. Convert CCY2 notional to CCY1: CCY2 amount divided by Strike Price expressed in CCY2 per CCY1.
4. Process original premium amount and currency.
5. Take premium amount and divide by CCY1 notional to express price in CCY1 terms for reference purposes.

For example, for Instrument: EUR/USD …
*Standard:* EUR/USD- Quote USD per EUR; notional amount in EUR, premium in either % of EUR notional (EUR premium) or USD pips (USD premium)

Trade comes in as BUY EUR/USD PUT at 1.350000 USD per EUR for a notional amount of €20 million with premium of $100,000 (€20 million x option price of 0.0050 USD per EUR, that is, USD pips) or 1.0% of €20 million (€200,000 premium / €20 million) → SELL EUR/USD PUT at 1.350000 USD per EUR for a notional amount of €20 million with premium of $100,000 (€20 million x option price of 0.0050 USD per EUR, that is, USD pips) or 1.0% of €20 million (€200,000 premium / €20 million).

*Non-standard:* EUR/USD- Notional amount in USD, but quote still in USD per EUR, premium in either % of USD notional (USD premium) or EUR pips (EUR premium).

Trade comes in as BUY EUR/USD PUT at 1.350000 USD per EUR for a notional amount of $20 million with premium of €170,100 ($20 million x option price of 0.008505 EUR per USD, that is, EUR pips) or 1.0% of $20 million ($200,000 premium / $20 million) → SELL EUR/USD PUT at 1.350000 USD per EUR for a notional amount of $20 million with premium of €170,100 ($20 million x option price of 0.008505 USD per EUR, that is, EUR pips) or 1.0% of $20 million ($200,000 premium / $20 million).

To normalize the non-standard EUR/USD transaction, CME Clearing shall:

6. Retain B/S direction

7. Convert USD Put to EUR Call, USD Call to EUR Put
8. Convert USD notional to EUR: USD amount divided by Strike Price expressed in USD per EUR.
9. Process original premium amount and currency.
10. Take premium amount and divide by EUR notional to express price in EUR terms for reference purposes.

Example: Trade comes in as BUY EUR/USD PUT at 1.350000 USD per EUR for a notional amount of $20 million with premium of €170,100 ($20 million x option price of 0.008505 EUR per USD, that is, EUR pips) or 1.0% of $20 million ($200,000 premium / $20 million) → SELL EUR/USD PUT at 1.350000 USD per EUR for a notional amount of $20 million with premium of €170,100 ($20 million x option price of 0.008505 USD per EUR, that is, EUR pips) or 1.0% of $20 million ($200,000 premium / $20 million) shall be normalized and held in CME Clearing as:

BUY EUR/USD CALL at 1.350000 USD per EUR for a notional amount of €14,814,814.81 ($20 million/1.350000 USD per EUR) with a premium of €170,100 ($20 million x option price of 0.008505 EUR per USD, that is, EUR pips) or 1.148% of €14,814,814.81 (€170,100 / €14,814,814.81).

**Appendix 2**

**[Current rules for reference purposes only.]**

**ADDITIONS TO "DEFINITIONS" SECTION OF CME RULEBOOK**

**CLASS B STOCKHOLDER**

The registered owner of one or more Class B Shares.

**CLEAR DATE OF THE FX OTC CLEARED TRANSACTION**

For purposes of these rules, the "clear date of the foreign exchange (FX) over-the-counter (OTC) cleared transaction" is the date on which an original spot, forward and swap FX OTC transaction clears at CME Clearing as a substituted, cleared transaction.

**CLEARING HOUSE**

The department of the Exchange through which all trades on the Exchange are adjusted and cleared.
…

**FORMS**

All forms referred to herein; *e.g.*, "Buyer Delivery Commitment," shall be forms prescribed by the Exchange.

**FORWARD FX OTC CLEARED TRANSACTION**

For purposes of these rules, a "forward" foreign exchange (FX) over-the-counter (OTC) cleared transaction shall be an agreement between counterparties to exchange ("delivery") of the associated currency pairs at a maturity date greater than one or two business days in the future. A forward FX transaction may be for standard delivery maturities from the original trade date, such as TOM Next (tomorrow next or day after tomorrow), 1-week, 2-weeks, 3-weeks, 1-month, 2-months, 3-months, …, 6-months, …, 1-year, 18-months, 2-years, etc. Also, a forward FX transaction may be for broken date maturities, that is, for delivery on any good business day in both the issuing countries of the associated currency pair that is not one of the standard delivery dates.

**FUTURES CONTRACT**

A contract made on the Exchange for the purpose or sale of any commodity which may be satisfied by offset or delivery during such specified months pursuant to these rules.
…

**ORDERS**

(Note that not all order types are eligible to be entered into the GLOBEX System…

**ORIGINAL TRADE DATE OF AN FX OTC TRANSACTION**

For purposes of these rules, an "original trade date of a foreign exchange (FX) over-the-counter (OTC) cleared transaction," is the date on which the two counterparties agreed to the OTC transaction that is being replaced with the FX OTC cleared transaction.

**PANEL**

A subcommittee elected in accordance with committee procedure to adjudicate or make a particular determination. A decision of a panel shall be deemed a decision of the committee.
…

**SPOT**

The actual or physical commodity, also called "cash" commodity.

**SPOT FX OTC CLEARED TRANSACTION**

For purposes of these rules, a “spot” foreign exchange (FX) over-the-counter (OTC) cleared transaction shall be a very short-dated forward transaction with counterparties agreeing to exchange (“delivery”) of the associated currency pairs in one or two business days, whichever is the standard OTC market convention for the particular currency pairs.

**SPOT MONTH**

The contract month of a futures contract which is also the current calendar month.

…

**STRADDLE**

The assumption of a long and short position on different business days in the same or related commodities for the same account.

**SWAP FX OTC CLEARED TRANSACTION**

For purposes of these rules, a “swap” foreign exchange (FX) over-the-counter (OTC) cleared transaction shall be an agreement between counterparties to execute the combination of a spot or forward FX OTC cleared transaction and a subsequent-dated forward FX OTC cleared transaction, where the buyer of the spot or forward currency pair becomes the seller of the subsequent-dated forward currency pair and the seller of the spot or forward currency pair becomes the buyer of the subsequent-dated forward currency pair. In other words, the counterparties are agreeing to the prices on the original trade date to exchange currency pairs for immediate (or nearby forward) delivery, and reverse the same transaction on some mutually agreed to subsequent “forward date,” which according to the definition above for a “forward” may be a standard delivery date or a broken delivery date.

**TIME**

Except as otherwise specifically provided, any reference to time shall mean local Chicago time.

…

**TRADE DATE OF AN FX OTC CLEARED TRANSACTION**

The trade date of a foreign exchange (FX) over-the-counter (OTC) cleared transaction” is the date on which counterparties to the OTC transaction submit the FX OTC transaction to clearing as a cleared contract. Although in most instances counterparties may submit an FX OTC cleared transaction for clearing on the same date as the original trade for the FX OTC spot, forward and swap transaction, there is no requirement that it is submitted on the same date. Therefore, an FX OTC cleared transaction may be submitted on any date for clearing on the exchange.

**TRADING SESSION**

A trading session will mean either the pit trading session (the hours designated for open outcry trading for a product) and/or the GLOBEX session (the hours on a particular trading day when a product can be traded on the GLOBEX system.

**VALID VALUE DATE FOR DELIVERY OR CASH SETTLEMENT OF AN FX OTC CLEARED TRANSACTION**

“Cleared only” foreign exchange (FX) over-the-counter (OTC) cleared transactions shall be delivered or cash settled for any valid value date mutually agreed to by buyer and seller, including all applicable standard valid value dates for delivery or cash settlement in futures offered for “trading and clearing.” In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

**VOLATILITY QUOTE**

An alternative means of quoting options, or combinations involving options, by bidding or offering the implied volatility. Any transactions quoted in volatility terms will be translated into price terms for clearing purposes by means of a standard options pricing model maintained and disseminated by the Exchange.

(End Definitions)

Appendix 3

## 5.C. POSITION LIMIT AND REPORTABLE LEVEL TABLE
## POSITION LIMIT, POSITION ACCOUNTABILITY AND REPORTABLE LEVEL TABLE

| CONTRACT NAME | OPTIONS | FIRST SCALE-DOWN SPOT MONTH | SECOND SCALE-DOWN SPOT MONTH | SPOT MONTH | SINGLE MONTH | ALL MONTHS COMBINED | POSITION ACCOUNT-ABILITY | REPORT-ABLE FUT LEVEL | REPORT-ABLE OPT LEVEL |
|---|---|---|---|---|---|---|---|---|---|
| **CME Foreign Exchange** | | | | | | | | | |
| Canadian Dollar/Japanese Yen | | | | | | | 6,000 | 25 | |
| U.S. Dollar/Chilean Peso (Cleared OTC Equivalents) | | | | 20,000 | | | 6,000 | NA | |
| U.S. Dollar Mexican Peso (Cleared OTC Equivalents) | | | | 20,000 | | | 6,000 | NA | |
| U.S. Dollar/Brazilian Real (Cleared OTC Equivalents) | | | | | 24,000 | 40,000 | | NA | |
| U.S. Dollar/Polish Zloty (Cleared OTC Equivalents) | | | | 2,000 | | | 6,000 | NA | |
| U.S. Dollar /Chinese Renminbi (Cleared OTC Equivalents) | | | | 2,000 | | | 6,000 | NA | |
| U.S. Dollar/Russian Ruble (Cleared OTC Equivalents) | | | | 2,000 | | 10,000 | | NA | |
| British Pound/U.S. Dollar (Cleared OTC Equivalents) | | | | | | | 10,000 | NA | |
| U.S. Dollar/Canadian Dollar (Cleared OTC Equivalents) | | | | | | | 6,000 | NA | |
| U.S. Dollar/Japanese Yen (Cleared OTC Equivalents) | | | | | | | 10,000 | NA | |
| U.S. Dollar/Swiss Franc (Cleared OTC Equivalents) | | | | | | | 10,000 | NA | |
| Australian Dollar/U.S. Dollar (Cleared OTC Equivalents) | | | | | | | 6,000 | NA | |
| New Zealand Dollar/U.S. Dollar (Cleared OTC Equivalents) | | | | | | | 6,000 | NA | |
| U.S. Dollar/South African Rand (Cleared OTC Equivalents) | | | | 5,000 | | | 6,000 | NA | |
| Euro/U.S. Dollar (Cleared OTC Equivalents) | | | | | | | 10,000 | NA | |
| U.S. Dollar/Norwegian Krone (Cleared OTC Equivalents) | | | | | | | 6,000 | NA | |
| U.S. Dollar/Swedish Krona (Cleared OTC Equivalents) | | | | | | | 6,000 | NA | |
| U.S Dollar/Czech Koruna (Cleared OTC | | | | 2,000 | | | 6,000 | NA | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Equivalents) | | | | | | | | | |
| U.S Dollar/Hungarian Forint (Cleared OTC Equivalents) | | | | 2,000 | | | 6,000 | NA | |
| U.S Dollar/Israeli Shekel (Cleared OTC Equivalents) | | | | 2,000 | | | 6,000 | NA | |
| U.S Dollar/Turkish Lira (Cleared OTC Equivalents) | | | | 2,000 | | | 6,000 | NA | |
| U.S. Dollar/Danish Krone (Cleared OTC Equivalents) | | | | | | | 6,000 | NA | |
| Euro/British Pounds (Cleared OTC Equivalents) | | | | | | | 6,000 | NA | |
| Euro/Japanese Yen (Cleared OTC Equivalents) | | | | | | | 6,000 | NA | |
| Euro/Swiss Franc (Cleared OTC Equivalents) | | | | | | | 6,000 | NA | |
| Canadian Dollar/Japanese Yen (Cleared OTC Equivalents) | | | | | | | 6,000 | NA | |
| Euro/ Australian Dollar (Cleared OTC Equivalents) | | | | | | | 6,000 | NA | |
| Australian Dollar/Japanese Yen (Cleared OTC Equivalents) | | | | | | | 6,000 | NA | |
| U.S. Dollar/Hong Kong Dollar (Cleared OTC Equivalents) | | | | | | | 6,000 | NA | |
| U.S. Dollar/Singapore Dollar (Cleared OTC Equivalents) | | | | 5,000 | | | 6,000 | NA | |
| U.S. Dollar/Thailand Baht (Cleared OTC Equivalents) | | | | 2,000 | | | 6,000 | NA | |
| U.S. Dollar/Colombian Peso (Cleared OTC Equivalents) | | | | 20,000 | | | 6,000 | NA | |
| U.S. Dollar/Peruvian Sol (Cleared OTC Equivalents) | | | | 20,000 | | | 6,000 | NA | |
| U.S. Dollar/Argentine Peso (Cleared OTC Equivalents) | | | | 20,000 | | | 6,000 | NA | |
| U.S. Dollar/Korean Won (Cleared OTC Equivalents) | | | | 20,000 | | | 6,000 | NA | |
| U.S. Dollar/Indian Rupee (Cleared OTC Equivalents) | | | | 20,000 | | | 6,000 | NA | |
| U.S. Dollar/Malaysian Ringgit (Cleared OTC Equivalents) | | | | 20,000 | | | 6,000 | NA | |
| U.S. Dollar/Indonesian Rupiah (Cleared OTC Equivalents) | | | | 20,000 | | | 6,000 | NA | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| U.S. Dollar/Taiwan Dollar (Cleared OTC Equivalents) | | | | 20,000 | | | 6,000 | NA | |
| U.S. Dollar/Philippines Peso (Cleared OTC Equivalents) | | | | 20,000 | | | 6,000 | NA | |
| Chinese Renminbi/Euro FX | Y | | | 2,000 | | | 6,000 | 25 | 25 |

******For purposes of Position Accountability and Position Limits, notional value in the cleared only product will be converted to contract units, whereby, notional 100,000 U.S. dollars will equal one contract equivalent. Spot month position limits will be calculated based upon contract equivalents for cleared transactions which are settled in the spot period between the second and third Wednesdays (inclusive) during the months of March, June, September and December.**

**Appendix 4**

**Chapter 300**
**CME WM/Reuters OTC Spot, Forward and Swap Contracts**

## 300.00. SCOPE OF CHAPTER

This chapter is limited in application to CME WM/Reuters OTC Spot, Forward, and Swap Contracts ("CME WMR Contracts"), based on specified currency pairs, cash-settled by reference to WM/Reuters Closing Spot Rates ("WMR Rates")[1]. Parties to transactions in CME WMR Contracts shall be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act.

Transactions in CME WMR Contracts shall also be subject to the general rules of the Exchange insofar as applicable. The clearing and settlement of transactions in CME WMR Contracts shall also be subject to the provisions of Chapter 8-F of the CME Rulebook (Over-the-Counter Derivative Clearing).

## 300.01. CONTRACT SPECIFICATIONS

### 300.01.A. Contract Summary

CME WMR Contracts shall be based upon specified currency pairings as cataloged in the Appendix to this Chapter.

The Unit of Trading and Clearing shall be specified in terms of the "clearing-unit currency." CME WMR Contracts shall be based on a Unit of Clearing to a Precision as specified in the Appendix to this Chapter. The minimum price fluctuation shall be specified in terms of the "minimum-fluctuation currency." CME WMR contracts shall be quoted in minimum price fluctuations as specified in the Appendix to this Chapter.

For purposes of Position Accountability and the application of Position Limits, per Rule 300.01.E, each CME WMR Contract shall be deemed to be the notional value contract equivalent as specified in the Appendix to this Chapter. The levels of Position Accountability and Position Limits, as applicable, are further specified in the Appendix to this Chapter.

### 300.01.B. Hours for Trading and Clearing Entry

The Exchange shall determine the hours during which CME WMR Contracts may be traded and submitted to the Clearing House.

### 300.01.C. Valid Value Dates for Cash Settlement

CME WMR Contracts shall be cash settled for any valid value date mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

### 300.01.D. Delivery Price and Delivery Value

Delivery for CME WMR Contracts assigned pursuant to Chapter 300 shall be by cash settlement according to Rule 300.02.

### 300.01.E. Position Limits and Position Accountability

1. Authority - Position Limits and Position Accountability may be applicable, as defined by Rule 560, and as per the following.
2. Aggregation - For purposes of this Rule, where applicable:

- futures,
- options on futures,
- E-mini futures,

[1] The WM/Reuters Closing Spot Rates are provided by The World Markets Company PLC (WM) in conjunction with Reuters and are used for certain currencies (the "Rates") displayed herein. WM and Reuters shall not be liable for any errors in or delays in providing or making available the WM/Reuters Closing Spot Rates, nor for any actions taken in reliance on the same. The Rates can not be used, reproduced, distributed, redistributed, licensed or disclosed in any way without a written agreement with WM.

- E-micro futures,
- spot, forward and swaps (combinations of spot and forwards or two maturity forwards), including but not limited to CME WMR Contracts,
- options on spot and forwards, including but not limited to CME WMR Contracts; and
- in addition, where applicable, the analogous reciprocal versions of the aforementioned contracts for the respective foreign exchange pairs, shall be aggregated with all products utilizing that foreign exchange (FX) pair regardless of quoting conventions. The baseline for this aggregation shall be the denomination of the underlying full-size CME futures contract. Contract equivalents shall be determined through the conversion of the notional value (or contract size times the number of contracts in standardized products) to the CME base currency using the prior day's Regular Trading Hours (RTH) settlement, and dividing the result by the contract size or notional of the full-size CME futures contract.

3. Contract Equivalent - For purposes of this Rule, each CME WMR Contract shall be deemed to be the notional value contract equivalent as specified in the Appendix to this Chapter.

4. Position Accountability - A participant owning or controlling more than the aggregated equivalent of the number of contracts specified in the Appendix to this Chapter, net long or net short, shall provide, in a timely fashion, upon request by the Exchange, information regarding the nature of the position, trading strategy, and hedging information if applicable.

5. Spot Position Limit – A participant shall not own or control more than the equivalent of the number of contracts specified in the Appendix to this Chapter which are settled in the spot period between the second and third Wednesdays (inclusive) during the months of March, June, September and December.

6. Single Expiration Position Limit – A participant shall not own or control more than the equivalent of the number of contracts specified in the Appendix to this Chapter that expire on the same date.

7. Aggregate Position Limit– A participant shall not own or control more than the equivalent of the number of contracts specified in the Appendix to this Chapter, net long or net short, in all expiration dates combined.

8. Exemptions - The foregoing position limits shall not apply to bona fide hedge positions meeting the requirements of Regulation 1.3(z)(1) of the CFTC and the rules of the Exchange, and shall not apply to other positions exempted pursuant to Rule 559.

**300.01.F. Last Day of Trading**

The last day on which a transaction in a CME WMR Contract may be traded, in respect of a specified cash settlement date, shall be one (1) valid business day prior to the cash settlement date.

**300.01.G. Liquidation and Delivery Standards**

(1) At Maturity. After clearing of CME WMR Contracts in respect of a specified cash settlement date has ceased, in accordance with Rule 300.01.G. of this chapter, outstanding contracts for such cash settlement date shall be liquidated by cash settlement through procedures as prescribed in Rule 300.02 and in a manner prescribed by the Clearing House.

(2) Prior to Maturity. Standard offsets of futures and options on futures shall not apply to positions in CME WMR Contracts. Prior to the Cash Settlement Date, positions may be closed out upon the request of the clearing firm to the Clearing House, and in the manner prescribed by the Clearing House.

**300.01.H. Contract Modifications**

Specifications shall be fixed as of the first day of trading of a contract, except that all deliveries must conform to government regulations in force at the time of delivery. If any national or international government agency or body issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules and all open and new contracts shall be subject to such government orders.

**300.02. CASH SETTLEMENT**

**300.02.A. Day of Cash Settlement**

Each CME WMR Contract, for a valid value date for cash settlement in one business day, shall be liquidated by cash settlement at a price equal to the daily Final Settlement Price for that day. The daily Final Settlement Price shall be equal to the WM/Reuters Closing Spot Rate for that day for the specific currency pair in question, rounded to the nearest integral multiple of the minimum price increment as identified per the Appendix to this Chapter.

All open positions for that valid value date for cash settlement will be cash settled in the minimum fluctuation currency based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing, times the notional value of the transaction in the clearing unit currency.

**300.02.B. Procedures if No Cash Settlement Price is Available**

In the event that the Final Settlement Price for a valid value date for cash settlement cannot be published on a given day by WM/Reuters, and in order to minimize basis risk, the Final Settlement Price shall be determined as the next available WM/Reuters Closing Spot Rate for the specific currency pair in question.

**300.02.C. Amendments to Timings**

The Exchange may amend the timings of notifications, deliveries, and transfers under this Rule 300.02 to reflect as appropriate the adoption of daylight savings time in the relevant countries of delivery.

**300.03. DISPUTES**

All disputes between interested parties may be settled by arbitration as provided in the Rules.

(End Chapter 300)

**Appendix to Chapter 300: Contract Specifications**

| Currency Pairing | Unit of Trading and Clearing | Precision | Minimum Price Fluctuation | Contract Equivalent | Position Account-ability | Spot Month Position Limit | Single Month Position Limit | All Months Combined Position Limit |
|---|---|---|---|---|---|---|---|---|
| GBP/USD | 1 GBP | 0.01 GBP | 0.000001 USD/GBP | 62,500 GBP | 10,000 | Na | Na | Na |
| USD/CAD | 1 USD | 0.01 USD | 0.000001 CAD/USD | 100,000 USD | 6,000 | Na | Na | Na |
| USD/JPY | 1 USD | 0.01 USD | 0.0001 JPY/USD | 100,000 USD | 10,000 | Na | Na | Na |
| USD/CHF | 1 USD | 0.01 USD | 0.000001 CHF/USD | 100,000 USD | 10,000 | Na | Na | Na |
| AUD/USD | 1 AUD | 0.01 AUD | 0.000001 USD/AUD | 100,000 AUD | 6,000 | Na | Na | Na |
| USD/MXN | 1 USD | 0.01 USD | 0.000001 MXN/USD | 100,000 USD | 6,000 | 20,000 | Na | Na |
| NZD/USD | 1 NZD | 0.01 NZD | 0.000001 USD/NZD | 100,000 NZD | 6,000 | Na | Na | Na |
| USD/ZAR | 1 USD | 0.01 USD | 0.000001 ZAR/USD | 100,000 USD | 6,000 | 5.000 | Na | Na |
| EUR/USD | 1 EUR | 0.01 EUR | 0.000001 USD/EUR | 125,000 EUR | 10,000 | Na | Na | Na |
| USD/NOK | 1 USD | 0.01 USD | 0.000001 NOK/USD | 100,000 USD | 6,000 | Na | Na | Na |
| USD/SEK | 1 USD | 0.01 USD | 0.000001 SEK/USD | 100,000 USD | 6,000 | Na | Na | Na |
| USD/CZK | 1 USD | 0.01 USD | 0.00001 CZK/USD | 100,000 USD | 6,000 | 2,000 | Na | Na |
| USD/HUF | 1 USD | 0.01 USD | 0.0001 HUF/USD | 100,000 USD | 6,000 | 2,000 | Na | Na |
| USD/PLN | 1 USD | 0.01 USD | 0.000001 PLN/USD | 100,000 USD | 6,000 | 2,000 | Na | Na |
| USD/ILS | 1 USD | 0.01 USD | 0.000001 ILS/USD | 100,000 USD | 6,000 | 2,000 | Na | Na |
| USD/TRY | 1 USD | 0.01 USD | 0.000001 TRY/USD | 100,000 USD | 6,000 | 2,000 | Na | Na |
| USD/DKK | 1 USD | 0.01 USD | 0.000001 DKK/USD | 100,000 USD | 6,000 | Na | Na | Na |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| EUR/GBP | 1 EUR | 0.01 EUR | 0.0000001 GBP/EUR | 125,000 EUR | 6,000 | Na | Na | Na |
| EUR/JPY | 1 EUR | 0.01 EUR | 0.0001 JPY/EUR | 125,000 EUR | 6,000 | Na | Na | Na |
| EUR/CHF | 1 EUR | 0.01 EUR | 0.0000001 CHF/EUR | 125,000 EUR | 6,000 | Na | Na | Na |
| AUD/JPY | 1 AUD | 0.01 AUD | 0.000001 JPY/AUD | 100,000 AUD | 6,000 | Na | Na | Na |
| CAD/JPY | 1 CAD | 0.01 CAD | 0.00001 JPY/CAD | 100,000 CAD | 6,000 | Na | Na | Na |
| EUR/AUD | 1 EUR | 0.01 EUR | 0.000001 AUD/EUR | 125,000 EUR | 6,000 | Na | Na | Na |
| USD/HKD | 1 USD | 0.01 USD | 0.000001 HKD/USD | 100,000 USD | 6,000 | Na | Na | Na |
| USD/SGD | 1 USD | 0.01 USD | 0.000001 SGD/USD | 100,000 USD | 6,000 | 5,000 | Na | Na |
| USD/THB | 1 USD | 0.01 USD | 0.0001 THB/USD | 100,000 USD | 6,000 | 2,000 | Na | Na |

**NOTES**

AUD = Australian dollar
CAD = Canadian dollar
CHF = Swiss franc
CZK = Czech koruna
DKK = Danish krone
EUR = Euro
GBP = British pound
HKD = Hong Kong dollar
HUF = Hungarian forint
ILS = Israeli shekel
JPY = Japanese yen
MXN = Mexican peso
NOK = Norwegian krone
NZD = New Zealand dollar
PLN = Polish zloty
SEK = Swedish krona
SGD = Singapore dollar
THB = Thailand baht
TRY = Turkish lira
USD = U.S. dollar
ZAR = South African Rand

**Appendix 5**

**Chapter 257H**
**Cleared OTC U.S. Dollar/ Brazilian Real (USD/BRL)**
**Spot, Forwards and Swaps**

## 257H.00. SCOPE OF CHAPTER

This chapter is limited in application to U.S. dollar/ Brazilian real Spot, Forwards, and Swaps that are executed between two counterparties on an Over-the-Counter ("OTC") basis and subsequently novated to the CME Clearing House for purposes of clearance ("Cleared OTC Contracts"). Parties to transactions in Cleared OTC Contracts shall be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act. Cleared OTC Contracts are listed by CME for clearing-only. Transactions in Cleared OTC Contracts shall also be subject to the general rules of the Exchange insofar as applicable. The clearing and settlement of transactions in Cleared OTC Contracts shall also be subject to the provisions of Chapter 8-F of the CME Rulebook (Over-the-Counter Derivative Clearing). For purposes of these Rules, the minimum-fluctuation currency is the Brazilian real and the clearing-unit currency is the U.S. dollar.

## 257F.01. CONTRACT SPECIFICATIONS

### 257H.01.A. Unit of Clearing

The unit of clearing shall be 1 U.S. dollar in any amount to a precision of 0.01 U.S. dollar.

### 257H.01.B. Hours for Clearing Entry

The Exchange shall determine the hours during which Cleared OTC Contracts may be submitted to the Clearing House. Positions shall be initiated or closed out using off-exchange transactions.

### 257H.01.C. Minimum Price Increments

Minimum price fluctuations shall be in multiples of 0.000001 Brazilian real per U.S. dollar for transactions in Cleared OTC Contracts.

### 257H.01.D. Valid Value Dates for Cash Settlement

Cleared OTC Contracts shall be cash settled for any valid value date mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

### 257H.01.E. Delivery Price and Delivery Value

Delivery for Cleared OTC Contracts assigned pursuant to Chapter 257H shall be by cash settlement according to Rule 257H.02.

### 257H.01.F. Position Limits and Position Accountability

1. Authority - Position Limits and Position Accountability may be applicable, as defined by Rule 560, and as per the following.
2. Aggregation - For purposes of this Rule, where applicable:

- futures,
- options on futures,
- E-mini futures,
- E-micro futures,
- cleared only spot, forward and swaps (combinations of spot and forwards or two maturity forwards),
- cleared only options on spot and forwards; and
- in addition, where applicable, the analogous reciprocal versions of the aforementioned contracts for the respective foreign exchange pairs, shall be aggregated with all products utilizing that foreign exchange (FX) pair regardless of quoting conventions. The baseline for this aggregation shall be the denomination of the underlying full-size CME futures contract. Contract equivalents shall be determined through the conversion of the notional value (or contract size times the number of contracts in standardized products) to the CME base currency using the prior day's

Regular Trading Hours (RTH) settlement, and dividing the result by the contract size or notional of the full-size CME futures contract.

3. Contract Equivalent - For purposes of this Rule, a contract shall be deemed to be the equivalent of 100,000 Brazilian reals in notional value.

4. Position Limit - A participant may not own or control more than the aggregated equivalent across all contract months of 40,000 contracts, or 4 billion Brazilian reals in notional value, or 24,000 contracts in any single contract month or 2.4 billion Brazilian reals, net long or net short.

5. Exemptions - The foregoing position limits shall not apply to bona fide hedge positions meeting the requirements of Regulation 1.3(z)(1) of the CFTC and the rules of the Exchange, and shall not apply to other positions exempted pursuant to Rule 559.

6. Reserved

7. Reserved

**257H.01.G. Last Day of Clearing**

The last day on which a transaction in a Cleared OTC Contract may be submitted for clearing in respect of a specified cash settlement date shall be one (1) valid business day prior to the cash settlement date.

**257H.01.H. Liquidation and Delivery Standards**

(1) At Maturity. After clearing of Cleared OTC Contracts in respect of a specified cash settlement date has ceased, in accordance with Rule 257H.01.G. of this chapter, outstanding contracts for such cash settlement date shall be liquidated by cash settlement through procedures as prescribed in Rule 257H.02 and in a manner prescribed by the Clearing House.

(2) Prior to Maturity. Standard offsets of futures and options on futures shall not apply to positions in Cleared OTC Contracts. Prior to the Cash Settlement Date, positions may be closed out upon the request of the clearing firm to the Clearing House, and in the manner prescribed by the Clearing House.

**257H.01.I. Contract Modifications**

Specifications shall be fixed as of the first day of clearing of a contract, except that all final settlements via cash settlement must conform to government regulations in force at the time of final settlement. If any national or international government agency or body issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules and all open and new contracts shall be subject to such government orders.

**257H.02. CASH SETTLEMENT**

**257H.02.A. Day of Cash Settlement**

Each Cleared OTC Contract, for a valid value date for cash settlement in one business day, shall be liquidated by cash settlement at a price equal to the daily Final Settlement Price for that day. The daily Final Settlement Price shall be determined as the reciprocal of the Final Settlement Price determined per the procedures set forth in Rule 25702.B., Cash Settlement, rounded to the nearest integral multiple of the minimum price increment as identified per Rule 257H.01.C., Minimum Price Increments.

All open positions for that valid value date for cash settlement will be cash settled in the minimum fluctuation currency based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing, times the notional value of the transaction in the clearing unit currency, and divided by the Final Settlement Price for the valid value date for cash settlement.

**257H.02.B. Procedures if No Cash Settlement Price is Available**

In the event that the Final Settlement Price for a valid value date for cash settlement cannot be published on a given day by CME, and in order to minimize basis risk, the Exchange shall determine a Final Settlement Price as the

reciprocal of the Final Settlement Price determined per procedures set forth in the INTERPRETATION TO CHAPTER 257.

**257H.02.C. Amendments to Timings**

The Exchange may amend the timings of notifications, deliveries, and transfers under this Rule 257H.02 to reflect as appropriate the adoption of daylight savings time in the relevant countries of delivery.

**257H.03. DISPUTES**

All disputes between interested parties may be settled by arbitration as provided in the Rules.

(End Chapter 257H)

**Appendix 6**

**Chapter 270H**
**Cleared OTC U.S. Dollar/ Chinese Renminbi (USD/RMB)**
**Spot, Forwards and Swaps**

## 270H.00. SCOPE OF CHAPTER

This chapter is limited in application to U.S. dollar/ Chinese renminbi Spot, Forwards, and Swaps that are executed between two counterparties on an Over-the-Counter ("OTC") basis and subsequently novated to the CME Clearing House for purposes of clearance ("Cleared OTC Contracts"). Parties to transactions in Cleared OTC Contracts shall be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act. Cleared OTC Contracts are listed by CME for clearing-only. Transactions in Cleared OTC Contracts shall also be subject to the general rules of the Exchange insofar as applicable. The clearing and settlement of transactions in Cleared OTC Contracts shall also be subject to the provisions of Chapter 8-F of the CME Rulebook (Over-the-Counter Derivative Clearing). For purposes of these Rules, the minimum-fluctuation currency is the Chinese renminbi and the clearing-unit currency is the U.S. dollar.

## 270F.01. CONTRACT SPECIFICATIONS

### 270H.01.A. Unit of Clearing

The unit of clearing shall be 1 U.S. dollar in any amount to a precision of 0.01 U.S. dollar.

### 270H.01.B. Hours for Clearing Entry

The Exchange shall determine the hours during which Cleared OTC Contracts may be submitted to the Clearing House. Positions shall be initiated or closed out using off-exchange transactions.

### 270H.01.C. Minimum Price Increments

Minimum price fluctuations shall be in multiples of 0.0001 Chinese renminbi per U.S. dollar for transactions in Cleared OTC Contracts.

### 270H.01.D. Valid Value Dates for Cash Settlement

Cleared OTC Contracts shall be cash settled for any valid value date mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

### 270H.01.E. Delivery Price and Delivery Value

Delivery for Cleared OTC Contracts assigned pursuant to Chapter 270H shall be by cash settlement according to Rule 270H.02.

### 270H.01.F. Position Limits and Position Accountability

1. Authority - Position Limits and Position Accountability may be applicable, as defined by Rule 560, and as per the following.
2. Aggregation - For purposes of this Rule, where applicable:

- futures,
- options on futures,
- E-mini futures,
- E-micro futures,
- cleared only spot, forward and swaps (combinations of spot and forwards or two maturity forwards),
- cleared only options on spot and forwards; and
- in addition, where applicable, the analogous reciprocal versions of the aforementioned contracts for the respective foreign exchange pairs, shall be aggregated with all products utilizing that foreign exchange (FX) pair regardless of quoting conventions. The baseline for this aggregation shall be the denomination of the underlying full-size CME futures contract. Contract equivalents shall be determined through the conversion of the notional value (or contract size times the number of contracts in standardized products) to the CME base currency using the prior day's

Regular Trading Hours (RTH) settlement, and dividing the result by the contract size or notional of the full-size CME futures contract.

3. Contract Equivalent - For purposes of this Rule, a contract shall be deemed to be the equivalent of 1,000,000 Chinese renminbi in notional value.

4. Position Accountability - A participant owning or controlling more than the aggregated equivalent of 6,000 contracts, or 6 billion Chinese renminbi in notional value, net long or net short, shall provide, in a timely fashion, upon request by the Exchange, information regarding the nature of the position, trading strategy, and hedging information if applicable.

5. Spot Position Limit – A participant shall not own or control more than the equivalent of 2,000 contracts, or 2 billion Chinese renminbi, which are settled in the spot period between the second and third Wednesdays (inclusive) during the months of March, June, September and December.

6. Exemptions - The foregoing position limits shall not apply to bona fide hedge positions meeting the requirements of Regulation 1.3(z)(1) of the CFTC and the rules of the Exchange, and shall not apply to other positions exempted pursuant to Rule 559.

**7.** Reserved

**270H.01.G. Last Day of Clearing**

The last day on which a transaction in a Cleared OTC Contract may be submitted for clearing in respect of a specified cash settlement date shall be one (1) valid business day prior to the cash settlement date.

**270H.01.H. Liquidation and Delivery Standards**

(1) At Maturity. After clearing of Cleared OTC Contracts in respect of a specified cash settlement date has ceased, in accordance with Rule 270H.01.G. of this chapter, outstanding contracts for such cash settlement date shall be liquidated by cash settlement through procedures as prescribed in Rule 270H.02 and in a manner prescribed by the Clearing House.

(2) Prior to Maturity. Standard offsets of futures and options on futures shall not apply to positions in Cleared OTC Contracts. Prior to the Cash Settlement Date, positions may be closed out upon the request of the clearing firm to the Clearing House, and in the manner prescribed by the Clearing House.

**270H.01.I. Contract Modifications**

Specifications shall be fixed as of the first day of clearing of a contract, except that all final settlements via cash settlement must conform to government regulations in force at the time of final settlement. If any national or international government agency or body issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules and all open and new contracts shall be subject to such government orders.

**270H.02. CASH SETTLEMENT**

**270H.02.A. Day of Cash Settlement**

Each Cleared OTC Contract, for a valid value date for cash settlement in one business day, shall be liquidated by cash settlement at a price equal to the daily Final Settlement Price for that day. The daily Final Settlement Price shall be determined as the reciprocal of the Final Settlement Price determined per the procedures set forth in Rule 27002.B., Cash Settlement, rounded to the nearest integral multiple of the minimum price increment as identified per Rule 270H.01.C., Minimum Price Increments.

All open positions for that valid value date for cash settlement will be cash settled in the clearing-unit currency based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing, times the notional value of the transaction in the clearing unit currency, and divided by the Final Settlement Price for the valid value date for cash settlement.

**270H.02.B. Procedures if No Cash Settlement Price is Available**

In the event that the Final Settlement Price for a valid value date for cash settlement cannot be published on a given day by CME, and in order to minimize basis risk, the Exchange shall determine a Final Settlement Price as the reciprocal of the Final Settlement Price determined per procedures set forth in the INTERPRETATION TO CHAPTER 270.

**270H.02.C. Amendments to Timings**

The Exchange may amend the timings of notifications, deliveries, and transfers under this Rule 270H.02 to reflect as appropriate the adoption of daylight savings time in the relevant countries of delivery.

**270H.03. DISPUTES**

All disputes between interested parties may be settled by arbitration as provided in the Rules.

(End Chapter 270H)

**Appendix 7**

**Chapter 260H**
**Cleared OTC U.S. Dollar / Russian Ruble (USD/ RUB)**
**Spot, Forwards and Swaps**

## 260H.00. SCOPE OF CHAPTER

This chapter is limited in application to U.S. dollar / Russian ruble Spot, Forwards, and Swaps that are executed between two counterparties on an Over-the-Counter ("OTC") basis and subsequently novated to the CME Clearing House for purposes of clearance ("Cleared OTC Contracts"). Parties to transactions in Cleared OTC Contracts shall be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act. Cleared OTC Contracts are listed by CME for clearing-only. Transactions in Cleared OTC Contracts shall also be subject to the general rules of the Exchange insofar as applicable. The clearing and settlement of transactions in Cleared OTC Contracts shall also be subject to the provisions of Chapter 8-F of the CME Rulebook (Over-the-Counter Derivative Clearing). For purposes of these Rules, the minimum-fluctuation currency is the Russian ruble and the clearing-unit currency is the U.S. dollar.

## 260H.01. CONTRACT SPECIFICATIONS

### 260H.01.A. Unit of Clearing

The unit of clearing shall be 1 U.S. dollar in any amount to a precision of 0.01 U.S. dollar.

### 260H.01.B. Hours for Clearing Entry

The Exchange shall determine the hours during which Cleared OTC Contracts may be submitted to the Clearing House. Positions shall be initiated or closed out using off-exchange transactions.

### 260H.01.C. Minimum Price Increments

Minimum price fluctuations shall be in multiples of 0.000001 Russian ruble per U.S. dollar for transactions in Cleared OTC Contracts.

### 260H.01.D. Valid Value Dates for Cash Settlement

Cleared OTC Contracts shall be cash settled for any valid value date mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

### 260H.01.E. Delivery Price and Delivery Value

Delivery for Cleared OTC Contracts assigned pursuant to Chapter 260H shall be by cash settlement according to Rule 260H.02.

### 260H.01.F. Position Limits and Position Accountability

1. Authority - Position Limits and Position Accountability may be applicable, as defined by Rule 560, and as per the following.
2. Aggregation - For purposes of this Rule, where applicable:

- futures,
- options on futures,
- E-mini futures,
- E-micro futures,
- cleared only spot, forward and swaps (combinations of spot and forwards or two maturity forwards),
- cleared only options on spot and forwards; and
- in addition, where applicable, the analogous reciprocal versions of the aforementioned contracts for the respective foreign exchange pairs, shall be aggregated with all products utilizing that foreign exchange (FX) pair regardless of quoting conventions. The baseline for this aggregation shall be the denomination of the underlying full-size CME futures contract. Contract equivalents shall be determined through the conversion of the notional value (or contract size times the number of contracts in standardized products) to the CME base currency using the prior day's

Regular Trading Hours (RTH) settlement, and dividing the result by the contract size or notional of the full-size CME futures contract.

3. Contract Equivalent - For purposes of this Rule, a contract shall be deemed to be the equivalent of 2,500,000 Russian ruble in notional value.

4. Reserved.

5. Aggregate Position Limit– A person shall not own or control more than the equivalent of 10,000 contracts or 25,000,000,000 Russian rubles in notional value, net long or net short, in all expiration dates combined,

6. Spot Position Limit – A participant shall not own or control more than the equivalent of 2,000 contracts, or 5 billion Russian rubles, which are settled in the spot period between the fifteenth calendar day of the month and one week prior (inclusive) during the months of March, June, September and December, and

7. Exemptions - The foregoing position limits shall not apply to bona fide hedge positions meeting the requirements of Regulation 1.3(z)(1) of the CFTC and the rules of the Exchange, and shall not apply to other positions exempted pursuant to Rule 559.

**260H.01.G. Last Day of Clearing**

The last day on which a transaction in a Cleared OTC Contract may be submitted for clearing in respect of a specified cash settlement date shall be one (1) valid business day prior to the cash settlement date.

**260H.01.H. Liquidation and Delivery Standards**

(1) At Maturity. After clearing of Cleared OTC Contracts in respect of a specified cash settlement date has ceased, in accordance with Rule 260H.01.G. of this chapter, outstanding contracts for such cash settlement date shall be liquidated by cash settlement through procedures as prescribed in Rule 260H.02 and in a manner prescribed by the Clearing House.
(2) Prior to Maturity. Standard offsets of futures and options on futures shall not apply to positions in Cleared OTC Contracts. Prior to the Cash Settlement Date, positions may be closed out upon the request of the clearing firm to the Clearing House, and in the manner prescribed by the Clearing House.

**260H.01.I. Contract Modifications**

Specifications shall be fixed as of the first day of clearing of a contract, except that all final settlements via cash settlement must conform to government regulations in force at the time of final settlement. If any national or international government agency or body issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules and all open and new contracts shall be subject to such government orders.

**260H.02. CASH SETTLEMENT**

**260H.02.A. Day of Cash Settlement**

Each Cleared OTC Contract, for a valid value date for cash settlement in one business day, shall be liquidated by cash settlement at a price equal to the daily Final Settlement Price for that day. The daily Final Settlement Price shall be determined as the reciprocal of the Final Settlement Price per the procedures set forth in Rule 26002.B., Cash Settlement, rounded to the nearest integral multiple of the minimum price increment as identified per Rule 260H.01.C., Minimum Price Increments.

All open positions for that valid value date for cash settlement will be cash settled in the clearing-unit currency based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing, times the notional value of the transaction in the clearing unit currency and divided by the Final Settlement Price for the valid value date for cash settlement.

**260H.02.B. Procedures if No Cash Settlement Price is Available**

In the event that the Final Settlement Price for a valid value date for cash settlement cannot be published on a given day by CME, and in order to minimize basis risk, the Exchange shall determine a Final Settlement Price per procedures set forth in the INTERPRETATION TO CHAPTER 260.

**260H.02.C. Amendments to Timings**

The Exchange may amend the timings of notifications deliveries, and transfers under this Rule 260H.02 to reflect as appropriate the adoption of daylight savings time in the relevant countries of delivery.

**260H.03. DISPUTES**

All disputes between interested parties may be settled by arbitration as provided in the Rules.

(End Chapter 260H)

**Appendix 8**

**Chapter 271H**
**Cleared OTC U.S. Dollar/Korean Won (USD/ KRW)**
**Spot, Forwards and Swaps**

## 271H.00. SCOPE OF CHAPTER

This chapter is limited in application to U.S. dollar/Korean won Spot, Forwards, and Swaps that are executed between two counterparties on an Over-the-Counter ("OTC") basis and subsequently novated to the CME Clearing House for purposes of clearance ("Cleared OTC Contracts"). Parties to transactions in Cleared OTC Contracts shall be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act. Cleared OTC Contracts are listed by CME for clearing-only. Transactions in Cleared OTC Contracts shall also be subject to the general rules of the Exchange insofar as applicable. The clearing and settlement of transactions in Cleared OTC Contracts shall also be subject to the provisions of Chapter 8-F of the CME Rulebook (Over-the-Counter Derivative Clearing). For purposes of these Rules, the minimum-fluctuation currency is the Korean won and the clearing-unit currency is the U.S. dollar.

## 271H.01. CONTRACT SPECIFICATIONS

### 271H.01.A. Unit of Clearing

The unit of clearing shall be 1 U.S. dollar in any amount to a precision of 0.01 U.S. dollar.

### 271H.01.B. Hours for Clearing Entry

The Exchange shall determine the hours during which Cleared OTC Contracts may be submitted to the Clearing House. Positions shall be initiated or closed out using off-exchange transactions.

### 271H.01.C. Minimum Price Increments

Minimum price fluctuations shall be in multiples of [~~0.0001~~]0.01 Korean won per U.S. dollar for transactions in Cleared OTC Contracts.

### 271H.01.D. Valid Value Dates for Cash Settlement

Cleared OTC Contracts shall be cash settled for any valid value date mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

### 271H.01.E. Delivery Price and Delivery Value

Delivery for Cleared OTC Contracts assigned pursuant to Chapter 271H shall be by cash settlement according to Rule 271H.02.

### 271H.01.F. Position Limits and Position Accountability

1. Authority - Position Limits and Position Accountability may be applicable, as defined by Rule 560, and as per the following.
2. Aggregation - For purposes of this Rule, where applicable:

- futures,
- options on futures,
- E-mini futures,
- E-micro futures,
- cleared only spot, forward and swaps (combinations of spot and forwards or two maturity forwards),
- cleared only options on spot and forwards; and
- in addition, where applicable, the analogous reciprocal versions of the aforementioned contracts for the respective foreign exchange pairs, shall be aggregated with all products utilizing that foreign exchange (FX) pair regardless of quoting conventions. The baseline for this aggregation shall be the denomination of the underlying full-size CME futures contract. Contract equivalents shall be determined through the conversion of the notional value (or contract size times the number of contracts in standardized products) to the CME base currency using the prior day's

Regular Trading Hours (RTH) settlement, and dividing the result by the contract size or notional of the full-size CME futures contract.
3. Contract Equivalent - For purposes of this Rule, a contract shall be deemed to be the equivalent of 125,000,000 Korean won in notional value.
4. Position Accountability - A person owning or controlling more than the aggregated equivalent of 6,000 contracts, or 750,000,000,000 Korean won in notional value, net long or net short, shall provide, in a timely fashion, upon request by the Exchange, information regarding the nature of the position, trading strategy, and hedging information if applicable.
5. Spot Position Limit – A participant shall not own or control more than the equivalent of 2,000 contracts, or 250 billion Korean won, which are settled in the spot period between the second and third Wednesdays (inclusive) during the months of March, June, September and December.
6. Exemptions - The foregoing position limits shall not apply to bona fide hedge positions meeting the requirements of Regulation 1.3(z)(1) of the CFTC and the rules of the Exchange, and shall not apply to other positions exempted pursuant to Rule 559.
7. Reserved

**271H.01.G. Last Day of Clearing**

The last day on which a transaction in a Cleared OTC Contract may be submitted for clearing in respect of a specified cash settlement date shall be one (1) valid business day prior to the cash settlement date.

**271H.01.H. Liquidation and Delivery Standards**

(1) At Maturity. After clearing of Cleared OTC Contracts in respect of a specified cash settlement date has ceased, in accordance with Rule 271H.01.G. of this chapter, outstanding contracts for such cash settlement date shall be liquidated by cash settlement through procedures as prescribed in Rule 271H.02 and in a manner prescribed by the Clearing House.
(2) Prior to Maturity. Standard offsets of futures and options on futures shall not apply to positions in Cleared OTC Contracts. Prior to the Cash Settlement Date, positions may be closed out upon the request of the clearing firm to the Clearing House, and in the manner prescribed by the Clearing House.

**271H.01.I. Contract Modifications**

Specifications shall be fixed as of the first day of clearing of a contract, except that all deliveries must conform to government regulations in force at the time of delivery. If any national or international government agency or body issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules and all open and new contracts shall be subject to such government orders.

**271H.02. CASH SETTLEMENT**

**271H.02.A. Day of Cash Settlement**

Each Cleared OTC Contract, for a valid value date for cash settlement in one business day, shall be liquidated by cash settlement at a price equal to the daily Final Settlement Price for that day. The daily Final Settlement Price shall be determined as the reciprocal of the Final Settlement Price per the procedures set forth in Rule 27102.B., Cash Settlement, rounded to the nearest integral multiple of the minimum price increment as identified per Rule 271H.01.C., Minimum Price Increments.

All open positions for that valid value date for cash settlement will be cash settled in the clearing-unit currency based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing, times the notional value of the transaction in the clearing unit currency and divided by the Final Settlement Price for the valid value date for cash settlement.

**271H.02.B. Procedures if No Cash Settlement Price is Available**

In the event that the Final Settlement Price for a valid value date for cash settlement cannot be published on a given day by CME, and in order to minimize basis risk, the Exchange shall determine a Final Settlement Price per procedures set forth in the INTERPRETATION TO CHAPTER 271.

**271H.02.C. Amendments to Timings**

The Exchange may amend the timings of notifications deliveries, and transfers under this Rule 271H.02 to reflect as appropriate the adoption of daylight savings time in the relevant countries of delivery.

**271H.03. DISPUTES**

All disputes between interested parties may be settled by arbitration as provided in the Rules.

(End Chapter 271H)

## Appendix 9

## Chapter 273H
## Cleared OTC U.S. Dollar/ Colombian Peso (USD/COP) Spot, Forwards and Swaps

### 273H.00. SCOPE OF CHAPTER

This chapter is limited in application to U.S. Dollar/Colombian Peso Spot, Forwards, and Swaps that are executed between two counterparties on an Over-the-Counter ("OTC") basis and subsequently novated to the CME Clearing House for purposes of clearance ("Cleared OTC Contracts"). Parties to transactions in Cleared OTC Contracts shall be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act. Cleared OTC Contracts are listed by CME for clearing-only. Transactions in Cleared OTC Contracts shall also be subject to the general rules of the Exchange insofar as applicable. The clearing and settlement of transactions in Cleared OTC Contracts shall also be subject to the provisions of Chapter 8-F of the CME Rulebook (Over-the-Counter Derivative Clearing). For purposes of these Rules, the minimum-fluctuations currency is the Colombian peso and the clearing-unit currency is the U.S. dollar.

### 273H.01. CONTRACT SPECIFICATIONS

#### 273H.01.A. Unit of Clearing

The unit of clearing shall be 1 U.S. Dollar in any amount down to a precision of 0.01 U.S. Dollar.

#### 273H.01.B. Hours for Clearing Entry

The Exchange shall determine the hours during which Cleared OTC Contracts may be submitted to the Clearing House. Positions shall be initiated or closed out using off-exchange transactions.

#### 273H.01.C. Minimum Price Increments

Minimum price fluctuations shall be in multiples of 0.01 Colombian Peso per U.S. Dollar for transactions in Cleared OTC Contracts.

#### 273H.01.D. Valid Value Dates for Cash Settlement

Cleared OTC Contracts shall be cash settled for any valid value date(s) mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

#### 273H.01.E. Delivery Price and Delivery Value

Delivery for the Cleared OTC Contracts assigned pursuant to Chapter 273H shall be by cash settlement according to Rule 273H.02.

#### 273H.01.F. Position Limits and Position Accountability

1. Authority - Position Limits and Position Accountability may be applicable, as defined by Rule 560, and as per the following.
2. Aggregation - For purposes of this Rule, where applicable:

- futures,
- options on futures,
- E-mini futures,
- E-micro futures,
- cleared only spot, forward and swaps (combinations of spot and forwards or two maturity forwards),
- cleared only options on spot and forwards; and
- in addition, where applicable, the analogous reciprocal versions of the aforementioned contracts for the respective foreign exchange pairs,

shall be aggregated with all products utilizing that foreign exchange (FX) pair regardless of quoting conventions. The baseline for this aggregation shall be the denomination of the underlying full-size CME futures contract. Contract equivalents shall be determined through the conversion of the notional value (or contract size times the number of contracts in standardized products) to the CME base currency using the prior day's Regular Trading Hours (RTH)

settlement, and dividing the result by the contract size or notional of the full-size CME futures contract.

3. Contract Equivalent - For purposes of this Rule, a contract shall be deemed to be the equivalent of 100,000 U.S. dollars in notional value.

4. Position Accountability - A participant owning or controlling more than the aggregated equivalent of 6,000 contracts, or 600,000,000 U.S. dollars in notional value, net long or net short, shall provide, in a timely fashion, upon request by the Exchange, information regarding the nature of the position, trading strategy, and hedging information if applicable.

5. Spot Position Limit – A participant shall not own or control more than 20,000 net contract equivalents (USD 100,000 notional per synthetic contract) which are settled in the spot period between the second and third Wednesdays (inclusive) during the months of March, June, September and December.

6. Exemptions - The foregoing position limits shall not apply to bona fide hedge positions meeting the requirements of Regulation 1.3(z)(1) of the CFTC and the rules of the Exchange, and shall not apply to other positions exempted pursuant to Rule 559.

7. Reserved

**273H.01.G. Last Day of Clearing**

The last day on which a Cleared OTC Contract may be submitted for clearing in respect of a specified cash settlement date shall be one valid business day prior to the cash settlement date.

**273H.01.H. Liquidation and Delivery Standards**

(1) At Maturity. After clearing of Cleared OTC Contracts in respect of a specified cash settlement date has ceased, in accordance with Rule 273H.01.G. of this chapter, outstanding contracts for such cash settlement date shall be liquidated by cash settlement through procedures as prescribed in Rule 273H.02 and in a manner prescribed by the Clearing House.

(2) Prior to Maturity. Standard offsets of futures and options on futures, if applicable, shall not apply to positions in Cleared OTC Contracts. Prior to the Cash Settlement Date, positions may be closed out upon the request of the clearing firm to the Clearing House, and in the manner prescribed by the Clearing House.

**273H.01.I. Contract Modifications**

Specifications shall be fixed as of the first day of clearing of a contract, except that all final settlements via cash settlement must conform to government regulations in force at the time of final settlement. If any national or international government agency or body issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules and all open and new contracts shall be subject to such government orders.

**273H.02. CASH SETTLEMENT**

**273H.02.A. Day of Cash Settlement**

Each Cleared OTC Contract, for the valid value date for cash settlement in two business days, shall be liquidated by cash settlement at a price equal to the daily Final Settlement Price (FSP) for that day. The daily Final Settlement Price shall be equal to the Colombian official exchange rate – the Tasa Representativa del Mercado or TRM (also known as the Colombian Peso index) as published by Superintendencia Financiera de Colombia on the Central bank of Colombia's Web site (see http://www.banrep.gov.co/statistics/sta_exchange_d.htm for the daily TRM) on the valid value date for cash settlement, rounded to two decimal places. This rate is used widely by the interbank foreign exchange market to cash settle non-deliverable forward contracts for Colombian peso versus U.S. dollars. All open positions for that valid value date for cash settlement will be cash settled in U.S. dollars based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing times the notional value of the transaction in USDs divided by Final Settlement Price. In the event, this U.S. dollar amount is positive, then the Clearing House shall debit the seller's clearing member account and credit the buyer's clearing member account for this amount in U.S. dollars. In the event, this U.S. dollar amount is

negative, then the Clearing House shall debit the buyer's clearing member account and credit the seller's clearing member account for this amount in U.S. dollars.

For example, if the TRM for the valid value date for cash settlement in two business days, is as follows: "Market Exchange Rate for MMMMM, DD - YYYY is 1887.80 COP per USD," and the original trade price submitted for clearing by clearing firms of the buyer and seller was 1801.44 COP per USD for a notional amount of 100,000 USD, then the Clearing House on the business day following the valid value date for cash settlement shall credit the clearing members account for the buyer with US$4,574.64 (*i.e.*, 1,887.80 COP per USD – 1,801.44 COP per USD =(+86.36 COP per USD x 100,000 USD) / 1,887.80 COP per USD) = $4,574.64.). Similarly, the Clearing House on the business day following the valid value date for cash settlement shall debit the clearing member account for the seller with US$4,574.64.

[~~In the event that the TRM of Colombia Pesos per U.S. Dollar is not published on the last trading day by the Central Bank of Colombia, and in order to minimize basis risk between the Colombian peso / U.S. dollar futures contracts and the non-deliverable forward ("NDF") market, the Exchange shall determine a Final Settlement Price based on the EMTA COP Indicative Survey Rate, when available. The EMTA COP Indicative Survey Rate Methodology follows this chapter in an Interpretation.~~)]

In the event that the "Tasa Representativa del Mercado or TRM" Colombian peso per U.S. dollar rate is not published on a valid date for cash settlement, then Rule 701. – ACTS OF GOVERNMENT, ACTS OF GOD AND OTHER EMERGENCIES shall be in effect.

**273H.02.B.** Reserved.

**273H.02.C. Amendments to Timings**

The Exchange may amend the timings of notifications, deliveries, and transfers under this Rule 273H.02 to reflect as appropriate the adoption of daylight savings time in the relevant countries of delivery.

**273H.03. DISPUTES**

All disputes between interested parties may be settled by arbitration as provided in the Rules.

**Appendix 10**

**Chapter 277H**
**Cleared OTC U.S. Dollar/ Peruvian Sol (USD/PEN) Spot, Forwards and Swaps**

## 277H.00. SCOPE OF CHAPTER

This chapter is limited in application to U.S. Dollar/Peruvian Sol Spot, Forwards, and Swaps that are executed between two counterparties on an Over-the-Counter ("OTC") basis and subsequently novated to the CME Clearing House for purposes of clearance ("Cleared OTC Contracts"). Parties to transactions in Cleared OTC Contracts shall be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act. Cleared OTC Contracts are listed by CME for clearing-only. Transactions in Cleared OTC Contracts shall also be subject to the general rules of the Exchange insofar as applicable. The clearing and settlement of transactions in Cleared OTC Contracts shall also be subject to the provisions of Chapter 8-F of the CME Rulebook (Over-the-Counter Derivative Clearing). For purposes of these Rules, the minimum-fluctuations currency is the Peruvian sol and the clearing-unit currency is the U.S. dollar.

## 277H.01. CONTRACT SPECIFICATIONS

### 277H.01.A. Unit of Clearing

The unit of clearing shall be 1 U.S. Dollar in any amount down to a precision of 0.01 U.S. Dollar.

### 277H.01.B. Hours for Clearing Entry

The Exchange shall determine the hours during which Cleared OTC Contracts may be submitted to the Clearing House. Positions shall be initiated or closed out using off-exchange transactions.

### 277H.01.C. Minimum Price Increments

Minimum price fluctuations shall be in multiples of 0.000001 Peruvian sol per U.S. Dollar for transactions in Cleared OTC Contracts.

### 277H.01.D. Valid Value Dates for Cash Settlement

Cleared OTC Contracts shall be cash settled for any valid value date(s) mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

### 277H.01.E. Delivery Price and Delivery Value

Delivery for the Cleared OTC Contracts assigned pursuant to Chapter 277H shall be by cash settlement according to Rule 277H.02.

### 277H.01.F. Position Limits and Position Accountability

1. Authority - Position Limits and Position Accountability may be applicable, as defined by Rule 560, and as per the following.
2. Aggregation - For purposes of this Rule, where applicable:

- futures,
- options on futures,
- E-mini futures,
- E-micro futures,
- cleared only spot, forward and swaps (combinations of spot and forwards or two maturity forwards),
- cleared only options on spot and forwards; and
- in addition, where applicable, the analogous reciprocal versions of the aforementioned contracts for the respective foreign exchange pairs,

shall be aggregated with all products utilizing that foreign exchange (FX) pair regardless of quoting conventions. The baseline for this aggregation shall be the denomination of the underlying full-size CME futures contract. Contract equivalents shall be determined through the conversion of the notional value (or contract size times the number of contracts in standardized products) to the CME base currency using the prior day's Regular Trading Hours (RTH)

settlement, and dividing the result by the contract size or notional of the full-size CME futures contract.

3. Contract Equivalent - For purposes of this Rule, a contract shall be deemed to be the equivalent of 100,000 U.S. dollars in notional value.

4. Position Accountability - A participant owning or controlling more than the aggregated equivalent of 6,000 contracts, or 600,000,000 U.S. dollars in notional value, net long or net short, shall provide, in a timely fashion, upon request by the Exchange, information regarding the nature of the position, trading strategy, and hedging information if applicable.

5. Spot Position Limit – A participant shall not own or control more than 20,000 net contract equivalents (USD 100,000 notional per synthetic contract) which are settled in the spot period between the second and third Wednesdays (inclusive) during the months of March, June, September and December.

6. Exemptions - The foregoing position limits shall not apply to bona fide hedge positions meeting the requirements of Regulation 1.3(z)(1) of the CFTC and the rules of the Exchange, and shall not apply to other positions exempted pursuant to Rule 559.

7. Reserved

**277H.01.G. Last Day of Clearing**

The last day on which a Cleared OTC Contract may be submitted for clearing in respect of a specified cash settlement date shall be one valid business day prior to the cash settlement date.

**277H.01.H. Liquidation and Delivery Standards**

(1) At Maturity. After clearing of Cleared OTC Contracts in respect of a specified cash settlement date has ceased, in accordance with Rule 277H.01.G. of this chapter, outstanding contracts for such cash settlement date shall be liquidated by cash settlement through procedures as prescribed in Rule 277H.02 and in a manner prescribed by the Clearing House.

(2) Prior to Maturity. Standard offsets of futures and options on futures, if applicable, shall not apply to positions in Cleared OTC Contracts. Prior to the Cash Settlement Date, positions may be closed out upon the request of the clearing firm to the Clearing House, and in the manner prescribed by the Clearing House.

**277H.01.I. Contract Modifications**

Specifications shall be fixed as of the first day of clearing of a contract, except that all final settlements via cash settlement must conform to government regulations in force at the time of final settlement. If any national or international government agency or body issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules and all open and new contracts shall be subject to such government orders.

**277H.02. CASH SETTLEMENT**

**277H.02.A. Day of Cash Settlement**

Each Cleared OTC Contract, for the valid value date for cash settlement in two business days, shall be liquidated by cash settlement at a price equal to the daily Final Settlement Price (FSP) for that day. The daily Final Settlement Price shall be equal to the “PEN INTERBANK AVE (PEN05),” which is the “Peruvian Sol per U.S. dollar" average exchange rate published by the Banco Central de Reserva del Peru (BCRP) as the “Tipo de Cambio Interbancario Promedio” at approximately 2:00 p.m. Lima time on Reuters “PEBCR05” page, rounded to four decimal places. This rate is used widely by the interbank foreign exchange market to cash settle non-deliverable forward contracts for Peruvian sol versus U.S. dollars. All open positions for that valid value date for cash settlement will be cash settled in U.S. dollars based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing times the notional value of the transaction in USDs divided by Final Settlement Price. In the event, this U.S. dollar amount is positive, then the Clearing House shall debit the seller’s clearing member account and credit the buyer’s clearing member account for this amount in U.S. dollars. In the event, this U.S. dollar amount is negative, then the Clearing House shall debit the buyer’s clearing member account and credit the seller’s clearing member account for this amount in U.S. dollars.

For example, if the “PEN INTERBANK AVE (PEN05),” for the valid value date for cash settlement in two business days, is as follows: MMMMM, DD - YYYY is 2.739600 PEN per USD,” and the original trade price submitted for clearing by clearing firms of the buyer and seller was 2.728156 PEN per USD for a notional amount of 100,000 USD, then the Clearing House on the business day following the valid value date for cash settlement shall credit the clearing members account for the buyer with US$417.73 (*i.e.*, 2.739600 PEN per USD – 2.728156 PEN per USD =(+0.011444 PEN per USD x 100,000 USD) / 2.739600 PEN per USD) = $417.73.). Similarly, the Clearing House on the business day following the valid value date for cash settlement shall debit the clearing member account for the seller with US$417.73.

In the event that the “PEN INTERBANK AVE (PEN05)” Peruvian sol per U.S. dollar rate is not published on a valid date for cash settlement, then Rule 701. – ACTS OF GOVERNMENT, ACTS OF GOD AND OTHER EMERGENCIES shall be in effect.

**277H.02.B.** Reserved.

**277H.02.C. Amendments to Timings**

The Exchange may amend the timings of notifications, deliveries, and transfers under this Rule 277H.02 to reflect as appropriate the adoption of daylight savings time in the relevant countries of delivery.

**277H.03. DISPUTES**

All disputes between interested parties may be settled by arbitration as provided in the Rules.

## Appendix 11

## Chapter 279H
## Cleared OTC U.S. Dollar/ Indian Rupee (USD/INR) Spot, Forwards and Swaps

### 279H.00. SCOPE OF CHAPTER

This chapter is limited in application to U.S. Dollar/Indian Rupee Spot, Forwards, and Swaps that are executed between two counterparties on an Over-the-Counter ("OTC") basis and subsequently novated to the CME Clearing House for purposes of clearance ("Cleared OTC Contracts"). Parties to transactions in Cleared OTC Contracts shall be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act. Cleared OTC Contracts are listed by CME for clearing-only. Transactions in Cleared OTC Contracts shall also be subject to the general rules of the Exchange insofar as applicable. The clearing and settlement of transactions in Cleared OTC Contracts shall also be subject to the provisions of Chapter 8-F of the CME Rulebook (Over-the-Counter Derivative Clearing). For purposes of these Rules, the minimum-fluctuations currency is the Indian rupee and the clearing-unit currency is the U.S. dollar.

### 279H.01. CONTRACT SPECIFICATIONS

#### 279H.01.A. Unit of Clearing

The unit of clearing shall be 1 U.S. Dollar in any amount down to a precision of 0.01 U.S. Dollar.

#### 279H.01.B. Hours for Clearing Entry

The Exchange shall determine the hours during which Cleared OTC Contracts may be submitted to the Clearing House. Positions shall be initiated or closed out using off-exchange transactions.

#### 279H.01.C. Minimum Price Increments

Minimum price fluctuations shall be in multiples of 0.0001 Indian Rupee per U.S. Dollar for transactions in Cleared OTC Contracts.

#### 279H.01.D. Valid Value Dates for Cash Settlement

Cleared OTC Contracts shall be cash settled for any valid value date(s) mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

#### 279H.01.E. Delivery Price and Delivery Value

Delivery for the Cleared OTC Contracts assigned pursuant to Chapter 279H shall be by cash settlement according to Rule 279H.02.

#### 279H.01.F. Position Limits and Position Accountability

1. Authority - Position Limits and Position Accountability may be applicable, as defined by Rule 560, and as per the following.
2. Aggregation - For purposes of this Rule, where applicable:

- futures,
- options on futures,
- E-mini futures,
- E-micro futures,
- cleared only spot, forward and swaps (combinations of spot and forwards or two maturity forwards),
- cleared only options on spot and forwards; and
- in addition, where applicable, the analogous reciprocal versions of the aforementioned contracts for the respective foreign exchange pairs,

shall be aggregated with all products utilizing that foreign exchange (FX) pair regardless of quoting conventions. The baseline for this aggregation shall be the denomination of the underlying full-size CME futures contract. Contract equivalents shall be determined through the conversion of the notional value (or contract size times the number of contracts in standardized products) to the CME base currency using the prior day's Regular Trading Hours (RTH)

settlement, and dividing the result by the contract size or notional of the full-size CME futures contract.

3. Contract Equivalent - For purposes of this Rule, a contract shall be deemed to be the equivalent of 100,000 U.S. dollars in notional value.

4. Position Accountability - A participant owning or controlling more than the aggregated equivalent of 6,000 contracts, or 600,000,000 U.S. dollars in notional value, net long or net short, shall provide, in a timely fashion, upon request by the Exchange, information regarding the nature of the position, trading strategy, and hedging information if applicable.

5. Spot Position Limit – A participant shall not own or control more than 20,000 net contract equivalents (USD 100,000 notional per synthetic contract) which are settled in the spot period between the second and third Wednesdays (inclusive) during the months of March, June, September and December.

6. Exemptions - The foregoing position limits shall not apply to bona fide hedge positions meeting the requirements of Regulation 1.3(z)(1) of the CFTC and the rules of the Exchange, and shall not apply to other positions exempted pursuant to Rule 559.

7. Reserved

**279H.01.G. Last Day of Clearing**

The last day on which a Cleared OTC Contract may be submitted for clearing in respect of a specified cash settlement date shall be one valid business day prior to the cash settlement date.

**279H.01.H. Liquidation and Delivery Standards**

(1) At Maturity. After clearing of Cleared OTC Contracts in respect of a specified cash settlement date has ceased, in accordance with Rule 279H.01.G. of this chapter, outstanding contracts for such cash settlement date shall be liquidated by cash settlement through procedures as prescribed in Rule 279H.02 and in a manner prescribed by the Clearing House.

(2) Prior to Maturity. Standard offsets of futures and options on futures, if applicable, shall not apply to positions in Cleared OTC Contracts. Prior to the Cash Settlement Date, positions may be closed out upon the request of the clearing firm to the Clearing House, and in the manner prescribed by the Clearing House.

**279H.01.I. Contract Modifications**

Specifications shall be fixed as of the first day of clearing of a contract, except that all final settlements via cash settlement must conform to government regulations in force at the time of final settlement. If any national or international government agency or body issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules and all open and new contracts shall be subject to such government orders.

**279H.02. CASH SETTLEMENT**

**279H.02.A. Day of Cash Settlement**

Each Cleared OTC Contract, for the valid value date for cash settlement in two business days, shall be liquidated by cash settlement at a price equal to the daily Final Settlement Price (FSP) for that day. The daily Final Settlement Price shall be equal to the “INR RBIB (INR01),” which is the “Indian rupee per U.S. dollar" spot exchange rate published by the Reserve Bank of India (RBI) at approximately 12:30 p.m. Mumbai time (about 1:00 a.m. Central Time in the winter and 2:00 a.m. Central Time in the summer) . This rate is used widely by the interbank foreign exchange market to cash settle non-deliverable forward contracts for Indian rupee versus U.S. dollars. Reuters quotes this RBI USD/INR spot rate on its page RBIB. All open positions for that valid value date for cash settlement will be cash settled in U.S. dollars based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing times the notional value of the transaction in USDs divided by Final Settlement Price. In the event, this U.S. dollar amount is positive, then the Clearing House shall debit the seller’s clearing member account and credit the buyer’s clearing member account for this amount in U.S. dollars. In the event, this U.S. dollar amount is negative, then the Clearing House shall debit the buyer’s clearing member account and credit the seller’s clearing member account for this amount in U.S. dollars.

For example, if the “INR RBIB (INR01),” for the valid value date for cash settlement in two business days, is as follows: MMMMM, DD - YYYY is 47.2143 INR per USD,” and the original trade price submitted for clearing by clearing firms of the buyer and seller was 47.7152 INR per USD for a notional amount of 100,000 USD, then the Clearing House on the business day following the valid value date for cash settlement shall debit the clearing members account for the buyer with US$1,060.91 (*i.e.*, 47.2143 INR per USD – 47.7152 INR per USD =(-0.5009 INR

per USD x 100,000 USD) / 47.2143 INR per USD) = -$1,060.91.). Similarly, the Clearing House on the business day following the valid value date for cash settlement shall credit the clearing member account for the seller with US$1,060.91.

In the event that the "INR RBIB (INR01) Indian rupee per U.S. dollar rate," is not published on a valid date for cash settlement, then Rule 701. – ACTS OF GOVERNMENT, ACTS OF GOD AND OTHER EMERGENCIES shall be in effect.

**279H.02.B. Reserved**

**279H.02.C. Amendments to Timings**

The Exchange may amend the timings of notifications, deliveries, and transfers under this Rule 279H.02 to reflect as appropriate the adoption of daylight savings time in the relevant countries of delivery.

**279H.03. DISPUTES**

All disputes between interested parties may be settled by arbitration as provided in the Rules.

## Appendix 12

## Chapter 280H
## Cleared OTC U.S. Dollar/ Malaysian Ringgit (USD/MYR) Spot, Forwards and Swaps

### 280H.00. SCOPE OF CHAPTER

This chapter is limited in application to U.S. Dollar/Malaysian Ringgit Spot, Forwards, and Swaps that are executed between two counterparties on an Over-the-Counter ("OTC") basis and subsequently novated to the CME Clearing House for purposes of clearance ("Cleared OTC Contracts"). Parties to transactions in Cleared OTC Contracts shall be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act. Cleared OTC Contracts are listed by CME for clearing-only. Transactions in Cleared OTC Contracts shall also be subject to the general rules of the Exchange insofar as applicable. The clearing and settlement of transactions in Cleared OTC Contracts shall also be subject to the provisions of Chapter 8-F of the CME Rulebook (Over-the-Counter Derivative Clearing). For purposes of these Rules, the minimum-fluctuations currency is the Malaysian ringgit and the clearing-unit currency is the U.S. dollar.

### 280H.01. CONTRACT SPECIFICATIONS

#### 280H.01.A. Unit of Clearing

The unit of clearing shall be 1 U.S. Dollar in any amount down to a precision of 0.01 U.S. Dollar.

#### 280H.01.B. Hours for Clearing Entry

The Exchange shall determine the hours during which Cleared OTC Contracts may be submitted to the Clearing House. Positions shall be initiated or closed out using off-exchange transactions.

#### 280H.01.C. Minimum Price Increments

Minimum price fluctuations shall be in multiples of 0.000001 Malaysian Ringgit per U.S. Dollar for transactions in Cleared OTC Contracts.

#### 280H.01.D. Valid Value Dates for Cash Settlement

Cleared OTC Contracts shall be cash settled for any valid value date(s) mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

#### 280H.01.E. Delivery Price and Delivery Value

Delivery for the Cleared OTC Contracts assigned pursuant to Chapter 280H shall be by cash settlement according to Rule 280H.02.

#### 280H.01.F. Position Limits and Position Accountability

1. Authority - Position Limits and Position Accountability may be applicable, as defined by Rule 560, and as per the following.
2. Aggregation - For purposes of this Rule, where applicable:

- futures,
- options on futures,
- E-mini futures,
- E-micro futures,
- cleared only spot, forward and swaps (combinations of spot and forwards or two maturity forwards),
- cleared only options on spot and forwards; and
- in addition, where applicable, the analogous reciprocal versions of the aforementioned contracts for the respective foreign exchange pairs,

shall be aggregated with all products utilizing that foreign exchange (FX) pair regardless of quoting conventions. The baseline for this aggregation shall be the denomination of the underlying full-size CME futures contract. Contract equivalents shall be determined through the conversion of the notional value (or contract size times the number of contracts in standardized products) to the CME base currency using the prior day's Regular Trading Hours (RTH)

settlement, and dividing the result by the contract size or notional of the full-size CME futures contract.
3. Contract Equivalent - For purposes of this Rule, a contract shall be deemed to be the equivalent of 100,000 U.S. dollars in notional value.
4. Position Accountability - A participant owning or controlling more than the aggregated equivalent of 6,000 contracts, or 600,000,000 U.S. dollars in notional value, net long or net short, shall provide, in a timely fashion, upon request by the Exchange, information regarding the nature of the position, trading strategy, and hedging information if applicable.
5. Spot Position Limit – A participant shall not own or control more than 20,000 net contract equivalents (USD 100,000 notional per synthetic contract) which are settled in the spot period between the second and third Wednesdays (inclusive) during the months of March, June, September and December.
6. Exemptions - The foregoing position limits shall not apply to bona fide hedge positions meeting the requirements of Regulation 1.3(z)(1) of the CFTC and the rules of the Exchange, and shall not apply to other positions exempted pursuant to Rule 559.
7. Reserved

**280H.01.G. Last Day of Clearing**

The last day on which a Cleared OTC Contract may be submitted for clearing in respect of a specified cash settlement date shall be one valid business day prior to the cash settlement date.

**280H.01.H. Liquidation and Delivery Standards**

(1) At Maturity. After clearing of Cleared OTC Contracts in respect of a specified cash settlement date has ceased, in accordance with Rule 280H.01.G. of this chapter, outstanding contracts for such cash settlement date shall be liquidated by cash settlement through procedures as prescribed in Rule 280H.02 and in a manner prescribed by the Clearing House.

(2) Prior to Maturity. Standard offsets of futures and options on futures, if applicable, shall not apply to positions in Cleared OTC Contracts. Prior to the Cash Settlement Date, positions may be closed out upon the request of the clearing firm to the Clearing House, and in the manner prescribed by the Clearing House.

**280H.01.I. Contract Modifications**

Specifications shall be fixed as of the first day of clearing of a contract, except that all final settlements via cash settlement must conform to government regulations in force at the time of final settlement. If any national or international government agency or body issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules and all open and new contracts shall be subject to such government orders.

**280H.02. CASH SETTLEMENT**

**280H.02.A. Day of Cash Settlement**

Each Cleared OTC Contract, for the valid value date for cash settlement in two business days, shall be liquidated by cash settlement at a price equal to the daily Final Settlement Price (FSP) for that day. The daily Final Settlement Price shall be equal to the "MYR ABS (MYR01)," which is the “Malaysian ringgit per U.S. dollar" spot exchange rate spot rate at 11:30 a.m. Singapore time (9:30 p.m. CT on the preceding evening), expressed as the amount of Malaysian ringgit per one U.S. dollar, for settlement in two Business Days, reported by the Association of Banks in Singapore which appears on the Reuters/Telerate Page 50157 to the right of the caption “Spot” under the column “MYR” at approximately 11:30 a.m., Singapore time (9:30 p.m. CT on the preceding evening), rounded to four (4) decimal places. This rate is used widely by the interbank foreign exchange market to cash settle non-deliverable forward contracts for Malaysian ringgit versus U.S. dollars. All open positions for that valid value date for cash settlement will be cash settled in U.S. dollars based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing times the notional value of the transaction in USDs divided by Final Settlement Price. In the event, this U.S. dollar amount is positive, then the Clearing House shall debit the seller’s clearing member account and credit the buyer’s clearing member account for this amount in U.S. dollars. In the event, this U.S. dollar amount is negative, then the Clearing House shall debit the buyer’s clearing member account and credit the seller’s clearing member account for this amount in U.S. dollars.

For example, if the "MYR ABS (MYR01),” for the valid value date for cash settlement in two business days, is as follows: MMMMM, DD - YYYY is 3.012300 MYR per USD,” and the original trade price submitted for clearing by clearing firms of the buyer and seller was 3.030801 MYR per USD for a notional amount of 100,000 USD, then the

Clearing House on the business day following the valid value date for cash settlement shall debit the clearing members account for the buyer with US$614.18 (*i.e.*, 3.012300 MYR per USD – 3.030801 MYR per USD =(-0.018501 MYR per USD x 100,000 USD) / 3.012300 MYR per USD) = -$614.18.). Similarly, the Clearing House on the business day following the valid value date for cash settlement shall credit the clearing member account for the seller with US$614.18.

In the event that the "MYR ABS (MYR01)" Malaysian ringgit per U.S. dollar rate is not published on a valid date for cash settlement, then Rule 701. – ACTS OF GOVERNMENT, ACTS OF GOD AND OTHER EMERGENCIES shall be in effect.

**280H.02.B. Reserved**

**280H.02.C. Amendments to Timings**

The Exchange may amend the timings of notifications, deliveries, and transfers under this Rule 280H.02 to reflect as appropriate the adoption of daylight savings time in the relevant countries of delivery.

**280H.03. DISPUTES**

All disputes between interested parties may be settled by arbitration as provided in the Rules.

**Appendix 13**

**Chapter 281H**
**Cleared OTC U.S. Dollar/ Indonesian Rupiah (USD/IDR) Spot, Forwards and Swaps**

## 281H.00. SCOPE OF CHAPTER

This chapter is limited in application to U.S. Dollar/Indonesian Rupiah Spot, Forwards, and Swaps that are executed between two counterparties on an Over-the-Counter ("OTC") basis and subsequently novated to the CME Clearing House for purposes of clearance ("Cleared OTC Contracts"). Parties to transactions in Cleared OTC Contracts shall be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act. Cleared OTC Contracts are listed by CME for clearing-only. Transactions in Cleared OTC Contracts shall also be subject to the general rules of the Exchange insofar as applicable. The clearing and settlement of transactions in Cleared OTC Contracts shall also be subject to the provisions of Chapter 8-F of the CME Rulebook (Over-the-Counter Derivative Clearing). For purposes of these Rules, the minimum-fluctuations currency is the Indonesian rupiah and the clearing-unit currency is the U.S. dollar.

## 281H.01. CONTRACT SPECIFICATIONS

### 281H.01.A. Unit of Clearing

The unit of clearing shall be 1 U.S. Dollar in any amount down to a precision of 0.01 U.S. Dollar.

### 281H.01.B. Hours for Clearing Entry

The Exchange shall determine the hours during which Cleared OTC Contracts may be submitted to the Clearing House. Positions shall be initiated or closed out using off-exchange transactions.

### 281H.01.C. Minimum Price Increments

Minimum price fluctuations shall be in multiples of 0.01 Indonesian Rupiah per U.S. Dollar for transactions in Cleared OTC Contracts.

### 281H.01.D. Valid Value Dates for Cash Settlement

Cleared OTC Contracts shall be cash settled for any valid value date(s) mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

### 281H.01.E. Delivery Price and Delivery Value

Delivery for the Cleared OTC Contracts assigned pursuant to Chapter 281H shall be by cash settlement according to Rule 281H.02.

### 281H.01.F. Position Limits and Position Accountability

1. Authority - Position Limits and Position Accountability may be applicable, as defined by Rule 560, and as per the following.
2. Aggregation - For purposes of this Rule, where applicable:

- futures,
- options on futures,
- E-mini futures,
- E-micro futures,
- cleared only spot, forward and swaps (combinations of spot and forwards or two maturity forwards),
- cleared only options on spot and forwards; and
- in addition, where applicable, the analogous reciprocal versions of the aforementioned contracts for the respective foreign exchange pairs,

shall be aggregated with all products utilizing that foreign exchange (FX) pair regardless of quoting conventions. The baseline for this aggregation shall be the denomination of the underlying full-size CME futures contract. Contract equivalents shall be determined through the conversion of the notional value (or contract size times the number of contracts in standardized products) to the CME base currency using the prior day's Regular Trading Hours (RTH)

settlement, and dividing the result by the contract size or notional of the full-size CME futures contract.
3. Contract Equivalent - For purposes of this Rule, a contract shall be deemed to be the equivalent of 100,000 U.S. dollars in notional value.
4. Position Accountability - A participant owning or controlling more than the aggregated equivalent of 6,000 contracts, or 600,000,000 U.S. dollars in notional value, net long or net short, shall provide, in a timely fashion, upon request by the Exchange, information regarding the nature of the position, trading strategy, and hedging information if applicable.
5. Spot Position Limit – A participant shall not own or control more than 20,000 net contract equivalents (USD 100,000 notional per synthetic contract) which are settled in the spot period between the second and third Wednesdays (inclusive) during the months of March, June, September and December.
6. Exemptions - The foregoing position limits shall not apply to bona fide hedge positions meeting the requirements of Regulation 1.3(z)(1) of the CFTC and the rules of the Exchange, and shall not apply to other positions exempted pursuant to Rule 559.
7. Reserved

**281H.01.G. Last Day of Clearing**

The last day on which a Cleared OTC Contract may be submitted for clearing in respect of a specified cash settlement date shall be one valid business day prior to the cash settlement date.

**281H.01.H. Liquidation and Delivery Standards**

(1) At Maturity. After clearing of Cleared OTC Contracts in respect of a specified cash settlement date has ceased, in accordance with Rule 281H.01.G. of this chapter, outstanding contracts for such cash settlement date shall be liquidated by cash settlement through procedures as prescribed in Rule 281H.02 and in a manner prescribed by the Clearing House.

(2) Prior to Maturity. Standard offsets of futures and options on futures, if applicable, shall not apply to positions in Cleared OTC Contracts. Prior to the Cash Settlement Date, positions may be closed out upon the request of the clearing firm to the Clearing House, and in the manner prescribed by the Clearing House.

**281H.01.I. Contract Modifications**

Specifications shall be fixed as of the first day of clearing of a contract, except that all final settlements via cash settlement must conform to government regulations in force at the time of final settlement. If any national or international government agency or body issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules and all open and new contracts shall be subject to such government orders.

**281H.02. CASH SETTLEMENT**

**281H.02.A. Day of Cash Settlement**

Each Cleared OTC Contract, for the valid value date for cash settlement in two business days, shall be liquidated by cash settlement at a price equal to the daily Final Settlement Price (FSP) for that day. The daily Final Settlement Price shall be equal to the "IDR ABS (IDR01)" which is the "Indonesian rupiah per U.S. dollar" spot exchange rate spot rate at 11:30 a.m. Singapore time (9:30 p.m. CT on the preceding evening), expressed as the amount of Indonesian rupiah per one U.S. dollar, for settlement in two business days, reported by the Association of Banks in Singapore which appears on the Reuters/Telerate Page 50157 to the right of the caption "Spot" under the column "IDR" at approximately 11:30 a.m., Singapore time (9:30 p.m. CT on the preceding evening), rounded to two (2) decimal places. This rate is used widely by the interbank foreign exchange market to cash settle non-deliverable forward contracts for Indonesian rupiah versus U.S. dollars. All open positions for that valid value date for cash settlement will be cash settled in U.S. dollars based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing times the notional value of the transaction in USDs divided by Final Settlement Price. In the event, this U.S. dollar amount is positive, then the Clearing House shall debit the seller's clearing member account and credit the buyer's clearing member account for this amount in U.S. dollars. In the event, this U.S. dollar amount is negative, then the Clearing House shall debit the buyer's clearing member account and credit the seller's clearing member account for this amount in U.S. dollars.

For example, if the "IDR ABS (IDR01)," for the valid value date for cash settlement in two business days, is as follows: MMMMM, DD - YYYY is 8612.00 IDR per USD," and the original trade price submitted for clearing by clearing firms of the buyer and seller was 8682.45 IDR per USD for a notional amount of 100,000 USD, then the Clearing House on

the business day following the valid value date for cash settlement shall debit the clearing members account for the buyer with US$818.04 (*i.e.*, 8612.00 IDR per USD – 8682.45 IDR per USD =(-70.45 IDR per USD x 100,000 USD) / 8612.00 IDR per USD) = -$818.04.). Similarly, the Clearing House on the business day following the valid value date for cash settlement shall credit the clearing member account for the seller with US$818.04.
In the event that the "IDR ABS (IDR01)" Indonesian rupiah per U.S. dollar rate is not published on a valid date for cash settlement, then Rule 701. – ACTS OF GOVERNMENT, ACTS OF GOD AND OTHER EMERGENCIES shall be in effect.

**281H.02.B. Reserved**

**281H.02.C. Amendments to Timings**

The Exchange may amend the timings of notifications, deliveries, and transfers under this Rule 281H.02 to reflect as appropriate the adoption of daylight savings time in the relevant countries of delivery.

**281H.03. DISPUTES**

All disputes between interested parties may be settled by arbitration as provided in the Rules.

## Appendix 14

## Chapter 282H
## Cleared OTC U.S. Dollar/ Taiwan Dollar (USD/TWD) Spot, Forwards and Swaps

### 282H.00. SCOPE OF CHAPTER

This chapter is limited in application to U.S. Dollar/Taiwan Dollar Spot, Forwards, and Swaps that are executed between two counterparties on an Over-the-Counter ("OTC") basis and subsequently novated to the CME Clearing House for purposes of clearance ("Cleared OTC Contracts"). Parties to transactions in Cleared OTC Contracts shall be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act. Cleared OTC Contracts are listed by CME for clearing-only. Transactions in Cleared OTC Contracts shall also be subject to the general rules of the Exchange insofar as applicable. The clearing and settlement of transactions in Cleared OTC Contracts shall also be subject to the provisions of Chapter 8-F of the CME Rulebook (Over-the-Counter Derivative Clearing). For purposes of these Rules, the minimum-fluctuations currency is the Taiwan dollar and the clearing-unit currency is the U.S. dollar.

### 282H.01. CONTRACT SPECIFICATIONS

### 282H.01.A. Unit of Clearing

The unit of clearing shall be 1 U.S. Dollar in any amount down to a precision of 0.01 U.S. Dollar.

### 282H.01.B. Hours for Clearing Entry

The Exchange shall determine the hours during which Cleared OTC Contracts may be submitted to the Clearing House. Positions shall be initiated or closed out using off-exchange transactions.

### 282H.01.C. Minimum Price Increments

Minimum price fluctuations shall be in multiples of 0.001 Taiwan Dollar per U.S. Dollar for transactions in Cleared OTC Contracts.

### 282H.01.D. Valid Value Dates for Cash Settlement

Cleared OTC Contracts shall be cash settled for any valid value date(s) mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

### 282H.01.E. Delivery Price and Delivery Value

Delivery for the Cleared OTC Contracts assigned pursuant to Chapter 282H shall be by cash settlement according to Rule 282H.02.

### 282H.01.F. Position Limits and Position Accountability

1. Authority - Position Limits and Position Accountability may be applicable, as defined by Rule 560, and as per the following.
2. Aggregation - For purposes of this Rule, where applicable:

- futures,
- options on futures,
- E-mini futures,
- E-micro futures,
- cleared only spot, forward and swaps (combinations of spot and forwards or two maturity forwards),
- cleared only options on spot and forwards; and
- in addition, where applicable, the analogous reciprocal versions of the aforementioned contracts for the respective foreign exchange pairs,

shall be aggregated with all products utilizing that foreign exchange (FX) pair regardless of quoting conventions. The baseline for this aggregation shall be the denomination of the underlying full-size CME futures contract. Contract equivalents shall be determined through the conversion of the notional value (or contract size times the number of contracts in standardized products) to the CME base currency using the prior day's Regular Trading Hours (RTH)

settlement, and dividing the result by the contract size or notional of the full-size CME futures contract.
3. Contract Equivalent - For purposes of this Rule, a contract shall be deemed to be the equivalent of 100,000 U.S. dollars in notional value.
4. Position Accountability - A participant owning or controlling more than the aggregated equivalent of 6,000 contracts, or 600,000,000 U.S. dollars in notional value, net long or net short, shall provide, in a timely fashion, upon request by the Exchange, information regarding the nature of the position, trading strategy, and hedging information if applicable.
5. Spot Position Limit – A participant shall not own or control more than 20,000 net contract equivalents (USD 100,000 notional per synthetic contract) which are settled in the spot period between the second and third Wednesdays (inclusive) during the months of March, June, September and December.
6. Exemptions - The foregoing position limits shall not apply to bona fide hedge positions meeting the requirements of Regulation 1.3(z)(1) of the CFTC and the rules of the Exchange, and shall not apply to other positions exempted pursuant to Rule 559.
7. Reserved

**282H.01.G. Last Day of Clearing**

The last day on which a Cleared OTC Contract may be submitted for clearing in respect of a specified cash settlement date shall be one valid business day prior to the cash settlement date.

**282H.01.H. Liquidation and Delivery Standards**

(1) At Maturity. After clearing of Cleared OTC Contracts in respect of a specified cash settlement date has ceased, in accordance with Rule 282H.01.G. of this chapter, outstanding contracts for such cash settlement date shall be liquidated by cash settlement through procedures as prescribed in Rule 282H.02 and in a manner prescribed by the Clearing House.

(2) Prior to Maturity. Standard offsets of futures and options on futures, if applicable, shall not apply to positions in Cleared OTC Contracts. Prior to the Cash Settlement Date, positions may be closed out upon the request of the clearing firm to the Clearing House, and in the manner prescribed by the Clearing House.

**282H.01.I. Contract Modifications**

Specifications shall be fixed as of the first day of clearing of a contract, except that all final settlements via cash settlement must conform to government regulations in force at the time of final settlement. If any national or international government agency or body issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules and all open and new contracts shall be subject to such government orders.

**282H.02. CASH SETTLEMENT**

**282H.02.A. Day of Cash Settlement**

Each Cleared OTC Contract, for the valid value date for cash settlement in two business days, shall be liquidated by cash settlement at a price equal to the daily Final Settlement Price (FSP) for that day. The daily Final Settlement Price shall be equal to the "TWD TAIFX1 (TWD03)" which is the “Taiwan dollar per U.S. dollar" spot exchange rate at 11:00 a.m. Taipei time (9:00 p.m. CT in winter or 10:00 p.m. CT in summer on the preceding evening), expressed as the amount of Taiwan dollar per one U.S. dollar, for settlement in two business days, reported by Taipei Forex Inc., which appears on the Reuters screen TAIFX1 page under the heading “Spot” as of 11:00 a.m. Taipei time, rounded to three (3) decimal places. This rate is used widely by the interbank foreign exchange market to cash settle non-deliverable forward contracts for Taiwan dollar versus U.S. dollars. All open positions for that valid value date for cash settlement will be cash settled in U.S. dollars based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing times the notional value of the transaction in USDs divided by Final Settlement Price. In the event, this U.S. dollar amount is positive, then the Clearing House shall debit the seller’s clearing member account and credit the buyer’s clearing member account for this amount in U.S. dollars. In the event, this U.S. dollar amount is negative, then the Clearing House shall debit the buyer’s clearing member account and credit the seller’s clearing member account for this amount in U.S. dollars.

For example, if the "TWD TAIFX1 (TWD03),” for the valid value date for cash settlement in two business days, is as follows: MMMMM, DD - YYYY is 29.195 TWD per USD,” and the original trade price submitted for clearing by clearing firms of the buyer and seller was 29.275 TWD per USD for a notional amount of 100,000 USD, then the Clearing House on the business day following the valid value date for cash settlement shall debit the clearing

members account for the buyer with US$274.02 (*i.e.*, 29.195 TWD per USD – 29.275 TWD per USD =(-0.080 TWD per USD x 100,000 USD) / 29.195 TWD per USD) = -$274.02.). Similarly, the Clearing House on the business day following the valid value date for cash settlement shall credit the clearing member account for the seller with US$274.02.

In the event that the "TWD TAIFX1 (TWD03)" Taiwan dollar per U.S. dollar rate is not published on a valid date for cash settlement, then Rule 701. – ACTS OF GOVERNMENT, ACTS OF GOD AND OTHER EMERGENCIES shall be in effect.

**282H.02.B. Reserved**

**282H.02.C. Amendments to Timings**

The Exchange may amend the timings of notifications, deliveries, and transfers under this Rule 282H.02 to reflect as appropriate the adoption of daylight savings time in the relevant countries of delivery.

**282H.03. DISPUTES**

All disputes between interested parties may be settled by arbitration as provided in the Rules.

## Appendix 15

## Chapter 283H
## Cleared OTC U.S. Dollar/ Philippines Peso (USD/PHP) Spot, Forwards and Swaps

### 283H.00. SCOPE OF CHAPTER

This chapter is limited in application to U.S. Dollar/Philippines Peso Spot, Forwards, and Swaps that are executed between two counterparties on an Over-the-Counter ("OTC") basis and subsequently novated to the CME Clearing House for purposes of clearance ("Cleared OTC Contracts"). Parties to transactions in Cleared OTC Contracts shall be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act. Cleared OTC Contracts are listed by CME for clearing-only. Transactions in Cleared OTC Contracts shall also be subject to the general rules of the Exchange insofar as applicable. The clearing and settlement of transactions in Cleared OTC Contracts shall also be subject to the provisions of Chapter 8-F of the CME Rulebook (Over-the-Counter Derivative Clearing). For purposes of these Rules, the minimum-fluctuations currency is the Philippines peso and the clearing-unit currency is the U.S. dollar.

### 283H.01. CONTRACT SPECIFICATIONS

### 283H.01.A. Unit of Clearing

The unit of clearing shall be 1 U.S. Dollar in any amount down to a precision of 0.01 U.S. Dollar.

### 283H.01.B. Hours for Clearing Entry

The Exchange shall determine the hours during which Cleared OTC Contracts may be submitted to the Clearing House. Positions shall be initiated or closed out using off-exchange transactions.

### 283H.01.C. Minimum Price Increments

Minimum price fluctuations shall be in multiples of 0.001 Philippines Peso per U.S. Dollar for transactions in Cleared OTC Contracts.

### 283H.01.D. Valid Value Dates for Cash Settlement

Cleared OTC Contracts shall be cash settled for any valid value date(s) mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

### 283H.01.E. Delivery Price and Delivery Value

Delivery for the Cleared OTC Contracts assigned pursuant to Chapter 283H shall be by cash settlement according to Rule 283H.02.

### 283H.01.F. Position Limits and Position Accountability

1. Authority - Position Limits and Position Accountability may be applicable, as defined by Rule 560, and as per the following.
2. Aggregation - For purposes of this Rule, where applicable:

- futures,
- options on futures,
- E-mini futures,
- E-micro futures,
- cleared only spot, forward and swaps (combinations of spot and forwards or two maturity forwards),
- cleared only options on spot and forwards; and
- in addition, where applicable, the analogous reciprocal versions of the aforementioned contracts for the respective foreign exchange pairs,

shall be aggregated with all products utilizing that foreign exchange (FX) pair regardless of quoting conventions. The baseline for this aggregation shall be the denomination of the underlying full-size CME futures contract. Contract equivalents shall be determined through the conversion of the notional value (or contract size times the number of contracts in standardized products) to the CME base currency using the prior day's Regular Trading Hours (RTH)

settlement, and dividing the result by the contract size or notional of the full-size CME futures contract.
3. Contract Equivalent - For purposes of this Rule, a contract shall be deemed to be the equivalent of 100,000 U.S. dollars in notional value.
4. Position Accountability - A participant owning or controlling more than the aggregated equivalent of 6,000 contracts, or 600,000,000 U.S. dollars in notional value, net long or net short, shall provide, in a timely fashion, upon request by the Exchange, information regarding the nature of the position, trading strategy, and hedging information if applicable.
5. Spot Position Limit – A participant shall not own or control more than 20,000 net contract equivalents (USD 100,000 notional per synthetic contract) which are settled in the spot period between the second and third Wednesdays (inclusive) during the months of March, June, September and December.
6. Exemptions - The foregoing position limits shall not apply to bona fide hedge positions meeting the requirements of Regulation 1.3(z)(1) of the CFTC and the rules of the Exchange, and shall not apply to other positions exempted pursuant to Rule 559.
7. Reserved

**283H.01.G. Last Day of Clearing**

The last day on which a Cleared OTC Contract may be submitted for clearing in respect of a specified cash settlement date shall be one valid business day prior to the cash settlement date.

**283H.01.H. Liquidation and Delivery Standards**

(1) At Maturity. After clearing of Cleared OTC Contracts in respect of a specified cash settlement date has ceased, in accordance with Rule 283H.01.G. of this chapter, outstanding contracts for such cash settlement date shall be liquidated by cash settlement through procedures as prescribed in Rule 283H.02 and in a manner prescribed by the Clearing House.

(2) Prior to Maturity. Standard offsets of futures and options on futures, if applicable, shall not apply to positions in Cleared OTC Contracts. Prior to the Cash Settlement Date, positions may be closed out upon the request of the clearing firm to the Clearing House, and in the manner prescribed by the Clearing House.

**283H.01.I. Contract Modifications**

Specifications shall be fixed as of the first day of clearing of a contract, except that all final settlements via cash settlement must conform to government regulations in force at the time of final settlement. If any national or international government agency or body issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules and all open and new contracts shall be subject to such government orders.

**283H.02. CASH SETTLEMENT**

**283H.02.A. Day of Cash Settlement**

Each Cleared OTC Contract, for the valid value date for cash settlement in two business days, shall be liquidated by cash settlement at a price equal to the daily Final Settlement Price (FSP) for that day. The daily Final Settlement Price shall be equal to the "PHP PDSPESO (PHP06)" which is the "Philippines peso per U.S. dollar" spot exchange rate at 11:30 a.m. Manila time (9:30 p.m. CT in winter or 10:30 p.m. CT in summer on the preceding evening), expressed as the amount of Philippine pesos per one U.S. dollar, for settlement in two business days, reported as the weighted average of all foreign exchange transactions done through the electronic Philippine Dealing System (PDS) during the preceding business day pursuant to Circular Letter dated July 30, 1992 of the Bangko Sentral ng Pilipinas. This rate is used widely by the interbank foreign exchange market to cash settle non-deliverable forward contracts for Philippine peso versus U.S. dollars. Reuters quotes this spot rate on its page PDSPESO (PHP06) to the right of the caption "AM WT AVE." All open positions for that valid value date for cash settlement will be cash settled in U.S. dollars based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing times the notional value of the transaction in USDs divided by Final Settlement Price. In the event, this U.S. dollar amount is positive, then the Clearing House shall debit the seller's clearing member account and credit the buyer's clearing member account for this amount in U.S. dollars. In the event, this U.S. dollar amount is negative, then the Clearing House shall debit the buyer's clearing member account and credit the seller's clearing member account for this amount in U.S. dollars.

For example, if the "PHP PDSPESO (PHP06)," for the valid value date for cash settlement in two business days, is as follows: MMMMM, DD - YYYY is 42.673 PHP per USD," and the original trade price submitted for clearing by

clearing firms of the buyer and seller was 42.619 PHP per USD for a notional amount of 100,000 USD, then the Clearing House on the business day following the valid value date for cash settlement shall credit the clearing members account for the buyer with US$126.54 (*i.e.*, 42.673 PHP per USD – 42.619 PHP per USD =(+0.054 PHP per USD x 100,000 USD) / 42.673 PHP per USD) = +$126.54.). Similarly, the Clearing House on the business day following the valid value date for cash settlement shall debit the clearing member account for the seller with US$126.54.

In the event that the "PHP PDSPESO (PHP06)" Philippines per U.S. dollar rate is not published on a valid date for cash settlement, then Rule 701. – ACTS OF GOVERNMENT, ACTS OF GOD AND OTHER EMERGENCIES shall be in effect.

**283H.02.B. Reserved**

**283H.02.C. Amendments to Timings**

The Exchange may amend the timings of notifications, deliveries, and transfers under this Rule 283H.02 to reflect as appropriate the adoption of daylight savings time in the relevant countries of delivery.

**283H.03. DISPUTES**

All disputes between interested parties may be settled by arbitration as provided in the Rules.

## Appendix 16. Attributes of the Daily Mark to Market Clearing System for Cleared OTC FX Products

| Code | Primary | Contra | Settle | Value | MTMCur | Type | Name | Tick | Deci-mals | Sample Price | Days prior | Fixing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| USDBRL | USD | BRL | CASH | FWDBI | USD | NDF | Brazilian Real | 0.000001 | 6 | 1.712356 | 1 | PTAX |
| USDCLP | USD | CLP | CASH | FWDBI | USD | NDF | Chilean Peso | 0.0001 | 4 | 478.2356 | 1 | CLP10 |
| USDCNY | USD | CNY | CASH | FWDBI | USD | NDF | Chinese Yuan | 0.0001 | 4 | 6.3905 | 1 | SAEC |
| USDCOP | USD | COP | CASH | FWDBI | USD | NDF | Colombian Peso | 0.01 | 2 | 1823.45 | 1 | TRM |
| USDIDR | USD | IDR | CASH | FWDBI | USD | NDF | Indonesia Rupiah | 0.01 | 2 | 8760.23 | 1 | IDR01 |
| USDINR | USD | INR | CASH | FWDBI | USD | NDF | Indian Rupee | 0.0001 | 4 | 47.5551 | 1 | INR01 |
| USDKRW | USD | KRW | CASH | FWDBI | USD | NDF | Korean Won | 0.0001 | 4 | 1113.2568 | 1 | KFTC18 |
| USDMYR | USD | MYR | CASH | FWDBI | USD | NDF | Malaysia Ringgit | 0.000001 | 6 | 3.089256 | 1 | MYR01 |
| USDPEN | USD | PEN | CASH | FWDBI | USD | NDF | Peruvian Sol | 0.000001 | 6 | 2.732088 | 1 | PEN05 |
| USDPHP | USD | PHP | CASH | FWDBI | USD | NDF | Philippine Peso | 0.001 | 3 | 43.295 | 1 | PHP06 |
| USDRUB | USD | RUB | CASH | FWDBI | USD | NDF | Russian Ruble | 0.000001 | 6 | 30.497527 | 1 | CME/EMTA |
| USDTWD | USD | TWD | CASH | FWDBI | USD | NDF | Taiwan Dollar | 0.001 | 3 | 29.622 | 1 | TWD03 |
| AUDJPY | AUD | JPY | CASH | FWDB | JPY | CSF | Aussie/Yen | 0.000001 | 6 | 78.816157 | 2 | WM Reuters |
| AUDUSD | AUD | USD | CASH | FWDB | USD | CSF | Australian Dollar | 0.000001 | 6 | 1.030956 | 1 | WM Reuters |
| CADJPY | CAD | JPY | CASH | FWDB | JPY | CSF | Canadian/Yen | 0.00001 | 5 | 77.66865 | 2 | WM Reuters |
| EURAUD | EUR | AUD | CASH | FWDBI | EUR | CSF | Euro/Aussie | 0.000001 | 6 | 1.346128 | 1 | WM Reuters |
| EURCHF | EUR | CHF | CASH | FWDBI | EUR | CSF | Euro/Swiss | 0.0000001 | 7 | 1.2051456 | 1 | WM Reuters |
| EURGBP | EUR | GBP | CASH | FWDBI | EUR | CSF | Euro/Pound | 0.0000001 | 7 | 0.8763629 | 1 | WM Reuters |
| EURJPY | EUR | JPY | CASH | FWDBI | EUR | CSF | Euro/Yen | 0.0001 | 4 | 106.2159 | 1 | WM Reuters |
| EURUSD | EUR | USD | CASH | FWDB | USD | CSF | Euro | 0.000001 | 6 | 1.385194 | 1 | WM Reuters |
| GBPUSD | GBP | USD | CASH | FWDB | USD | CSF | British Pound | 0.000001 | 6 | 1.580543 | 1 | WM Reuters |
| NZDUSD | NZD | USD | CASH | FWDB | USD | CSF | New Zealand $ | 0.000001 | 6 | 0.823979 | 1 | WM Reuters |
| USDCAD | USD | CAD | CASH | FWDBI | USD | CSF | Canadian Dollar | 0.000001 | 6 | 0.987458 | 1 | WM Reuters |
| USDCZK | USD | CZK | CASH | FWDBI | USD | CSF | Czech Koruna | 0.00001 | 5 | 17.73312 | 1 | WM Reuters |
| USDCHF | USD | CHF | CASH | FWDBI | USD | CSF | Swiss Franc | 0.000001 | 6 | 0.870156 | 1 | WM Reuters |
| USDDKK | USD | DKK | CASH | FWDBI | USD | CSF | Danish Krone | 0.000001 | 6 | 5.377842 | 1 | WM Reuters |
| USDHKD | USD | HKD | CASH | FWDBI | USD | CSF | Hong Kong $ | 0.000001 | 6 | 7.791657 | 1 | WM Reuters |
| USDHUF | USD | HUF | CASH | FWDBI | USD | CSF | Hungarian Forint | 0.0001 | 4 | 205.9383 | 1 | WM Reuters |
| USDILS | USD | ILS | CASH | FWDBI | USD | CSF | Israeli Shekel | 0.000001 | 6 | 3.669047 | 1 | WM Reuters |
| USDJPY | USD | JPY | CASH | FWDBI | USD | CSF | Japanese Yen | 0.0001 | 4 | 76.7192 | 1 | WM Reuters |
| USDMXN | USD | MXN | CASH | FWDBI | USD | CSF | Mexican Peso | 0.000001 | 6 | 12.909847 | 1 | WM Reuters |
| USDNOK | USD | NOK | CASH | FWDBI | USD | CSF | Norway Krone | 0.000001 | 6 | 5.593688 | 1 | WM Reuters |
| USDPLN | USD | PLN | CASH | FWDBI | USD | CSF | Polish Zloty | 0.000001 | 6 | 3.125932 | 1 | WM Reuters |
| USDSEK | USD | SEK | CASH | FWDBI | USD | CSF | Swedish Krona | 0.000001 | 6 | 6.616378 | 1 | WM Reuters |
| USDSGD | USD | SGD | CASH | FWDBI | USD | CSF | Singapore Dollar | 0.000001 | 6 | 1.244456 | 1 | WM Reuters |
| USDTHB | USD | THB | CASH | FWDBI | USD | CSF | Thailand Baht | 0.0001 | 4 | 30.3547 | 1 | WM Reuters |
| USDTRY | USD | TRY | CASH | FWDBI | USD | CSF | Turkish Lira | 0.000001 | 6 | 1.783092 | 1 | WM Reuters |
| USDZAR | USD | ZAR | CASH | FWDBI | USD | CSF | S. African Rand | 0.000001 | 6 | 7.395692 | 1 | WM Reuters |

## Appendix 17

# Countries' GDP, FX Turnover & Stock Market Capitalization Statistics

| | Country | Currency | Ticker | 2010 GDP (Bil USD) | 2008 Stock Market Cap (Bil USD) | 4/10 FX Market Turnover (Bil USD) (2) | 4/10 FX Turnover Market Share (3) |
|---|---|---|---|---|---|---|---|
| 1 | United States | Dollars | USD | $14,720.00 | $11,740.00 | $1,689.9 | 21.23% |
| 2 | European Union (1) | Euros | EUR | $14,900.00 | $7,644.00 | $778.3 | 9.78% |
| 3 | Japan | Yen | JPY | $4,338.00 | $3,290.00 | $378.2 | 4.75% |
| 4 | United Kingdom | Pounds | GBP | $2,189.00 | $1,852.00 | $256.8 | 3.23% |
| 5 | Australia | Dollars | AUD | $889.60 | $675.60 | $151.3 | 1.90% |
| 6 | Switzerland | Francs | CHF | $326.50 | $862.70 | $127.4 | 1.60% |
| 7 | Canada | Dollars | CAD | $1,335.00 | $1,002.00 | $105.5 | 1.33% |
| 8 | Hong Kong | Dollars | HKD | $323.30 | $1,320.00 | $47.8 | 0.60% |
| 9 | Sweden | Kronor | SEK | $354.00 | $252.50 | $43.8 | 0.55% |
| 10 | New Zealand | Dollars | NZD | $119.20 | $24.17 | $31.8 | 0.40% |
| 11 | Korea | Won | KRW | $1,467.00 | $494.60 | $29.9 | 0.38% |
| 12 | Singapore | Dollars | SGD | $292.40 | $474.30 | $27.9 | 0.35% |
| 13 | Mexico | Pesos | MXN | $1,560.00 | $232.60 | $25.9 | 0.33% |
| 14 | Norway | Krone | NOK | $276.40 | $125.90 | $25.9 | 0.33% |
| 15 | India | Rupee | INR | $4,046.00 | $645.50 | $17.9 | 0.23% |
| 16 | Russia | Rubles | RUB | $2,229.00 | $1,322.00 | $17.9 | 0.23% |
| 17 | Poland | Zlotych | PLN | $725.20 | $90.23 | $15.9 | 0.20% |
| 18 | Brazil | Real | BRL | $2,194.00 | $589.40 | $13.9 | 0.18% |
| 19 | Turkey | New Lira | TRY | $958.30 | $117.90 | $13.9 | 0.18% |
| 20 | South Africa | Rand | ZAR | $527.50 | $491.30 | $13.9 | 0.18% |
| 21 | Denmark | Kroner | DKK | $201.40 | $131.50 | $11.9 | 0.15% |
| 22 | Taiwan | Dollars | TWD | $823.60 | $657.30 | $10.0 | 0.13% |
| 23 | Hungary | Forint | HUF | $190.00 | $30.20 | $8.0 | 0.10% |
| 24 | China | Yuan | CNY | $9,872.00 | $2,794.00 | $6.0 | 0.08% |
| 25 | Malaysia | Ringgits | MYR | $416.70 | $187.10 | $6.0 | 0.08% |
| 26 | Indonesia | Rupiah | IDR | $1,033.00 | $178.20 | $4.0 | 0.05% |
| 27 | Thailand | Baht | THB | $580.30 | $102.60 | $4.0 | 0.05% |
| 28 | Philippines | Pesos | PHP | $353.20 | $130.50 | $4.0 | 0.05% |
| 29 | Czech Republic | Krona | CZK | $262.80 | $70.26 | $4.0 | 0.05% |
| 30 | Chile | Pesos | CLP | $260.00 | $132.40 | $4.0 | 0.05% |
| 31 | Israel | Shekels | ILS | $217.10 | $134.50 | $4.0 | 0.05% |
| 32 | Colombia | Pesos | COP | $431.90 | $133.30 | $2.0 | 0.03% |
| 33 | Peru | Neuvo Soles | PEN | $274.70 | $55.63 | | |

**NOTES**

- Where CME Group already lists futures on the currency, the line item is shaded in green. If information unknown, cell is left blank.

(1) European Union includes Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia, Spain

(2) Includes spot, outright forward and FX swap transactions

(3) Includes outright forwards, foreign exchange swaps, currency swaps, options and other derivative products

(4) Pink shading denotes non-CME traded currencies.

CME Group
A CME/Chicago Board of Trade/NYMEX Company

April 8, 2011

Mr. David Stawick
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.
Washington, DC 20581

RE: Section 5c(c)(1), Rules 40.2 and 40.6(a) – Exchange Certification of CME Rule Amendments and Notification of Launch Date for Cleared OTC U.S. Dollar / Chilean Dollar (USD/CLP) Spot, Forward and Swaps Transactions.
CME Submission 11-144.

Dear Mr. Stawick:

Chicago Mercantile Exchange Inc. hereby notifies the Commission that Monday, April 18, 2011, will be the launch date for Cleared Over-the-Counter (OTC) U.S. Dollar / Chilean Dollar (USD/CLP) Spot, Forward and Swaps Transactions. This submission includes rule amendments supporting the new product offering, which is summarized as follows.

**CLEARED OTC U.S. DOLLAR / CHILEAN PESO SPOT, FORWARD AND SWAP TRANSACTIONS**

Effective Monday, April 18, 2011, Chicago Mercantile Exchange Inc. will offer clearing services for non-deliverable forward (NDF) over-the-counter (OTC) U.S. dollar/Chilean peso spot, forward and swap transactions. Cleared OTC U.S. Dollar / Chilean Peso NDF transactions, the first of a broader NDF product suite to be rolled out at a later date, is the initial phase of CME Group plans to introduce clearing services for a wide range of OTC FX spot, forward, swaps; and options on FX spot and forward contracts. OTC FX transactions that are executed bilaterally through brokers, ECNs or other FX trading platforms, when submitted to the CME Clearing House, are novated for purposes of clearing and application of financial safeguards, bookkeeping, trade processing, and final delivery or cash settlement. These contracts will be carried in the new OTC sequestered account class.

Further, CME Group intends to secure such positions with a process that would require daily variations to be funded with collateral ("collateralization") instead of a standard daily mark-to-market (MTM) in cash. This process is intended to be consistent with processes that are frequently deployed in the context of the interbank or OTC FX markets.

**Contract Summary –** The initial product launch will be for NDF-style transactions for U.S. dollar (USD) versus Chilean peso (CLP), where original trades conducted in the standard "USD/CLP" interbank terms of Chilean peso per U.S. dollar, can be submitted for clearing. CME Clearing systems are flexible to accommodate any style of quoted trade with any size notional amounts down to the precision of $0.01 and any date. Appendix 1 provides a contract specifications summary in tabular form. Some notable contract details are highlighted as follows.

- **Sequestered Accounts:** The contracts are carried as OTC instruments in the clearing system. These positions will be carried in the OTC sequestered account class.

- **Held as True OTC FX Spot & Forwards in Clearing:** Positions shall remain open until delivery or the final cash settlement date. Accordingly, there shall be no netting of such positions. However, positions may be prematurely offset through a "tear-up" process whereby the two counterparties to the transaction mutually consent to negate a previous transaction with monetary consideration as appropriate.

- **Cash Settlement, NDF-Style:** The initial offered NDF-style contracts are financially or cash settled in U.S. dollars with positions held in clearing at the original trade price marked to the applicable standard OTC NDF settlement rate option. For example, final settlements for USD/CLP spot transactions are concluded based on the difference between (1) the spot exchange rate of Chilean peso per U.S. dollar,"CLP DÓLAR OBS (CLP10)," as reported for the valid value date for cash settlement by Banco Central de Chile for the formal exchange market, and (2) the original trade price for each transaction, and the result divided by the CLP per USD spot exchange rate to convert notional CLPs to USDs. Cash settlement of cleared only transactions occurs on a net basis at the customer account level.

- **Allowable Maturities:** CME Clearing will accept spot and forward transactions into clearing with delivery or cash settlement dates starting with the next business day for spot and extending outward into the future two years initially for forwards. At a later date, maturity dates will be expanded out an additional three years for a total maturity out five years.

- **Swaps:** Swap transactions accepted into clearing are a combination (spread) of a spot or forward position and another deferred date forward.

- **CME Clearing Set Up Structures for Cleared OTC FX:** CME Clearing operational infrastructure defines FX pair products by the price nomenclature of the trade. For example, USD/CLP OTC transactions, where the normal quotation mechanism is "CLP per USD," will be processed in the clearing structure for transactions quoted in "CLP per USD."

- **Normalization Rule:** New CME Rule 856 –**NORMALIZATION OF OTC FX SPOT, FORWARD, SWAP AND OPTIONS TRANSACTIONS**, enables CME Clearing to accept OTC FX transactions negotiated in notional amounts of either currency. OTC FX conventions imply deals to be struck in notional amounts of a specific currency for a given currency pair. For example, the USD/CLP or "Dollar/Chilean Peso" transaction described above defines price in numbers of CLP per USD with the notional amount given in U.S. dollars. The normalization rule explains CME Clearing procedures for taking non-standard notional amounts in the contra-currency (here CLP) and "normalizing" it into standard amounts of base currency (here USD). See Appendix 2 for the Normalization rule.

- **Definitions:** New DEFINITIONS will be added to the CME Rulebook to support the Cleared OTC FX initiative. Appendix 3 provides the new definitions.

- **Position Accountability & Position Limits:** Individual rule chapters for each FX pair for cleared OTC FX will specify either Position Accountability (PA) or Position Limits (PL) or a combination of both (*e.g.,* PA with spot month PL) depending generally on the liquidity in the underlying OTC instruments and coordinating with existing and similar FX futures and options on futures contracts. Highly liquid underlying FX pair activity enable Position Accountability trigger levels as opposed to finite limits, and less liquid underlying FX pair activity require the more restrictive Position Limits. Since FX futures, options on FX futures, cleared OTC FX spot, forwards and swaps; and OTC FX

options on spot and forwards, are essentially extensions of the same market, CME Group rules will aggregate positions for an account holder across all of these product lines per FX pair. Notional level equivalents for the existing FX pair futures contracts for Position Accountability and/or Position Limits are carried over to the Cleared OTC FX rules.

- **Reportable Positions:** Reportable position levels for FX pair futures and options on futures will carry over to the cleared OTC FX initiative. Notional amounts of cleared OTC FX positions will be translated into contract equivalents for purposes of reportable positions. When there is not an underlying FX pair futures or options on futures contract for an FX pair listed for cleared OTC transactions, then an amendment to the Chapter 5 interpretation table will be added. See Appendix 4 for such a case regarding cleared only U.S. dollar/Chilean peso references.

- **Rule Chapters:** Appendix 5 contains the "non-deliverable forward ("NDF") USD/CLP spot, forwards & swaps contract series that illustrate the format that will be followed for the cleared OTC FX initiative. A revised "number" and "letter" format for the FX product rulebook chapters was developed to rationalize the growing permutations of the CME Group FX product suite.

- **Cleared Only Transactions:** Note that CME Group does not intend at this time to provide a trading platform for such transactions. Rather, such transactions will be executed on a bi-lateral, privately negotiated basis amongst the two counterparties. These transactions are submitted to the CME Clearing House on a post-trade basis. Once submitted and accepted ("novated") to the CME Clearing House, these transactions are assigned the trade type "OPNT" which acronym stands for Over-the-counter Privately Negotiated Trade.

**Collateralization –** CME Clearing will deploy the SPAN system to establish performance bond or "margin" requirements for FX spot, forwards and swaps. Initial performance bond requirements will be established at levels that are consistent with observed levels of volatility in the particular currency pairing and generally aligned with initial margin levels applied to current CME FX futures and option contracts, where applicable. However, the administration of this margin regime shall depart from current practices in one notable way. Rather than requiring a daily mark-to-market (MTM) on a cash basis, all variation margins may be satisfied with the posting of appropriate amounts of collateral, rather than being collected and paid in cash between the counterparties.

Where additional variation margins are required as a result of adverse market fluctuations, such variation requirement will be added to the performance bond requirement. Position holders may deposit cash or collateral to fulfill this requirement, and these deposits will be held in their account. Where market fluctuations result in a favorable mark-to-market, such value is recognized as a credit against the performance bond requirement. However, such credit shall not be withdrawn from the account.

The CME Clearing House will accept as collateral cash or any other instruments currently designated as approved collateral. In order to calculate variation requirements, settlement prices will be established for each contract and for each delivery date referencing data collected from a variety of market sources.

**ICAP / CME Group Collaboration –** CME Group is collaborating with ICAP in the introduction of cleared only OTC U.S. Dollar/Chilean Peso NDF spot, forward and swap transaction services. ICAP has strong institutional and customer relationships in Latin America, developed from operating as a multi-service broker. CME Group believes that ICAP is in a good position to assist with daily valuations of OTC U.S. dollar / Chilean peso NDF positions cleared on the books of CME Clearing. ICAP will be the primary, but not exclusive, contributor to the daily valuation curve used for open position, non-banked, mark to market (or daily settlement valuation).

**Initial Performance Bonds -** As of April 7, 2011, CME Clearing calculated initial margins as follows based upon a notional trade amount of USD 100,000:

| **Outright Performance Bonds** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Tier 1 | Tier 2 | Tier 3 | Tier 4 | Tier 5 | Tier 6 | Tier 7 | Tier 8 | Tier 9 |
| **Months 0-1** | **Months 1-2** | **Months 2-3** | **Months 3-4** | **Months 4-5** | **Months 5-6** | **Months 6-9** | **Months 9-12** | **Months 12-24** |
| $ 2,790 | $ 2,890 | $ 3,000 | $ 3,110 | $ 3,220 | $ 3,320 | $ 3,630 | $ 3,950 | $ 4,280 |

| **Intra-Commodity Spreads** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | T1 **Months 0-1** | T2 **Months 1-2** | T3 **Months 2-3** | T4 **Months 3-4** | T5 **Months 4-5** | T6 **Months 5-6** | T7 **Months 6-9** | T8 **Months 9-12** | T9 **Months 12-24** |
| T1 | **Months 0-1** | $ 110 | $ 210 | $ 320 | $ 430 | $ 540 | $ 840 | $ 1,160 | $ 1,500 | $2,030 |
| T2 | **Months 1-2** | | $ 110 | $ 220 | $ 330 | $ 440 | $ 740 | $ 1,060 | $ 1,400 | $1,930 |
| T3 | **Months 2-3** | | | $ 110 | $ 220 | $ 330 | $ 630 | $ 960 | $ 1,290 | $1,820 |
| T4 | **Months 3-4** | | | | $ 110 | $ 220 | $ 520 | $ 850 | $ 1,780 | $1,710 |
| T5 | **Months 4-5** | | | | | $ 110 | $ 420 | $ 740 | $ 1,070 | $1,560 |
| T6 | **Months 5-6** | | | | | | $ 110 | $ 630 | $ 960 | $1,500 |
| T7 | **Months 6-9** | | | | | | | $ 330 | $ 660 | $1,190 |
| T8 | **Months 9-12** | | | | | | | | $ 330 | $ 870 |
| T9 | **Months 12-24** | | | | | | | | | $ 540 |

The Exchange certifies that these rule amendments and procedures comply with the Act and the rules thereunder.

Members/shareholders will be notified of the information contained herein in CME Group Special Executive Report, S-5713, dated Thursday, April 14, 2011.

If you require any additional information regarding this action, please do not hesitate to contact Steve Youngren, at 312-930-4583 or via e-mail at Steve.Youngren@cmegroup.com or me. Alternatively, you may contact me at (312) 930-8167. Please reference our CME Submission #11-144 in any related correspondence.

Sincerely,

/s/ Sean Downey
Associate Director and Assistant General Counsel

## Appendix 1. Cleared Only Contract Specifications Summary

# Cleared Only CME Group U.S. Dollar / Chilean Peso Transactions

**OTC FX NDF-Style "True Forwards" Collateralized Model**

| | USD/CLP Spot, Forwards and Swaps |
|---|---|
| **Unit of Clearing** | Units of 1 U.S. Dollar in any amount down to a precision of 0.01 U.S. Dollar. |
| **Sample Quotes** | **Spot:** **508.3000** Chilean pesos (CLP) per U.S. dollar (USD) for buy or sell<br><br>**Forward:** Spot =508.3000 + Forward Points= -1.0852 = **507.2148** CLP per USD for buy or sell<br><br>**Swap:** Spot =**508.3000** CLP per USD for buy (sell)<br>Frwd =**507.2148** CLP per USD for sell (buy) |
| **Tick Size** | 0.0001 Chilean peso per U.S. dollar, equivalent to 0.0001 Chilean peso for spot, forward and swap FX OTC cleared transactions. |
| **Performance Bonds** | Performance bonds denominated in USD. CME Clearing will calculate daily pays & collects in CLP, but will not "bank" them. Rather CME Clearing will "collateralize" these CLP amounts with a translation to USD and apply appropriate adjustments to posted performance bonds. |
| **Clearing Hours** | Sundays through Fridays: ClearPort® clearing hours are 6:00 p.m. (Eastern Time) Sundays through 5:15 p.m. (Eastern Time) Fridays (5:00 p.m. Central time on Sundays through 4:15 p.m. Central Time on Fridays), with a 45-minute halt in trading each day between 5:15 p.m. ET for the current trade date and 6:00 p.m. ET for the next trade date (4:15 p.m. CT for the current trade date and 5:00 p.m. CT for the next trade date). |
| **Valid Value Dates for Cash Settlement** | Cleared only USD/CLP spot, forwards, and swaps contracts shall be cash settled for any valid value date(s) mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies. "Cleared only" spot, forward and swap transactions may be submitted for clearing on any Exchange business day. |
| **Cash Settlement OTC NDF-Style** | Each USD/CLP spot contract, for the valid value date for cash settlement in two business days, is liquidated by cash settlement at a price equal to the daily Final Settlement Price for that day. The daily Final Settlement Price shall be equal to the spot exchange rate of Chilean peso per U.S. dollar, "CLP DÓLAR OBS (CLP10)," as reported for that day by Banco Central de Chile for the formal exchange market which appears on the Reuters screen "CLPOB=" at approximately 8:00 PM Santiago time and rounded to two decimal places. This rate is used widely by the interbank foreign exchange market to cash settle non-deliverable forward contracts for CLP versus USD.<br><br>All open positions for that valid value date for cash settlement will be cash settled in USD based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing times the notional value of the transaction in USDs divided by Final Settlement Price. In the event, this USD amount is positive, then the Clearing House shall debit the seller's clearing member account and credit the buyer's clearing member account for this amount in USD. In the event, this USD amount is negative, then the Clearing House shall debit the buyer's clearing member account and credit the seller's clearing member account for this amount in USD.<br><br>For example, if the "CLP DÓLAR OBS (CLP10)" for the valid value date for cash settlement in two business days, is as follows: "Observado Value DD MM YYYY Close" is 547.10 CLP per USD, and the original trade price submitted for clearing by clearing firms of the buyer and seller was 515.25 CLP per USD for a notional amount of 100,000 USD, then the Clearing House on the business day following the valid value date for cash settlement shall credit the clearing member account for the buyer with US$5,821.60 (*i.e.*, 547.10 CLP per USD – 515.25 CLP per USD = (+31.85 CLP per USD x 100,000 USD) / 547.10 CLP per USD) = $5,821.60.). Similarly, the Clearing House on the business day following the valid value date for cash settlement shall debit the clearing member account for the seller with US$5,821.60. |

## Cleared Only CME Group U.S. Dollar / Chilean Peso Transactions (continued)

**OTC FX NDF-Style "True Forwards" Collateralized Model**

| | USD / CLP Spot, Forwards and Swaps |
|---|---|
| **Position Accountability & Spot Limits** | For purposes of cleared only positions, the applicable position accountability level shall be in notional terms of 600 million U.S. dollars. Also, cleared only positions for expiration within the next five (5) business days shall not exceed 2 billion U.S. dollars. |
| **Venues** | Cleared only via CME ClearPort® |

# Appendix 2

## CME GROUP OTC FX NORMALIZATION RULE

**856. NORMALIZATION OF OTC FX SPOT, FORWARD, SWAP AND OPTIONS TRANSACTIONS FOR CLEARING.** For over-the-counter (OTC) foreign exchange (FX) transactions submitted for clearing and any non-standard specification of the transaction as defined by the price format shall be normalized by CME Group Clearing to standard or normal specifications by the following "normalization process."

Instrument: Currency 1/Currency 2 (CCY1/CCY2)

**Generically, for spot and forward OTC FX transactions…**

*Standard or Normal:* Buy (B)/Sell (S) CCY1 notional amount at CCY2 per CCY1 rate.

*Non-standard or Non-normal:* B/S CCY2 notional amount at CCY2 per CCY1 rate.

To normalize:

1. Convert B to S, or S to B
2. Convert CCY2 notional to CCY1: CCY2 amount divided by CCY2 per CCY1 rate to obtain CCY1 amount.

For example, for Instrument: EUR/USD …
*Standard:* EUR/USD- Quote USD per EUR; notional amount in EUR
Trade comes in as SELL €15 million at 1.350000 USD per EUR →BUY $20,250,000 (€15 million x 1.350000 USD/EUR)

*Non-standard:* EUR/USD- Notional amount in USD, but quote still in USD per EUR.
Trade comes in as buy $20 million at 1.350000 USD per EUR →SELL €14,814,814.81 ($20 million / 1.350000 USD/EUR).

To normalize the non-standard EUR/USD transaction, CME Clearing shall:

3. Convert Buy to Sell, or Sell to Buy
4. Convert USD notional to EUR: USD amount divided by USD per EUR rate.

Example: The trade "BUY $20 million at 1.350000 ⇨SELL €14,814,814.81 ($20/1.350000) at 1.350000 USD per EUR" shall be normalized and held in CME Clearing as:

The trade "SELL €14,814,814.81 ($20/1.350000) at 1.350000 USD per EUR⇨ BUY $20 million at 1.350000."

**For swap OTC FX transactions, …**
*Standard or Normal:* Leg 1 B/S CCY1 notional amount at $CCY2_t$ per CCY1 rate.

Leg 2 S/B CCY1 notional amount at $CCY2_{t+n}$ per CCY1 rate.

*Non-standard or Non-normal:*

Leg 1 B/S CCY2 notional amount at $CCY2_t$ per CCY1 rate.

Leg 2 S/B CCY2 notional amount at $CCY2_{t+n}$ per CCY1 rate.

To normalize:

1. Convert B to S, or S to B
2. Convert CCY2 notional to CCY1: CCY2 amount divided by CCY2 per CCY1 rate to obtain CCY1 amount.

For example, for instrument: EUR/USD…

*Standard:* Leg 1 EUR/USD- Quote USD per EUR; notional amount in EUR
Leg 2 EUR/USD- Quote USD per EUR; notional amount in EUR

Trade comes in as "Leg 1 BUY €20 million at 1.305000 ⇨SELL $26,100,000 ($20 million x 1.305000) at 1.305000 USD per EUR; Leg 2 SELL €20 million at 1.315000 USD per EUR (1.3050 + 0.0100 swap points)"

*Non-Standard:* Leg 1 EUR/USD- Notional amount in USD, but quote still in USD per EUR.
Leg 2 EUR/USD- Notional amount in USD, but quote still in USD per EUR.

Trade comes in as "Leg 1 SELL $26.1 million at 1.305000 ⇨BUY €20 million ($26.1 million / 1.305000) at 1.305000 USD per EUR; Leg 2 BUY $26.3 million at 1.315000 USD per EUR (1.3050 + 0.0100 swap points)."

To normalize the non-standard EUR/USD transaction, CME Clearing shall:

3. Convert Buy to Sell, or Sell to Buy
4. Convert USD notional to EUR: USD amount divided by USD per EUR rate.

Example: The trade "Leg 1 SELL $26.1 million at 1.305000 ⇨BUY €20 million ($26.1 million / 1.305000) at 1.305000 USD per EUR; Leg 2 BUY $26.3 million at 1.315000 USD per EUR (1.3050 + 0.0100 swap points)" shall be normalized and held in CME Clearing as:

The trade "Leg 1 BUY €20 million at 1.305000 ⇨SELL $26,100,000 ($20 million x 1.305000) at 1.305000 USD per EUR; Leg 2 SELL €20 million at 1.315000 USD per EUR (1.3050 + 0.0100 swap points)"

**For option OTC FX transactions, …**

*Standard or Normal:* B/S CCY1/CCY2 CALL (PUT) at STRIKE PRICE in units of CCY2 per CCY1 for a notional amount of CCY1 for a premium in CCY2 (CCY1 amount x premium price in CCY2 per CCY1, that is, CCY2 pips) or % of CCY1 (CCY1 premium / CCY1 notional amount).

*Non-standard or Non-normal:* B/S CCY1/CCY2 CALL (PUT) at STRIKE PRICE in units of CCY2 per CCY1 for a notional amount of CCY2 for a premium in CCY1 (CCY2 amount / premium price in CCY2 per CCY1, that is, CCY1 pips) or % of CCY2 (CCY2 premium / CCY2 notional amount).

To normalize:

1. Retain B/S direction
2. Convert CCY2 Put to CCY1 Call, CCY2 Call to CCY1 Put
3. Convert CCY2 notional to CCY1: CCY2 amount divided by Strike Price expressed in CCY2 per CCY1.
4. Process original premium amount and currency.
5. Take premium amount and divide by CCY1 notional to express price in CCY1 terms for reference purposes.

For example, for Instrument: EUR/USD …

*Standard:* EUR/USD- Quote USD per EUR; notional amount in EUR, premium in either % of EUR notional (EUR premium) or USD pips (USD premium)

Trade comes in as BUY EUR/USD PUT at 1.350000 USD per EUR for a notional amount of €20 million with premium of $100,000 (€20 million x option price of 0.0050 USD per EUR, that is, USD pips) or 1.0% of €20 million (€200,000 premium / €20 million) → SELL EUR/USD PUT at 1.350000 USD per EUR for a notional amount of €20 million with premium of $100,000 (€20 million x option price of 0.0050 USD per EUR, that is, USD pips) or 1.0% of €20 million (€200,000 premium / €20 million).

*Non-standard:* EUR/USD- Notional amount in USD, but quote still in USD per EUR, premium in either % of USD notional (USD premium) or EUR pips (EUR premium).

Trade comes in as BUY EUR/USD PUT at 1.350000 USD per EUR for a notional amount of $20 million with premium of €170,100 ($20 million x option price of 0.008505 EUR per USD, that is, EUR pips) or 1.0% of $20 million ($200,000 premium / $20 million) → SELL EUR/USD PUT at 1.350000 USD per EUR for a notional amount of $20 million with premium of €170,100 ($20 million x option price of 0.008505 USD per EUR, that is, EUR pips) or 1.0% of $20 million ($200,000 premium / $20 million).

To normalize the non-standard EUR/USD transaction, CME Clearing shall:

6. Retain B/S direction
7. Convert USD Put to EUR Call, USD Call to EUR Put
8. Convert USD notional to EUR: USD amount divided by Strike Price expressed in USD per EUR.
9. Process original premium amount and currency.
10. Take premium amount and divide by EUR notional to express price in EUR terms for reference purposes.

Example: Trade comes in as BUY EUR/USD PUT at 1.350000 USD per EUR for a notional amount of $20 million with premium of €170,100 ($20 million x option price of 0.008505 EUR per USD, that is, EUR pips) or 1.0% of $20 million ($200,000 premium / $20 million) → SELL EUR/USD PUT at 1.350000 USD per EUR for a notional amount of $20 million with premium of €170,100 ($20 million x option price of 0.008505 USD per EUR, that is, EUR pips) or 1.0% of $20 million ($200,000 premium / $20 million) shall be normalized and held in CME Clearing as:

BUY EUR/USD CALL at 1.350000 USD per EUR for a notional amount of €14,814,814.81 ($20 million/1.350000 USD per EUR) with a premium of €170,100 ($20 million x option price of 0.008505 EUR per USD, that is, EUR pips) or 1.148% of €14,814,814.81 (€170,100 / €14,814,814.81).

# Appendix 3

## ADDITIONS TO "DEFINITIONS" SECTION OF CME RULEBOOK

**CLASS B STOCKHOLDER**
The registered owner of one or more Class B Shares.

**CLEAR DATE OF THE FX OTC CLEARED TRANSACTION**
For purposes of these rules, the "clear date of the foreign exchange (FX) over-the-counter (OTC) cleared transaction" is the date on which an original spot, forward and swap FX OTC transaction clears at CME Clearing as a substituted, cleared transaction.

**CLEARING HOUSE**
The department of the Exchange through which all trades on the Exchange are adjusted and cleared.

…

**FORMS**
All forms referred to herein; *e.g.*, "Buyer Delivery Commitment," shall be forms prescribed by the Exchange.

**FORWARD FX OTC CLEARED TRANSACTION**
For purposes of these rules, a "forward" foreign exchange (FX) over-the-counter (OTC) cleared transaction shall be an agreement between counterparties to exchange ("delivery") of the associated currency pairs at a maturity date greater than one or two business days in the future. A forward FX transaction may be for standard delivery maturities from the original trade date, such as TOM Next (tomorrow next or day after tomorrow), 1-week, 2-weeks, 3-weeks, 1-month, 2-months, 3-months, …, 6-months, …, 1-year, 18-months, 2-years, etc. Also, a forward FX transaction may be for broken date maturities, that is, for delivery on any good business day in both the issuing countries of the associated currency pair that is not one of the standard delivery dates.

**FUTURES CONTRACT**
A contract made on the Exchange for the purpose or sale of any commodity which may be satisfied by offset or delivery during such specified months pursuant to these rules.

…

**ORDERS**
(Note that not all order types are eligible to be entered into the GLOBEX System…

**ORIGINAL TRADE DATE OF AN FX OTC TRANSACTION**
For purposes of these rules, an "original trade date of a foreign exchange (FX) over-the-counter (OTC) cleared transaction," is the date on which the two counterparties agreed to the OTC transaction that is being replaced with the FX OTC cleared transaction.

**PANEL**
A subcommittee elected in accordance with committee procedure to adjudicate or make a particular determination. A decision of a panel shall be deemed a decision of the committee.

…

**SPOT**
The actual or physical commodity, also called "cash" commodity.

**SPOT FX OTC CLEARED TRANSACTION**
For purposes of these rules, a "spot" foreign exchange (FX) over-the-counter (OTC) cleared transaction shall be a very short-dated forward transaction with counterparties agreeing to exchange ("delivery") of the associated currency pairs in one or two business days, whichever is the standard OTC market convention for the particular currency pairs.

**SPOT MONTH**
The contract month of a futures contract which is also the current calendar month.

…

**STRADDLE**
The assumption of a long and short position on different business days in the same or related commodities for the same account.

**SWAP FX OTC CLEARED TRANSACTION**

For purposes of these rules, a "swap" foreign exchange (FX) over-the-counter (OTC) cleared transaction shall be an agreement between counterparties to execute the combination of a spot or forward FX OTC cleared transaction and a subsequent-dated forward FX OTC cleared transaction, where the buyer of the spot or forward currency pair becomes the seller of the subsequent-dated forward currency pair and the seller of the spot or forward currency pair becomes the buyer of the subsequent-dated forward currency pair. In other words, the counterparties are agreeing to the prices on the original trade date to exchange currency pairs for immediate (or nearby forward) delivery, and reverse the same transaction on some mutually agreed to subsequent "forward date," which according to the definition above for a "forward" may be a standard delivery date or a broken delivery date.

**TIME**

Except as otherwise specifically provided, any reference to time shall mean local Chicago time.

…

**TRADE DATE OF AN FX OTC CLEARED TRANSACTION**

The trade date of a foreign exchange (FX) over-the-counter (OTC) cleared transaction" is the date on which counterparties to the OTC transaction submit the FX OTC transaction to clearing as a cleared contract. Although in most instances counterparties may submit an FX OTC cleared transaction for clearing on the same date as the original trade for the FX OTC spot, forward and swap transaction, there is no requirement that it is submitted on the same date. Therefore, an FX OTC cleared transaction may be submitted on any date for clearing on the exchange.

**TRADING SESSION**

A trading session will mean either the pit trading session (the hours designated for open outcry trading for a product) and/or the GLOBEX session (the hours on a particular trading day when a product can be traded on the GLOBEX system.

**VALID VALUE DATE FOR DELIVERY OR CASH SETTLEMENT OF AN FX OTC CLEARED TRANSACTION**

"Cleared only" foreign exchange (FX) over-the-counter (OTC) cleared transactions shall be delivered or cash settled for any valid value date mutually agreed to by buyer and seller, including all applicable standard valid value dates for delivery or cash settlement in futures offered for "trading and clearing." In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

**VOLATILITY QUOTE**

An alternative means of quoting options, or combinations involving options, by bidding or offering the implied volatility. Any transactions quoted in volatility terms will be translated into price terms for clearing purposes by means of a standard options pricing model maintained and disseminated by the Exchange.
(End Definitions)

# Appendix 4

## 5.C. POSITION LIMIT AND REPORTABLE LEVEL TABLE
## POSITION LIMIT, POSITION ACCOUNTABILITY AND REPORTABLE LEVEL TABLE

| CONTRACT NAME | OPTIONS | FIRST SCALE-DOWN SPOT MONTH | SECOND SCALE-DOWN SPOT MONTH | SPOT MONTH | SINGLE MONTH | ALL MONTHS COMBINED | POSITION ACCOUNT-ABILITY | REPORT-ABLE FUT LEVEL | REPORT-ABLE OPT LEVEL |
|---|---|---|---|---|---|---|---|---|---|
| **CME Foreign Exchange** | | | | | | | | | |
| Canadian Dollar/Japanese Yen | | | | | | | 6,000 | 25 | |
| U.S. Dollar Chilean Peso (Cleared OTC Equivalents) | | | | 20,000 | | | 6,000 | 25 | |
| Chinese Renminbi/Euro FX | Y | | | 2,000 | | | 6,000 | 25 | 25 |

Appendix 5

[Rulebook Chapters 274, 274A – F are reserved.]

[Rulebook Chapter 274.G. is reserved.]

# Chapter 274H
# Cleared OTC U.S. Dollar/ Chilean Peso (USD/CLP) Spot, Forwards and Swaps

### 274H.00. SCOPE OF CHAPTER

This chapter is limited in application to U.S. Dollar/Chilean Peso Spot, Forwards, and Swaps that are executed between two counterparties on an Over-the-Counter ("OTC") basis and subsequently novated to the CME Clearing House for purposes of clearance ("Cleared OTC Contracts"). Parties to transactions in Cleared OTC Contracts shall be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act. Cleared OTC Contracts are listed by CME for clearing-only. Transactions in Cleared OTC Contracts shall also be subject to the general rules of the Exchange insofar as applicable. The clearing and settlement of transactions in Cleared OTC Contracts shall also be subject to the provisions of Chapter 8-F of the CME Rulebook (Over-the-Counter Derivative Clearing). For purposes of these Rules, the minimum-fluctuations currency is the Chilean peso and the clearing-unit currency is the U.S. dollar.

### 274H.01. CONTRACT SPECIFICATIONS

#### 274H.01.A. Unit of Clearing

The unit of clearing shall be 1 U.S. Dollar in any amount down to a precision of 0.01 U.S. Dollar.

#### 274H.01.B. Hours for Clearing Entry

The Exchange shall determine the hours during which Cleared OTC Contracts may be submitted to the Clearing House. Positions shall be initiated or closed out using off-exchange transactions.

#### 274H.01.C. Minimum Price Increments

Minimum price fluctuations shall be in multiples of 0.0001 Chilean Peso per U.S. Dollar for transactions in Cleared OTC Contracts.

#### 274H.01.D. Valid Value Dates for Cash Settlement

Cleared OTC Contracts shall be cash settled for any valid value date(s) mutually agreed to by buyer and seller, and accepted by the Exchange for the applicable currency pair as a valid value date(s) for cash settlement and clearing. In general, for any currency pair, a valid value date shall be any business day that is a banking business day in the countries of issue for both currencies.

#### 274H.01.E. Delivery Price and Delivery Value

Delivery for the Cleared OTC Contracts assigned pursuant to Chapter 274H shall be by cash settlement according to Rule 274H.02.

#### 274H.01.F. Position Limits and Position Accountability

1. Authority - Position Limits and Position Accountability may be applicable, as defined by Rule 560, and as per the following.
2. Aggregation - For purposes of this Rule, where applicable:
   - futures,
   - options on futures,
   - E-mini futures,
   - E-micro futures,

- cleared only spot, forward and swaps (combinations of spot and forwards or two maturity forwards), and
- cleared only options on spot and forwards; and
- in addition, where applicable, the analogous reciprocal versions of the aforementioned contracts for the respective foreign exchange pairs,

shall be aggregated with all products utilizing that foreign exchange (FX) pair regardless of quoting conventions. The baseline for this aggregation shall be the denomination of the underlying full-size CME futures contract. Contract equivalents shall be determined through the conversion of the notional value (or contract size times the number of contracts in standardized products) to the CME base currency using the prior day's Regular Trading Hours (RTH) settlement, and dividing the result by the contract size or notional of the full-size CME futures contract.

3. Contract Equivalent - For purposes of this Rule, a contract shall be deemed to be the equivalent of 100,000 U.S. dollars in notional value.
4. Position Accountability - A person owning or controlling more than the aggregated equivalent of 6,000 contracts, or 600,000,000 U.S. dollar in notional value, net long or net short; or, 20,000 contracts which expire within the next five (5) business days, or 2,000,000,000 U.S. dollar, shall provide, in a timely fashion, upon request by the Exchange, information regarding the nature of the position, trading strategy, and hedging information if applicable.
5. Spot Position Limit – A person shall not own or control more than the equivalent of 20,000 contracts which expire within the next five (5) business days.
6. Reserved
7. Reserved

**274H.01.G. Last Day of Clearing**

The last day on which a Cleared OTC Contract may be submitted for clearing in respect of a specified cash settlement date shall be one valid business day prior to the cash settlement date.

**274H.01.H. Liquidation and Delivery Standards**

(1) At Maturity. After clearing of Cleared OTC Contracts in respect of a specified cash settlement date has ceased, in accordance with Rule 274H.01.G. of this chapter, outstanding contracts for such cash settlement date shall be liquidated by cash settlement through procedures as prescribed in Rule 274H.02 and in a manner prescribed by the Clearing House.

(2) Prior to Maturity. Standard offsets of futures and options on futures, if applicable, shall not apply to positions in Cleared OTC Contracts. Prior to the Cash Settlement Date, positions may be closed out upon the request of the clearing firm to the Clearing House, and in the manner prescribed by the Clearing House.

**274H.01.I. Contract Modifications**

Specifications shall be fixed as of the first day of clearing of a contract, except that all final settlements via cash settlement must conform to government regulations in force at the time of final settlement. If any national or international government agency or body issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules and all open and new contracts shall be subject to such government orders.

**274H.02. CASH SETTLEMENT**

**274H.02.A. Day of Cash Settlement**

Each Cleared OTC Contract, for the valid value date for cash settlement in two business days, shall be liquidated by cash settlement at a price equal to the daily Final Settlement Price for that day. The daily Final Settlement Price shall be equal to the spot exchange rate of Chilean peso per U.S. dollar, "CLP DÓLAR OBS (CLP10)," as reported for that day by Banco Central de Chile for the formal exchange market which is available at approximately 8:00 PM Santiago time and rounded to four decimal places. This rate is used widely by the interbank foreign exchange market to cash settle non-deliverable forward contracts for Chilean peso versus U.S. dollars.

All open positions for that valid value date for cash settlement will be cash settled in U.S. dollars based upon the difference between the Final Settlement Price for the valid value date for cash settlement and the original trade price as submitted for clearing times the notional value of the transaction in USDs divided by Final Settlement Price. In the event, this U.S. dollar amount is positive, then the Clearing House shall debit the seller's clearing member account and credit the buyer's clearing member account for this amount in U.S. dollars. In the event, this U.S. dollar amount is negative, then the Clearing House shall debit the buyer's clearing member account and credit the seller's clearing member account for this amount in U.S. dollars.

For example, if the "CLP DÓLAR OBS (CLP10)" for the valid value date for cash settlement in two business days, is as follows: "Observado Value DD MM YYYY Close" is 547.10 Chilean pesos per U.S. dollar, and the original trade price submitted for clearing by clearing firms of the buyer and seller was 515.25 Chilean pesos per U.S. dollar for a notional amount of 100,000 U.S. dollars, then the Clearing House on the business day following the valid value date for cash settlement shall credit the clearing member account for the buyer with $5,821.60 (*i.e.*, 547.10 CLP per USD – 515.25 CLP per USD = (+31.85 CLP per USD x 100,000 USD) / 547.10 CLP per USD) = $5,821.60.). Similarly, the Clearing House on the business day following the valid value date for cash settlement shall debit the clearing member account for the seller with $5,821.60.

For example also, if the "CLP DÓLAR OBS (CLP10)" for the valid value date for cash settlement in two business days, is as follows: "Observado Value DD MM YYYY Close" is 515.25 Chilean pesos per U.S. dollar, and the original trade price submitted for clearing was 547.10 Chilean pesos per U.S. dollar for a notional amount of 100,000 U.S. dollars, then the Clearing House on the business day following the valid value date for cash settlement shall debit the buyer's clearing member account with $6,181.47 (*i.e.*, 515.25 CLP per USD – 547.10 CLP per USD = (-31.85 CLP per USD x 100,000 USD) / 515.25 CLP per USD) = -$6,181.47.). Similarly, the Clearing House on the business day following the valid value date for cash settlement shall credit the clearing member account for the seller with $6,181.47.

**274H.02.B. Procedures if No Cash Settlement Price is Available**

In the event that the "CLP DÓLAR OBS (CLP10)" Chilean pesos per U.S. dollar rate for a valid value date for cash settlement is not published on a given day by Banco Central de Chile, and in order to minimize basis risk between the U.S. dollar / Chilean peso cleared only contracts and the non-deliverable forward ("NDF") market, the Exchange shall determine a Final Settlement Price based on the EMTA CLP Indicative Survey Rate (CLP11), when available. The EMTA CLP Indicative Survey Rate Methodology follows this chapter in an Interpretation.)

**274H.02.C. Amendments to Timings**

The Exchange may amend the timings of notifications, deliveries, and transfers under this Rule 274H.02 to reflect as appropriate the adoption of daylight savings time in the relevant countries of delivery.

**274H.03. DISPUTES**

All disputes between interested parties may be settled by arbitration as provided in the Rules.

**INTERPRETATION TO CHAPTER 274H**

In order to reduce basis risk for market participants trading and/or clearing CME cleared only U.S. dollar/Chilean peso spot, forwards and swaps, over-the-counter (OTC) NDF U.S. dollar / Chilean peso transactions and CME Chilean peso/ U.S. dollar futures and options on futures contracts, if applicable, CME has also adopted procedures to settle terminated cleared only U.S. dollar/ Chilean peso spot, forward and swap contracts to the EMTA CLP Indicative Survey Rate when the Banco Central de Chile "CLP DóLAR OBS (CLP10)" Chilean pesos per U.S. dollar rate is unavailable.

I. The EMTA CLP Indicative Survey

- Commencing the Indicative Survey: (A) on any Business Day on which a Price Source Disruption has occurred or is continuing OR (B) on any Valuation Date that is NOT a Business Day (or that would have been a Business Day but for the occurrence of an Unscheduled Holiday), and in each case following the lapse of a 30 calendar day period during which

the primary settlement rate option shall have been continuously unavailable and as a consequence valuation shall have been deferred or postponed, upon receipt of a Valid Survey Request, EMTA (or a service provider EMTA shall select in its sole discretion) shall conduct a survey of financial institutions for the purpose of determining the EMTA CLP Indicative Survey Rate for that day.

- Valid Survey Request: A "Valid Survey Request" is a request received by EMTA from not less than two unaffiliated EMTA members not later than 5 business days before the contemplated start of the Survey.
- Polled Banks: For purposes of determining the EMTA CLP Indicative Survey Rate for any Valuation Date, at approximately 11:00 a.m. (Santiago time[1]), EMTA (or a service provider EMTA may select in its sole discretion) shall survey no more than 30 randomly selected financial institutions that are active participants in the Chilean Peso / U.S. Dollar market (each, a "Participating Bank").
- Survey Question: Each Participating Bank will be asked to provide its reasonable judgment of what is (or, in the case of an Unscheduled Holiday, would be) the current prevailing free market Chilean Peso spot rate (bid-offer pair) for a standard size Chilean Peso/U.S. Dollar wholesale financial transaction for same-day settlement in the Chilean marketplace on the Valuation Date. In arriving at this indicative quotation, survey participants will be directed to take such factors into consideration as they deem appropriate, which factors may (but need not) include any or all of the following: the spot rate(s) implied in the offshore non-deliverable foreign exchange market for Chilean Peso/U.S. Dollar transactions; the spot rate implied by any other financial market transactions (to the extent that such other financial markets are open for business); the spot rate used in connection with any commercial transactions for goods or services from offshore suppliers or providers; any existing rate for trade finance transactions; and any other existing unofficial rate for Chilean Peso / U.S. Dollar transactions (commercial or otherwise).

II. Calculation Methodology

- EMTA will determine the mid-point of each bid-offer pair. The arithmetic mean of the mid-points will be used to determine the CLP Indicative Survey Rate, rounded to the fourth decimal point as described below.
- If the CLP Indicative Survey results in 21 or more responses, then the 4 highest and 4 lowest mid-points will be eliminated, and the arithmetic mean of the remaining mid-points shall be computed and will constitute the CLP Indicative Survey Rate for such Valuation Date. For purposes of eliminating the 4 highest and 4 lowest mid-points, if more than 4 mid-points have the same highest value or lowest value, then only 4 such mid-points shall be eliminated.

- If the CLP Indicative Survey results in less than 21 but 12 or more responses, then the 2 highest and 2 lowest mid-points will be eliminated, and the arithmetic mean of the remaining mid-points shall be computed and will constitute the CLP Indicative Survey Rate for such Valuation Date. For purposes of eliminating the 2 highest and 2 lowest mid-points, if more than 2 mid-points have the same highest value or lowest value, then only 2 such mid-points shall be eliminated.

- If the CLP Indicative Survey results in less than 12 but 10 or more responses, then the highest and the lowest rate will be eliminated and the arithmetic mean of the remaining midpoints shall be computed and will constitute the CLP Indicative Survey Rate for such Valuation Date. For purposes of eliminating the highest and lowest mid-points, if more than 1 mid-point has the same highest value or lowest value, then only 1 such mid-point shall be eliminated.
- If the CLP Indicative Survey results in less than 10 but 8 or more responses, then no mid-point will be eliminated and the arithmetic mean of all mid-points obtained shall be computed and will constitute the CLP Indicative Survey Rate for such Valuation Date.
- Quotes shall be provided to the fourth decimal point (e.g., 10000).

III. Insufficient Responses

- If the CLP Indicative Survey results in less than 8 responses from Participating Banks, no CLP Indicative Survey Rate will be available for the relevant Valuation Date.

IV. CLP Indicative Survey Rate Publication

- The CLP Indicative Survey Rate will be published on EMTA's web site (www.emta.org) (the "Publication Site") by approximately 12:00 p.m. (Santiago time), or as soon thereafter as practicable, on the Valuation Date.

[1] New York time is 2 hours behind Santiago time when it is Standard Time in New York and Daylight Savings Time in Santiago; New York time and Santiago Time are the same when it is Standard Time in Santiago and Daylight Savings Time in New York; New York time is 1 hour behind Santiago time when it is Standard Time in both Santiago and New York and when it is Daylight Savings time in both Santiago and New York.

- As soon as it is determined that the CLP Indicative Survey will result in Insufficient Responses, a notice that no CLP Indicative Survey is available for the Valuation Date shall be published on the Publication Site.

V. Discontinuing the CLP Indicative Survey

The CLP Indicative Survey will be discontinued (a) following the publication of a CLP DOLAR OBS Rate (CLP10) (or any successor primary settlement rate option) on any Valuation Date or (b) on the third day following polling for the CLP Indicative Survey Rate that results in less than 8 responses for more than two consecutive polling days. Notwithstanding the foregoing, nothing herein shall be construed to prevent EMTA from re-initiating the CLP Indicative Survey at an appropriate time in the future.

A notice that the CLP Indicative Survey has been discontinued will be published on the Publication Site.

VI. Amendments to the Methodology

EMTA may, in its discretion, from time to time, make such administrative, procedural or other modifications to this Methodology as are appropriate to ensure the continued operation and integrity of the CLP Indicative Survey.

VII. Disclaimer

EMTA (and any service provider EMTA may select) disclaim liability for the CLP Indicative Survey Rate, and no representation or warranty, express or implied, is made concerning the CLP Indicative Survey Rate (including, without limitation, the methodology for determining the CLP Indicative Survey Rate and its suitability for any particular use).

[Rulebook Chapter 274.I. is reserved.]

**EXHIBIT D**

**CME Submission 12-102RR**

20 South Wacker Drive, Chicago, Illinois 60606 T 212 299 2228 F 212 299 2299 jason.silverstein@cmegroup.com cmegroup.com

**Timothy R. Elliott**
Executive Director and Associate General Counsel
Legal Department

March 30, 2012

**VIA E-MAIL**

Mr. David Stawick
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.
Washington, DC 20581

**RE: Section 5c(c)(1), Rule 40.6(a) –Revisions to Certification of the Change in Performance Bond Methodology from SPAN to HVaR for Cleared OTC FX Spot, Forward and Swap Transactions.**
**CME Submission 12-102RR**

Dear Mr. Stawick:

Chicago Mercantile Exchange Inc. hereby notifies the Commission that the Chicago Mercantile Exchange Inc. ("CME") is changing its methodology for calculation of the "cash mark-to-mark" performance bonds for Cleared Over-the-Counter ("OTC") Foreign Exchange ("FX") Spot, Forward and Swap Transactions from Standard Portfolio Analysis ("SPAN®") to Historical Value at Risk ("HVaR"). This submission includes the description supporting the implementation of this enhancement of the performance bond administration procedures, which are summarized as follows.

Please note that we are submitting 12-102RR to include revisions to the original submission. CME is requesting that this revision (12-102RR) supersede and replace all earlier submissions (12-102 and 12-102R).

CME is migrating from SPAN® to HVaR for cleared OTC FX performance bonds. This action is consistent with an analogous migration in performance bond methodology for CME Group's cleared OTC Interest Rate Swaps ("IRS") completed in Third Quarter 2011. CME currently has a total of thirty-eight ("38") OTC FX products listed for clearing (12 non-deliverable forward FX pairs & 26 CME WM/Reuters OTC Cash-Settlement Forwards FX pairs). "CME Rule 930.A. Performance Bond System" is amended to note cleared OTC FX transactions will use the HVaR Performance Bond System for margining. See Appendix A for the rule amendments with additions underlined. Appendix B is a clean copy of the amended CME Rule 930.A.

CME Special Executive Report S-6232, dated Friday, May 4, 2012 and attached as Appendix C, clarifies a phased-in implementation schedule to HVaR performance bond methodology across all 38 FX pairs for the Cleared OTC FX initiative. These 38 products include twelve ("12") cleared OTC non-deliverable forward or "NDFs," namely,

U.S. Dollar/Brazilian Real ("USD/BRL"), U.S. Dollar/Chinese Renminbi ("USD/RMB" aka, "CNY"), U.S. Dollar/Malaysian Ringgit ("USD/MYR"), U.S. Dollar/Indonesian Rupiah ("USD/IDR"), U.S. Dollar/Indian Rupee ("USD/INR"), U.S. Dollar/Korean Won ("USD/KRW"), U.S. Dollar/ Philippine Peso ("USD/PHP"), U.S. Dollar/Taiwan Dollar ("USD/TWD"), U.S. Dollar/Chilean Peso ("USD/CLP"), U.S. Dollar/Colombian Peso ("USD/COP"), U.S. Dollar/Peruvian New Sol ("USD/PEN") and U.S. Dollar/Russian Ruble ("USD/RUB") non-deliverable forwards ("NDFs"); and twenty-six ("26") CME WM/Reuters OTC FX Cash-Settlement Forwards, namely

Australian Dollar/U.S. Dollar ("AUD/USD"), U.S. Dollar/Swiss Franc ("USD/CHF"), U.S. Dollar/Canadian Dollar ("USD/CAD"), New Zealand Dollar/U.S. Dollar ("NZD/USD"), U.S. Dollar/Norwegian Krone ("USD/NOK"), U.S. Dollar/Swedish Krona ("USD/SEK"), U.S. Dollar/Denmark Krone ("USD/DKK"), Euro /U.S. Dollar ("EUR/USD"), U.S. Dollar/Japanese Yen ("USD/JPY"), Great British Pound/U.S. Dollar ("GBP/USD"), U.S. Dollar/Mexican Peso ("USD/MXN"), U.S. Dollar/Singapore Dollar ("USD/SGD"), U.S. Dollar/Polish Zloty ("USD/PLN"), U.S. Dollar/South African Rand ("USD/ZAR"), Australian Dollar/Japanese Yen ("AUD/JPY"), Euro/Australian Dollar ("EUR/AUD"), Canadian Dollar/Japanese Yen("CAD/JPY"), Euro/Great British Pound ("EUR/GBP"), Euro/Japanese Yen ("EUR/JPY"), Euro/Swiss Franc ("EUR/CHF"), U.S. Dollar/Czech Koruna ("USD/CZK"), U.S. Dollar/Hungarian Forint ("USD/HUF"), U.S. Dollar/Turkish Lira ("USD/TRY"), U.S. Dollar/Israeli Shekel ("USD/ILS"), U.S. Dollar/Thailand Baht ("USD/THB") and U.S. Dollar/Hong Kong Dollar ("USD/HKD").

CME is publishing CME Group Special Executive Report ("SER"), S-6184, dated Tuesday, April 3, 2012, as notification to market participants about implementation of the new performance bond methodology scheduled for Monday, April 16, 2012.

CME Group has determined that the HVaR methodology more appropriately accounts for historical risk in the OTC FX market. Extended back testing ability is a primary characteristic of HVaR methodology with Exponentially Weighted Moving Average ("EWMA") volatility forecasting. This methodology has been well-researched over the years and is widely used in the industry.[1]

Consistent with best practices recommendations,[2] CME's preferred margin model covers losses over any 5-day period in a large universe of portfolios during 99% of days; it quickly reacts to changes in FX and volatility regimes; it is simple and transparent for market participants. HVaR methodology is the model of choice for the risk departments of most, if not all financial services firms and is widely considered to be a proxy for market risk. It is also well-understood and easily replicable. In the HVaR framework, past events are used for coming up with possible scenarios in the future. This approach implicitly assumes that historical data series provide rich sample sets of the possible probability distribution of the relevant financial variable. CME has arranged for receipt of FX historical data by FX pair by maturity curve from Super Derivatives. In depth analysis and stress testing of sample FX portfolios will be done upon receipt of data.

CME Clearing has found in analyzing OTC interest rate swap data that simple application of the past scenarios to current environment has to be enhanced in order to correctly capture the proper volatility regime. To achieve that, the HVaR model scales historical returns by the ratio of the forecasted volatility to the realized volatility from the time-period the shock was sampled. This allows the model to retain a rich history of data/scenarios, but remain nimble enough to react to the current volatility regime. A

[1] See for example, "Incorporating volatility updating into the historical simulation method for value at risk" by John Hull and Alan White.
[2] "Principles for financial market infrastructures," CPSS-IOSCO, March 2011 (http://www.bis.org/publ/cpss94.pdf).

simple way to understand this volatility scaling is to notice that if forecasted volatility increases, then the distribution of returns will have more dispersion than what's observed in the sampled historical period. Essentially, this assumes stationarity of the volatility-scaled returns' distribution, which is very well supported through our statistical analysis. In a highly volatile environment the model appropriately scales up the returns that were obtained during periods of lower volatility. The opposite is, of course, also true.

In the HVaR approach, each observed tenor of the forward curve has its own volatility forecast and therefore its own scaling factor. We will check that this methodology preserves, to a reasonable degree, the average observed covariance matrix between the tenors of the forward curve, so as the historical correlations between different parts of the forward curve are maintained.

The margin methodology, at a high level, follows these four steps:

1. Generate matrix of historical returns

2. Compute volatility scaling factors and apply them individually to each tenor in each scenario

3. Generate scenarios by applying the scaled return matrix to today's forward curve and compute the profit (loss) of the portfolio in each scenario.

4. Rank the scenarios by maximum loss to maximum gain and take the required percentile as a margin. In our model, we chose to take the 4$^{th}$ largest loss over the 5-year period, which corresponds to approximately 99.7% confidence interval.

Note that in addition to historical scenarios used to generate margins required for 99% coverage, CME will consider truly extreme events for the purpose of sizing up the Guaranty Fund. This Fund is designed to withstand large systemic shocks at the Clearing Member level (which combines portfolios from its many customers), and thus has the benefit of netting out the risks amongst its clients. These stress tests will contain both historical and theoretical scenarios to represent potential tail-risks not accounted for in the margin model much more adequately.

Business staff responsible for the proposed change and the legal department collectively reviewed the derivatives clearing organization core principles ("Core Principles") as set forth in the Commodity Exchange Act ("CEA"). During this review, the following Core Principles were identified as being relevant to this submission:

**FINANCIAL RESOURCES**—Demonstrate that CME (the derivative clearing organization or DCO) has adequate financial, operational, and managerial resources to discharge the responsibilities of a derivatives clearing organization.

**Compliance:** There are minor financial impacts associated with the enhanced performance bond administration regime, where CME Clearing is migrating from SPAN to HVaR systems for calculation of cleared FX spot, forwards and swaps margins. However, initial performance bond requirements will continue to be established at levels that are consistent with observed levels of volatility in the particular currency pairing and generally aligned with initial margin levels applied to current CME FX futures and option contracts, where applicable. These components of the clearing system are unchanged. The migration to HVaR margin calculations for cleared OTC FX will enable more tailored and responsive adjustments of performance bonds based upon market dynamics. Variation margins may be satisfied with the posting of appropriate amounts of collateral, where CME Clearing collects and pays in cash between the counterparties each day. These payments are adjusted with implementation of HVaR, which will

make the CME cleared OTC FX products more appealing to the OTC community, because of its simplicity and broad-based acceptance for risk management in the financial marketplace.

Since CME has implemented this same feature (HVaR) for cleared interest rate swaps, it can implement this enhancement in a very cost effective manner. CME's utilization of the HVaR-based "cash mark to market" system continues to provide for all open positions held by market participants to be evaluated each day and real cash payments are made by CME Clearing to appropriate parties. These payments will now result in even more alignment with typical bilateral OTC FX transactions. This system, analogous to margining for futures, is also consistent with the requirements of the CEA.

**PARTICIPANT AND PRODUCT ELIGIBILITY**—CME has established (i) appropriate admission and continuing eligibility standards (including appropriate minimum financial requirements) for members of and participants in the organization; and (ii) appropriate standards for determining eligibility of agreements, contracts, or transactions submitted to CME.

**Compliance:** Parties to transactions in these Cleared OTC Contracts continue to be limited to "eligible contract participants" as defined in Section 1a(12) of the Commodity Exchange Act and existing methods for monitoring compliance with eligibility standards are utilized by CME, so there is no change or impact there. However, CME believes the inclusion of HVaR as the performance bond calculation methodology will make the CME cleared OTC FX product more appealing to OTC FX customers, given that HVaR is the risk management standard for the OTC market.

**RISK MANAGEMENT**—CME has the ability to manage the risks associated with discharging the responsibilities of a derivatives clearing organization through the use of appropriate tools and procedures.

**Compliance:** There are other existing CME products that feature cash mark to market performance bonds derived from HVaR methodology, namely, the cleared interest rate swaps. CME Clearing will utilize existing tools, procedures and processes to discharge the responsibilities of a derivatives clearing organization with respect to this enhanced cash mark to market mechanism for the cleared OTC FX products.

**SETTLEMENT PROCEDURES**—CME will have the ability to (i) complete settlements on a timely basis under varying circumstances; (ii) maintain an adequate record of the flow of funds associated with each transaction that the applicant clears; and (iii) comply with the terms and conditions of any permitted netting or offset arrangements with other clearing organizations.

**Compliance:** CME Clearing and the Settlements Team together manage the daily requirements to evaluate appropriate daily marks to market for all CME products including the cash-settlement Cleared OTC FX Spot, Forward and Swap transactions. The cash mark to market of this suite of products is in U.S. dollars, Canadian dollars, Japanese yen, Euro and British pounds. This arrangement has long history of working smoothly. The migration to HVaR does impact the daily mark to market amounts for open position holders to a degree, given it is a different methodology. However, given that the HVaR enhancement is more conforming to the existing procedures in the OTC FX market, this added feature serves to strengthen the cleared OTC FX product as it will now be more viable for users. Also, its use is proven acceptable to the OTC marketplace in the cleared interest rate swaps products.

**TREATMENT OF FUNDS**—CME will have standards and procedures designed to protect and ensure the safety of member and participant funds.

**Compliance:** CME has standards and procedures that it applies to other existing products that feature cash mark to market with HVaR-based performance bonds that will be applied to protect and ensure safety of member and participant funds in connection with the proposed procedure change.

**DEFAULT RULES AND PROCEDURES**—CME has rules and procedures designed to allow for efficient, fair, and safe management of events when members or participants become insolvent or otherwise default on their obligations to the derivatives clearing organization.

**Compliance:** The CME's standard financial safeguards package will apply under the new, enhanced performance bond administration regime described by the proposed procedural changes.

**SYSTEM SAFEGUARDS**—CME demonstrates that it (i) has established and will maintain a program of oversight and risk analysis to ensure that the automated systems of the applicant function properly and have adequate capacity and security; and (ii) has established and will maintain emergency procedures and a plan for disaster recovery, and will periodically test backup facilities sufficient to ensure daily processing, clearing, and settlement of transactions.

**Compliance:** CME's standard oversight, risk analysis and emergency systems apply to all CME products, including the newly enhanced cash mark to market performance bonds with HVaR for the cleared OTC FX spot, forward and swaps.

The Exchange certifies that these rule amendments and procedures comply with the Act and the rules thereunder and that there were no substantive opposing views to this proposal. The Exchange certifies that this submission has been concurrently posted on the Exchange's website at http://www.cmegroup.com/market-regulation/rule-filings.html.

Members/shareholders will be notified of the information contained herein in CME Group Special Executive Report, S-6184, dated Tuesday, April 3, 2012.

If you require any additional information regarding this action, please do not hesitate to contact me or Steve Youngren, at 312-930-4583 or via e-mail at Steve.Youngren@cmegroup.com or me. Please reference our CME Submission No. 12-102RR in any related correspondence.

Sincerely,

/s/ Tim Elliott
Executive Director and Associate General Counsel

Attachments: Appendix A
Appendix B
Appendix C

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# Appendix A

**Proposed Rule Amendments: Rule additions are underlined.**

**930.A. Performance Bond System**

The Standard Portfolio Analysis of Risk (“SPAN®”) Performance Bond System is the performance bond system adopted by the Exchange. SPAN-generated performance bond requirements shall constitute Exchange performance bond requirements. All references to performance bond within the rules of the Exchange shall relate to those computed by the SPAN system, except for cleared over-the-counter (“OTC”) foreign exchange (“FX”) and interest rate swap (“IRS”) transactions, where the Historical Value at Risk (“HVaR”) Performance Bond System is used for cleared OTC FX and IRS transaction performance bonds.

Performance bond systems other than the SPAN system may be used to meet Exchange performance bond requirements if the clearing member can demonstrate that its system will always produce a performance bond requirement equal to or greater than the SPAN performance bond requirements.

# Appendix B

**Proposed Rule Amendments: Clean copy of amended Rule 930.A.**

**930.A. Performance Bond System**

The Standard Portfolio Analysis of Risk ("SPAN®") Performance Bond System is the performance bond system adopted by the Exchange. SPAN-generated performance bond requirements shall constitute Exchange performance bond requirements. All references to performance bond within the rules of the Exchange shall relate to those computed by the SPAN system, except for cleared over-the-counter ("OTC") foreign exchange ("FX") and interest rate swap ("IRS") transactions, where the Historical Value at Risk ("HVaR") Performance Bond System is used for cleared OTC FX and IRS transaction performance bonds.

Performance bond systems other than the SPAN system may be used to meet Exchange performance bond requirements if the clearing member can demonstrate that its system will always produce a performance bond requirement equal to or greater than the SPAN performance bond requirements.

# Appendix C

CME Group

Special Executive Report

**S-6232** **May 4, 2012**

**Clarification of HVaR Performance Bond Methodology Implementation for Cleared OTC FX Spot, Forward and Swap Transactions**

As you were previously notified in CME Group Special Executive Report, S-6184, dated Tuesday, April 3, 2012, CME is changing its methodology for calculation of the performance bond requirements for Cleared Over-the-Counter ("OTC") Foreign Exchange ("FX") Spot, Forward and Swap Transactions from Standard Portfolio Analysis ("SPAN®") to Historical Value at Risk ("HVaR"). CME is clarifying the implementation schedule as follows:

Release 1: As of Monday, April 16, 2012, the HVaR performance bond methodology was implemented for Cleared OTC U.S. Dollar (USD)/Brazilian Real (BRL), USD/Philippines Peso (PHP), USD/Malaysian Ringgit (MYR), USD/Indian Rupee (INR), USD/Korean Won (KRW), USD/Chinese Renminbi (CNY), USD/Indonesian Rupiah (IDR) spot, forward and swap transactions.

Release 2: As of Monday, May 7, 2012, the HVaR performance bond methodology will be implemented for Cleared OTC USD/Taiwan Dollar (TWD), USD/Chilean Peso (CLP), USD/Colombian Peso (COP), USD/Peruvian New Sol (PEN), USD/Russian Ruble (RUB), Euro (EUR)/USD spot, forward and swap transactions.

Release 3: As of Monday, May 28, 2012, the HVaR performance bond methodology will be implemented for Cleared USD/Japanese Yen (JPY), British Pound (GBP)/USD, USD/Canadian Dollar (CAD), USD/Swiss Franc (CHF), Australian Dollar (AUD)/USD, USD/Swedish Krona (SEK) spot, forward and swap transactions.

Release 4: As of Monday, June 18, 2012, the HVaR performance bond methodology will be implemented for Cleared USD/Norwegian Krone (NOK), USD/Danish Krone (DKK), New Zealand Dollar (NZD)/USD, EUR/JPY, EUR/GBP, AUD/JPY spot, forward and swap transactions.

Release 5: As of Monday, July 9, 2012, the HVaR performance bond methodology will be implemented for Cleared EUR/CHF, CAD/JPY, EUR/AUD, USD/Hong Kong Dollar (HKD), USD/Hungarian Forint (HUF), USD/Israeli Shekel (ILS) spot, forward and swap transactions.

Release 6: As of Monday, July 30, 2012, the HVaR performance bond methodology will be implemented for Cleared USD/Czech Koruna (CZK), USD/Mexican Peso (MXN), USD/Polish Zloty (PLN), USD/Singapore Dollar (SGD), USD/Thailand Baht (THB), USD/Turkish Lira (TRY), USD/South African Rand (ZAR) spot, forward and swap transactions.

These contracts will be enabled to be cleared on CME ClearPort according to the release schedule described above.

If you have any questions, please contact Craig LeVeille (email: Craig.LeVeille@cmegroup.com or ph. 312-454-5301) or Marco Ossanna (email: Marco.Ossanna@cmegroup.com or ph: (212) 299-2129) or Ian Nikolov (email: Ivaylo.Nikolov@cmegroup.com or ph. 312-466-4427) or Steve Youngren (email: Steve.Youngren@cmegroup.com or ph: 312-930-4583)

## EXHIBIT E

## Fee Schedule for the Cleared FX Swaps

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# Fees for Clearing OTC FX

**Effective as of January 1, 2013**

## All Fees Waived Through June 30, 2013

### Transaction Fees – Cleared OTC CME FX

| Maturity | All Fees Waived Through June 30, 2013 | Regular Fee Schedule | | |
|---|---|---|---|---|
| | | *Equity Member*[1] | *Non-Equity Member*[2] | *Non-Member*[3] |
| T+2 – 3M | | $3.00 | $ 4.00 | $ 8.00 |
| 3M – 1YR | | $5.00 | $ 6.00 | $10.00 |
| 1YR – 2 YR | | $8.00 | $10.00 | $16.00 |

### About the Fee Schedule

- Fees are priced for $1,000,000
- Fees inclusive of cash settlement
- Other processing fees: No initial fees for position adjustments, give-ups or other non-trade fees

### About Cleared OTC FX

CME Group has worked closely with buy side and sell side participants to build a multi-asset class, market leading OTC clearing solution, which includes Cleared OTC FX. Our Cleared OTC FX solution provides a post-execution clearing and settlement service, through CME ClearPort, which is designed to meet the risk-mitigation needs of OTC currency traders around the world. Cleared OTC FX offers you the ability to retain the flexibility of OTC products and use any established OTC execution method, while addressing counterparty credit risk concerns.

Our current product coverage is focused on 12 Non Deliverable Forwards (NDFs) and 26 Cash-Settled Forwards (CSFs), with plans to expand to a full OTC FX product suite, including FX options, spot, swaps and forwards.

**For more information visit cmegroup.com/fxclearing or contact**

**Steve Reich**
Steve.Reich@cmegroup.com
+1 212 299 2711

1. Equity Members/Clearing Members/Corporate Equity Members/Rule 106.I and Rule 106.S Member Approved Funds
2. Lessees (106.D / 106.F), Electronic Corporate Member (Holding Member & Volume Incentive), Rule 106.H/N Firms,
3. Asian Incentive (AIP), International Incentive (IIP), Latin American Bank Incentive (LABIP) and Latin American Fund Manager (FMIP),.Latin American Commercial Incentive (LACIP), CBOE Members and Customers of Member Firms

The contracts in this piece are listed with, and subject to, the rules and regulations of CME.

Swaps trading is not suitable for all investors, involves the risk of loss and should only be undertaken by investors who are eligible contract participants (ECPs) within the meaning of section 1(a)18 of the Commodity Exchange Act. Swaps are a leveraged investment, and because only a percentage of a contract's value is required to trade, it is possible to lose more than the amount of money deposited for a swaps position. Therefore, traders should only use funds that they can afford to lose without affecting their lifestyles. And only a portion of those funds should be devoted to any one trade because they cannot expect to profit on every trade. CME Group is a trademark of CME Group Inc. The Globe logo, E-mini, E-micro, Globex, CME and Chicago Mercantile Exchange are trademarks of Chicago Mercantile Exchange Inc. The information within this brochure has been compiled by CME Group for general purposes only. CME Group assumes no responsibility for any errors or omissions. Additionally, all examples in this brochure are hypothetical situations, used for explanation purposes only, and should not be considered investment advice or the results of actual market experience. All matters pertaining to rules and specifi cations herein are made subject to and are superseded by official CME, CBOT and CME Group rules. Current rules should be consulted in all cases concerning contract specifi cations.

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**EXHIBIT F**

**CME Handbook for OTC Clearing Membership**

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# CME

# Over-The-Counter Derivatives Clearing Membership (OTC Clearing Membership)

# Handbook

May 2012

**OTC Clearing Membership**
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1. Introduction

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## Disclaimer

This handbook is designed to familiarize applicants with the requirements for Chicago Mercantile Exchange Inc. ("CME") Over-the-Counter ("OTC") Derivatives Clearing Membership and to assist them in becoming OTC Clearing Members.

The handbook supplements and clarifies the rules for CME OTC Clearing Members as adopted in CME's Rulebook. This handbook is compiled for the convenience of the user and is furnished without responsibility for any errors or omissions contained herein. In the event of a conflict between this Handbook and CME's Rules, CME's Rules shall control.

**OTC Clearing Membership**
**Introduction**

Over-the-Counter ("OTC") Derivatives Clearing Membership is a privilege granted by the Clearing House Risk Committee of Chicago Mercantile Exchange Inc.® ("CME"), the Interest Rate Swap Risk Committee for Interest Rate Swap ("IRS") products and/or the Credit Default Swaps Risk Committee for Credit Default Swap ("CDS") products. OTC Clearing Members assume full financial and performance responsibility for all OTC transactions submitted by them for and accepted for clearing by CME's Clearing House ("CME Clearing").

CME, The Board of Trade of the City of Chicago, Inc. ("CBOT"), New York Mercantile Exchange, Inc. ("NYMEX"), and Commodity Exchange, Inc. ("COMEX") Clearing Members and OTC Clearing Members are eligible to clear OTC derivative products directly with CME Clearing if all requirements for the clearance of particular OTC derivative contracts are met. A firm may become a clearing member of one or more Exchanges and have privileges to clear exchange-traded futures and/or options on futures ("futures/options") on that Exchange. Depending upon the clearing membership privileges held, these clearing members may be eligible to clear OTC derivatives products (i.e. cleared swaps and forwards) if additional requirements, including additional financial and operational requirements, are met. For example, CME clearing members are eligible to clear CDS and IRS, CBOT clearing members are eligible to clear ethanol and grain swaps, NYMEX clearing members are eligible to clear energy OTC products and COMEX clearing members are eligible to clear metal forwards. A CBOT-only, NYMEX-only or COMEX-only clearing member is not eligible to clear CDS or IRS.

If a firm wants to clear both CDS and IRS as well as CME and CBOT futures/options (e.g. CME Eurodollar and/or CBOT Treasury products), it should consider applying for CME and CBOT clearing membership.

A firm may also become an OTC Derivatives Clearing Member if it desires to clear only OTC derivative products, including CDS and IRS, and not clear any Exchange-traded futures/options activity. An OTC Derivatives Clearing Member is a member in CME Clearing and it is afforded full rights and privileges to clear for its own account, and on behalf of customers if it is properly registered, transactions in OTC derivative products. OTC Clearing Members are not entitled to clear products other than OTC derivative products. CME Clearing is a division of CME, a derivatives clearing organization registered with the U.S. Commodity Futures Trading Commission ("CFTC"), through which all OTC derivative products are confirmed, matched, settled, collateralized and/or marked-to-the-market.

Clearing members that will clear exchange-traded futures/options and/or OTC derivatives for customers must be registered with the U.S. CFTC as a Futures Commission Merchant ("FCM"). FCMs are subject to CFTC rules and regulated pertaining to regulatory capital, monthly financial reporting, required notifications and customer protection. More detailed information concerning FCM registration can be found on the CFTC's web site at www.cftc.gov.

The general requirements of clearing membership are stated in Chapter 9 of CME's Rulebook. The additional requirements for clearing OTC derivative products, including FX, are stated in Chapter

## OTC Clearing Membership
## Introduction

8F of CME's Rulebook, for IRS are stated in Chapter 8G of CME's Rulebook and for CDS are stated in Chapter 8H of CME's Rulebook. The rules of the respective Exchanges are on CME Group's web site at: http://www.cmegroup.com/market-regulation/rulebook/index.html. In addition, a Clearing House Manual of Operations may be adopted for certain OTC products (e.g. IRS and CDS). The Manual contains information and directions for preparing trade data, completing prescribed memoranda and meeting other Clearing House requirements for certain products. The Manual shall constitute part of the Rules.

CME Clearing may impose additional requirements upon the clearing member that may be specific to the products cleared by the clearing member. Below is a summary of the significant requirements.

For a more detailed account of clearing membership requirements for Exchange traded futures/options and OTC derivatives, please review the Clearing Membership Handbook on CME Group's web site at: http://www.cmegroup.com/company/membership/files/clearmemberhandbook.pdf.

CME, CME Clearing, the Clearing House and the Exchange are used interchangeably throughout this handbook. References to rules refer to CME Rules unless otherwise noted. CME's Rulebook is located on CME Group's Web Site at: http://www.cmegroup.com/market-regulation/rulebook/index.html.

**OTC Clearing Membership**
**Introduction**

OTC Clearing Membership Application Process

OTC Clearing Member applicants must complete the CME Group's OTC Clearing Membership Application and Agreement for Membership.

CME Rule 105.A. (Application for Membership) and Rule 911 (Screening Procedures) requires the CME membership community to be notified of all applicants for clearing membership for a 20-day period (i.e. the "20-day posting period"). OTC Clearing Membership applicants are posted to the membership community in CME's Weekly Special Executive Report on the Monday following receipt of a completed clearing membership application. During this 20-day period, an investigation of the applicant's qualifications for membership is conducted.

Once all requirements of membership have been met, the OTC Clearing Member applicant is presented to CME's Clearing House Risk Committee, the IRS Risk Committee for IRS products, the CDS Risk Committee for CDS products, as applicable, for approval. If approved by the respective Risk Committee, and all applicable requirements have been met, the approval of the OTC Clearing Member may become effective.

To be effective as a clearing member, all conditions and requirements of membership must be satisfied and the 20-day posting period must have expired.

## OTC Clearing Membership
## General Requirements

CME Rule 901. (General Requirements and Obligations) and Rule 8F04. (OTC Clearing Member Obligations and Qualifications) state the requirements which must be satisfied to become an OTC Clearing Member. Specific OTC clearing membership requirements are outlined in other sections of this handbook.

The general requirements for OTC clearing membership are outlined below.

1. An OTC Clearing Member must be a corporation (including a C Corporation, Subchapter S Corporation or Limited Liability Company), partnership (including a Limited Partnership or General Partnership) or cooperative association.

2. An OTC Clearing Member must have an authorized representative (i.e., officer, principal or partner) to represent the OTC Clearing Member before CME Clearing and its committees.

3. An OTC Clearing Member shall be qualified to do business in the State of Illinois or the State of New York or have an agency agreement in place with an entity already qualified in the State of Illinois or the State of New York. Such agency agreement must be in the Exchange approved format. Refer to Exhibit A.

   This requirement provides a place for service of process and other communications in connection with the business of the OTC Clearing Member.

4. An OTC Clearing Member shall be engaged in or demonstrate immediate capacity to engage in the conduct of the business of an OTC Clearing Member. An OTC Clearing Member that will clear CDS or IRS must have appropriate risk management capabilities, operational infrastructure and experience to support their CDS and/or IRS clearing activity, as prescribed by CME Clearing.

5. An OTC Clearing Member shall ensure that any and all necessary approvals have been received from regulatory authorities, including, but not limited to, the United States Federal Reserve and other foreign banking regulators to allow the firm to conduct the business of an OTC Clearing Member.

6. An OTC Clearing Member shall demonstrate such fiscal and moral integrity as would justify CME Clearing's assumption of the risks inherent in clearing its trades.

7. An OTC Clearing Member shall agree to guarantee and assume responsibility for all trading activity routed through any electronic trading system, if applicable, to CME Clearing for clearing of such OTC derivative transactions and which are guaranteed to CME Clearing by the clearing member via any connection, terminal, link, telecommunications hub or handheld unit provided by a clearing member to a third party as well as any applicable electronic trading systems and terminals that the clearing member provides to a third party, including an eligible customer, to enter orders.

8. The OTC Clearing Member shall agree to guarantee and assume responsibility for all OTC derivatives trading activity executed via outside means and submitted for clearing to and accepted by CME Clearing by any customer, broker or affiliate authorized by the OTC Clearing Member.

9. A clearing member shall comply with all credit control policies developed by the Exchange for customer and proprietary transactions. Such credit control policies may include, but not be limited to, registration of credit control administrators with the Exchange, definition of credit control limits, and maintenance of written procedures verifying compliance with Exchange credit control requirements. Any "GC2" credit control functionality required by the Exchange shall be in addition to a clearing member's initial risk monitoring and credit control procedures.

10. An OTC Clearing Member shall agree to abide by all CME Rules and to cooperate in their enforcement.

11. An OTC Clearing Member shall be responsible, even after it has withdrawn as a clearing member, for any violations of CME Rules committed by it while it was a clearing member.

12. An OTC Clearing Member must be in "good standing" under each applicable regulatory regime to which it is subject to and must maintain its good standing status while it is an OTC Clearing Member.

13. An OTC Clearing Member must continue to meet all requirements of clearing members, including financial requirements, provided by CME's Rules.

Legal Requirements and Rules

All clearing members, including those that are incorporated/domiciled in non-U.S. jurisdictions, must be subject to a legal and insolvency regime acceptable to the Clearing House. Clearing members from non-U.S. jurisdictions must use the U.S. branch of the Clearing House's settlement banks for performance bond deposits and variation margin.

The rules of the Exchange shall be governed by and construed in accordance with the laws of the State of Illinois in the U.S. Any action, claim, dispute or litigation of any kind between the clearing member and the Exchanges shall be adjudicated in a federal or state court in Chicago, Illinois. Clearing members must consent to the jurisdiction of such court and to service of process by any means authorized by Illinois or U.S. federal law, and waive the right to transfer the venue of such litigation. In addition, clearing members irrevocably waive any grounds of sovereign immunity in any legal action with the Exchanges. Refer to Rule 905. (Choice of Law)

An OTC Clearing Member shall have no rights or privileges to clear products other than OTC derivative products. If it wishes to clear CME, CBOT, NYMEX or COMEX futures/options products,

it must apply for, meet all requirements, including Exchange memberships, and be approved for those exchange membership privileges.

OTC Clearing Membership is a privilege granted by the Clearing House Risk Committee and/or the IRS Risk Committee for IRS products and/or the CDS Risk Committee. Such clearing membership privileges may be withdrawn for cause at any time.

OTC Clearing Members who are Facilities Managed

An OTC Clearing Member may determine that it is not cost-effective to establish a back office operation. OTC Clearing Members may enter into "facilities management" agreements with other clearing members to reduce their costs associated with clearing OTC derivative products with CME Clearing. Under such an agreement, the OTC Clearing Member clears its trades with CME Clearing; however, another clearing member (facilitator) performs trade processing and/or manages the back office functions.

A facilities management agreement may be entered into between two clearing members for the purpose of doing some or all of the OTC Clearing Member's back office/clearing operations. For example, if an OTC Clearing Member's trade processing is conducted through another firm's back office, the OTC Clearing Member defrays the cost of setting up a back office and hiring personnel to perform trade processing. The terms of the arrangement are private. However, CME Clearing will always look to the OTC Clearing Member responsible for clearing the trades in the event there are problems associated with the trade processing. An OTC Clearing Member may not contract out its responsibility to guarantee its trades or follow correct processing procedures.

An OTC Clearing Member may not contract out functions related to its banking operations to a clearing member who is not affiliated with, or related to, the OTC Clearing Member.

If an OTC Clearing Member enters into a facilities management agreement, it must always have a senior officer, director, or partner of the OTC Clearing Member available to represent the OTC Clearing Member before CME Clearing and its committees.

**OTC Clearing Membership**
**Membership, Capital and Financial Requirements**

## Membership Requirements

OTC Clearing Members are required to maintain a membership deposit of at least $5,000,000 with CME Clearing. The membership deposit is available to CME Clearing in the event of a default to CME Clearing by the OTC Clearing Member. The membership deposit is in lieu of any Exchange memberships (i.e. trading rights) that must be maintained by CME, CBOT, NYMEX or COMEX clearing members and is available to CME Clearing in the event of a default by OTC Clearing Members.

The Clearing House Risk Committee, the IRS Risk Committee for IRS products, the CDS Risk Committee for CDS products or CME Clearing may prescribe additional financial, including membership deposit, requirements.

During the application process, the OTC Clearing Member applicant may deposit U.S. Dollars, U.S. Treasuries, U.S. Agencies and stock of CME Group as collateral to meet its membership deposit requirements. Interest is not paid on U.S. Dollar deposits. If U.S. treasury or agency securities are deposited, the market value of such securities, less any applicable haircut, must be at least the minimum requirement. For example, U.S. T-Bonds maturing in less than 5 years with a par value of $6,000,000, market value of $5,500,000 and a 2% CME Clearing haircut may be used to meet a membership deposit requirement of $5,000,000 as the CME Clearing collateral value is $5,390,000.

Once approved as an OTC Clearing Member, the OTC Clearing Member may also invest in various collateral management programs such as CME's IEF2 or IEF5 programs. These investments may be used to meet the clearing member's membership deposit requirements.

Information on the types of collateral that may be accepted by CME Clearing, its various collateral management programs and the CME Clearing haircut may be found on CME Group's Web Site at: http://www.cmegroup.com/clearing/financial-and-collateral-management/collateral-types-accepted.html.

During the clearing membership approval process, the membership deposit must be wired into the account of CME Clearing prior to the respective Risk Committee meetings where the applicant will be presented. CME Clearing should be informed prior to any funds or securities being wired to CME Clearing.

## Guaranty Fund Requirements

The guaranty fund requirements of CME Clearing are stated in Rule 816. (Guaranty Fund Deposit), for OTC Clearing Members in Rule 8F07. (Guaranty Fund Deposit), for OTC Clearing Members which will clear IRS in Rule 8G07 (IRS Financial Safeguards and Guaranty Fund Deposit) and for OTC Clearing Members which will clear CDS in Rule 8H07 (CDS Financial Safeguards and Guaranty Fund Deposit).

**OTC Clearing Membership**
**Membership, Capital and Financial Requirements**

All clearing members must deposit with the Clearing House a guaranty fund deposit for their obligations to the Clearing House. The minimum guarantee fund deposit for an OTC Clearing Member which will clear:

- Exchange-traded futures and options and OTC (including FX but excluding CDS and IRS) is $2,500,000 or its proportionate share of the Aggregate Guaranty Fund Deposit. The Aggregate Guaranty Fund Deposit is an amount determined quarterly by the Clearing House Risk Committee and is set at a percentage of the average aggregated performance bond requirements, volume and settlements of the Clearing House (for CME, CBOT, NYMEX, COMEX exchange-traded products and OTC derivative products excluding CDS and IRS) for the preceding three months.
- CDS is the greater of $50,000,000 or the clearing member's proportionate share of the two largest CDS Clearing Member's losses as outlined in CME Rule 8H07; and
- IRS is the greater of $50,000,000 or the clearing member's proportionate share of the two largest IRS Clearing Member's losses as outlined in CME Rule 8G07.

If an OTC Clearing Member clears CDS, IRS and other OTC products, its minimum guaranty fund requirement will be $102,500,000. Guaranty fund minimums may be increased from time to time, depending on the mix of OTC asset classes for which the Clearing House provides clearing services.

The minimum guaranty fund deposit of an OTC Clearing Member which clears IRS products and has an affiliated clearing member which also clears IRS products is $25,000,000 for each affiliated IRS clearing member. In these instances, one affiliated IRS Clearing Member provides primary clearing services for customers as a FCM (with any proprietary business of such FCM only incidental to providing such clearing service for customers) and the other affiliated clearing member only provides IRS clearing services through its proprietary account for itself and/or its affiliates.

Only U.S. Dollars, U.S. Treasuries and U.S. Agencies may be deposited by a clearing member applicant during the application approval process. Interest is not paid on U.S. Dollar deposits. If U.S. treasury or agency securities are deposited, the market value of such securities, less any applicable haircut, must be at least the minimum requirement. For example, U.S. T-Bonds maturing in less than 5 years with a par value of $2,600,000, market value of $2,575,000 and a 2% CME Clearing haircut may be used to meet a minimum guaranty fund deposit requirement of $2,500,000 as the CME Clearing collateral value is $2,523,500.

In addition to U.S. Dollars, U.S. Treasuries and U.S. Agencies, once approved for clearing membership, a clearing member may also invest in various collateral management programs such as CME's IEF2 or IEF5 programs. These investments may be used to meet the clearing member's guaranty fund deposit requirements.

Information on the types of collateral that may be accepted by CME Clearing, its various collateral management programs and the CME Clearing haircut may be found on CME Group's

**OTC Clearing Membership**
**Membership, Capital and Financial Requirements**

Web Site at: http://www.cmegroup.com/clearing/financial-and-collateral-management/collateral-types-accepted.html.

During the clearing membership approval process, the minimum guaranty fund deposit must be wired into the account of CME Clearing prior to the respective Risk Committees' meetings where the applicant will be presented. CME Clearing should be informed prior to any funds or securities being wired to CME Clearing.

The Clearing House Risk Committee, the IRS Risk Committee for IRS products, the CDS Risk Committee for CDS products or CME Clearing may prescribe additional financial, including guaranty fund deposit, requirements.

## Capital Requirements

The exchange capital requirement for an OTC Derivatives Clearing member is the greater of (a) $50,000,000 (minimum capital requirement) or (b) the CFTC or SEC capital requirement or (c) twenty percent of the aggregate performance bond requirement for CME-cleared CDS and IRS for customer and house accounts. For non-Bank clearing members, capital is defined as Adjusted Net Capital as computed in accordance with CFTC Regulation 1.17. For bank clearing members, capital is calculated pursuant to the rules and regulations of its primary banking regulator and is defined as Tier I capital computed according to the capital adequacy requirements that it is subject to (i.e. Basel Capital Accord of 1988 (Basel I) or, if adopted, the Revised Basel Capital Framework (Basel II)).

For additional information on capital requirements, refer to Rule 970 for Exchange-traded futures/options, CME Rule 8F04 for OTC derivatives, CME Rule 8H04 for CDS and CME Rule 8G04 for IRS.

The Clearing House Risk Committee, the IRS Risk Committee for IRS products, the CDS Risk Committee for CDS products or CME Clearing may prescribe additional financial, including capital, requirements.

## Settlement and Performance Bond Banks

OTC Clearing Members must maintain cash and securities safekeeping accounts at one or more CME Clearing approved banks for purposes of posting cash and securities to meet mark-to-market variation, performance bond and guaranty fund deposit requirements on their OTC derivative products. It is the clearing member's responsibility to establish these banking relationships.

Currently, the approved settlement, performance bond and guaranty fund deposit banks are:

- Bank of America, NA

- Brown Brothers Harriman & Co.
- BMO Harris Bank NA
- JPMorgan Chase Bank, NA
- The Bank of New York Mellon
- Fifth Third Bank, NA

If the OTC Clearing Member is registered as an FCM and will clear customer activity, it must also maintain Customer Segregated, if applicable, and Customer Cleared Swaps cash and securities safekeeping accounts for its customer futures/options and cleared OTC derivatives, respectively, activity.

All clearing members grant a first priority and unencumbered lien, as security for all its obligations to CME Clearing, against all property and collateral deposited with CME Clearing by the clearing member which is the property of the clearing member. All clearing members are required to execute any documents required by CME Clearing to create and enforce such lien. Refer to CME Rule 819.

CME Clearing must have information on all bank and safekeeping accounts established by OTC Clearing Members for settlements and performance bond. Further, CME Clearing requires debit authorization over these OTC Clearing Member bank accounts

## Financial Responsibilities in the Event of a Default

In the event any clearing member (CME, CBOT, NYMEX, COMEX or OTC Derivatives Clearing Member) fails to promptly discharge any obligation to CME Clearing, its guaranty fund deposit, its available performance bond on deposit with CME Clearing, its membership requirement on deposit with CME Clearing (for OTC Clearing Members), the proceeds of the sale of any memberships assigned for clearing membership privileges (for CME, CBOT, NYMEX or COMEX Clearing Members), and any of its other assets held by, pledged to or otherwise available to CME Clearing shall be applied by CME Clearing to discharge the obligation.

A clearing member's financial responsibilities in the event of a default for exchange-traded products and OTC excluding IRS and CDS are stated in Rule 802. (Protection of Clearing House).

The Clearing House has established separate guaranty funds for IRS and CDS which are separate and distinct from the guaranty fund for each and all other products. The IRS default management procedures may be found in CME Rule 8G802 (Protection of Clearing House) and CDS default management procedures may be found in CME Rule 8H802 (Protection of Clearing House).

To minimize the possibility of clearing member defaults and to provide our customers and the market with the finest protection, CME Clearing has adopted and rigorously enforces an integrated package of financial surveillance and risk management procedures. These are

described in CME Group publication, Financial Safeguards of CME, which may be found on CME Group's Web Site at: http://www.cmegroup.com/clearing/files/financialsafeguards.pdf.

## Withdrawal from OTC Derivatives Clearing Membership

If an OTC Clearing Member wishes to withdrawal from clearing membership, it must provide written notice to the Exchange. Once all positions have been closed out or transferred to other clearing members and all other conditions or requirements of withdrawal have been met, the withdrawal of the OTC Clearing Member will be posted to the membership community in CME's Weekly Special Executive Report. The date of the posting in the CME Weekly Special Executive Report is the effective date of the clearing member's withdrawal and the beginning of the 60-day posting period (i.e. the "60-day posting period").

Exchange rules provide that a clearing member's guaranty fund deposit, memberships (for CME, CBOT, NYMEX and COMEX Clearing Membership), membership deposit (for OTC Clearing Members), and any other deposits required by the Exchange may not be released until the expiration of the 60-day posting period. During the 60-day posting period, the Exchange ensures that all obligations to the Exchange, other members and customers have been met or otherwise provided for. Upon the expiration of the 60-day posting period and a determination that there are no claims pending, the clearing member's assets may be released.

Refer to Rule 913 (Withdrawal from Clearing Membership), Rule 8G913 (Withdrawal from IRS Clearing Membership) for IRS products and Rule 8H913 (Withdrawal from CDS Clearing Membership) for CDS products.

**OTC Clearing Membership**
**Financial Reporting, Notification and Other Requirements**

## Financial Reporting Requirements

### Monthly Financial Statement Filings – Non-Banks

OTC Clearing Members which are not Banks are subject to monthly financial statement reporting requirements. These OTC Clearing Members must submit to CME Group's Audit Department monthly CFTC Form 1-FRs or SEC FOCUS reports (if a U.S. registered broker-dealer). Such monthly reporting includes the submission of an unaudited monthly report as of the clearing member's fiscal year-end.

These financial reports:

- Must demonstrate compliance with the CME minimum capital requirements (see above).
- Must be stated in English (or a translation provided).
- Need not be prepared according to U.S. GAAP.
- Must be stated in United States Dollars (i.e. converted from the native currency).
- Must include the Exchange Supplemental Information which includes disclosure as to capital to be withdrawn within 6 months; subordinated debt maturing within 6 months; and subordinated debt due to mature within 6 months that will be renewed.
- Must be filed within seventeen (17) business days of month-end.

All monthly financial statements must be submitted through the WinJammer system, a CME Group electronic filing system. In order to file the statements using the WinJammer system, authorized signors are granted a Personal Identification Number ("PIN"). In order to obtain a PIN, you may visit the WinJammer web site at http://wjammer.com/newweb/home.asp#. The PIN information is located under Documentation – Getting Started – Importing PINs.

It is the responsibility of the OTC Clearing Member to ensure it can adequately demonstrate capital compliance at all times.

Clearing members which are not Banks must comply with the requirements set forth in CFTC Regulations 1.10, 1.12, 1.17 and 1.18 unless an exemption is granted by the Clearing House. All clearing members, including clearing members which are not registered as an FCM, shall make available to the CFTC, upon the CFTC's request, copies of financial reports required to be submitted to the Audit Department. The financial reporting requirements of clearing members are stated in CME Rule 970. (Financial Requirements).

### Quarterly Financial Statement Filings – Banks

Banks which are OTC Clearing Members must provide CME Group's Audit Department with its regulatory banking capital information and any and all financial statements and capital adequacy reports that are required to be filed with its primary banking regulator. However, such financial statements and capital adequacy reports must be filed on, at least, a quarterly basis including as

of the OTC Clearing Member's fiscal year-end, if such filing of an unaudited fiscal year-end financial statement is required by the clearing member's primary banking regulator.

OTC Clearing Members which are Banks must submit to CME Group's Audit Department quarterly Form "CME Financial Forms – Banks" through the WinJammer™ system, a CME Group electronic financial statement filing system. The OTC Clearing Member must attach all financial statements and capital adequacy reports filed with their primary banking regulator to the WinJammer filing. Such quarterly reporting includes the submission of an unaudited quarterly financial and capital adequacy report as of the clearing member's fiscal year-end, if such filing is also required by the Clearing Member's primary banking regulator.

These financial reports:

- Must demonstrate compliance with the CME minimum capital requirements (see above).
- Must be stated in English (or a translation provided).
- Need not be prepared according to U.S. GAAP.
- May be stated in the native currency of the Bank OTC Clearing Member.
- Must be filed within five (5) calendar days after such statements are provided to the Bank OTC Clearing Member's primary banking regulator.

All quarterly financial statements and capital adequacy reports must be submitted through the WinJammer system. In order to file the statements using the WinJammer system, authorized signors are granted a Personal Identification Number ("PIN"). In order to obtain a PIN, you may visit the WinJammer web site at http://wjammer.com/newweb/home.asp#. The PIN information is located under Documentation – Getting Started – Importing PINs.

It is the responsibility of the OTC Clearing Member to ensure it can adequately demonstrate capital compliance at all times.

OTC Clearing Members which are Banks are granted an exemption from provisions of CME Rule 970 as they relate to the filing of a Form 1-FR or FOCUS on a monthly basis (i.e. Rule 970.A.2., 970.B. and 970.C.). However, all clearing members, including bank clearing members and those not registered as FCMs, shall make available to the CFTC, upon the CFTC's request, copies of financial reports required to be submitted to the Audit Department. Refer to CME Rule 970.

Certified Financial Statement Filings

OTC Clearing Members which are not Banks must also submit a certified financial statement as of the OTC Clearing Member's fiscal year-end. These annual financial reports:

- Must demonstrate compliance with the CME minimum capital requirements.
- Must be stated in English (or a translation provided)

- Need not be prepared according to U.S. GAAP.
- May be stated in the native currency of the OTC clearing member.
- Must be filed within ninety (90) calendar days of the OTC Clearing Member's fiscal year-end.

The certified financial statements of OTC Clearing Members which are not a Bank must include at a minimum the following:

- Public Accountant's Opinion Letter
- Statement of Financial Condition
- Statement of Income (Loss)
- Statement of Cash Flows (if applicable)
- Statement of Changes in Ownership Equity (if applicable)
- Appropriate Footnote Disclosures

OTC Clearing Members which are Banks must also submit certified financial statements as of its fiscal year-end. These annual financial reports:

- Must demonstrate compliance with the CME minimum capital requirements
- Must be stated in English (or a translation provided)
- Need not be prepared according to U.S. GAAP.
- May be stated in the native currency of the Bank OTC Clearing Member.
- Must be filed within five (5) calendar days after such statements are provided to the Bank OTC Clearing Member's primary banking regulator.

The certified financial statements of OTC Clearing Members which are a Bank must include at a minimum the following:

- Public Accountant's Opinion Letter
- Statement of Financial Condition
- Statement of Income (Loss)
- Appropriate Footnote Disclosures

All annual certified financial reports must be submitted to CME Group's Audit Department.

<u>Financial Statement Filings - More Frequent Financial Reporting</u>

Any OTC Clearing Members may be placed on more frequent reporting at the discretion of CME Clearing, the IRS Risk Committee for IRS products, the CDS Risk Committee for CDS products or the Clearing House Risk Committee.

**OTC Clearing Membership**
**Financial Reporting, Notification and Other Requirements**

## Notification Requirements

### Financial Notifications

OTC Clearing Members must provide written notice to CME Group's Audit Department whenever the OTC Clearing Member:

- Fails to maintain the minimum capital as required by CME Clearing or its primary regulator.
- Fails to maintain current books and records.
- Fails to comply with additional accounting, reporting, financial and/or operational requirements as prescribed by CME Clearing.
- Changes its fiscal year.

In addition, all clearing members are required to provide written notice to the Audit Department of any substantial reduction in its capital as compared to the most recently filed financial or capital adequacy report. Refer to CME Rule 972 (Reductions in Capital).

### Other Notifications

1. Significant Business Transaction or Change in Operations. All clearing members are required to provide notice to CME Clearing prior to any significant business transaction. The purpose of such notification is to enable CME Clearing to better identify and monitor risks presented by significant business transactions. The notification requirements are contained in Rule 901.H. (General Requirements and Obligations) and are as follows:

   All clearing members must notify the Audit Department prior to any significant business transaction or significant change in operations including:

   - The merger, combination, or consolidation between the clearing member and another person or entity;
   - The assumption or guarantee by the clearing member of all or substantially all of the liabilities of another in connection with a direct or indirect acquisition of all or substantially all of that person's or entity's assets;
   - The sale of a significant part of the clearing member's business and/or assets to another person or entity; and
   - A change in the direct or indirect beneficial ownership of 20% or more of the clearing member.

   Such transactions may be subject to review and approval by the Clearing House Risk Committee and/or CME Clearing.

2. Firm Personnel Contact Information. Maintaining up-to-date personnel contact information is critical in order to continue communications with our clearing members during normal,

as well as crisis, situations. Therefore, clearing members are required to immediately update their firm personnel contact information via the CME portal when changes occur. In any event, firm personnel are required to review the firm personnel listing twice a year and signoff that all information is current and accurate. Refer to CME Rule 983.B.

## Other Requirements

### Anti-Money Laundering

All clearing members are required to have a written anti-money laundering compliance program approved by its senior management which is reasonably designed to achieve and monitor the clearing member's compliance with all applicable requirements under the Bank Secrecy Act, the International Emergency Economic Powers Act, the Trading with the Enemy Act and the Executive Orders and regulations issued pursuant thereto, including the regulations issued by the U.S. Department of Treasury and, as applicable, the CFTC.

Refer to Rule 981 (Anti-Money Laundering).

### Risk Management

All clearing members must have written risk management policies and procedures in place to ensure they are able to perform certain basic risk and operational functions at all times. Depending on the firm's size and its business and product mix, clearing members must have procedures in place to allow them to monitor the risks associated with proprietary trading, use appropriate tools to limit the impact of significant market moves and set automated credit controls or position limits in order entry systems.

OTC Clearing Members will be subject to risk management and monitoring practices by CME relating to transactions submitted to the Clearing House. OTC Clearing Members shall promptly provide all information requested by Clearing House staff, including, without limitation, information respecting risk, settlement, liquidity, and operational issues. OTC Clearing Members shall make information and documents regarding their risk management policies, procedures and practices available to the CFTC upon the CFTC's request.

An OTC Clearing Member that will clear CDS, IRS and/or FX activity must have sufficient risk management and operational procedures in place for its CDS and/or IRS activity. These risk management and operational procedures include procedures for settlement and default management.

Refer to Rule 982 (Risk Management), Rule 8F10 (Risk Management) as to OTC and IRS and Rule 8H10 (Risk Management) as to CDS.

## Disaster Recovery and Business Continuity

All clearing members must have written disaster recovery and business continuity policies and procedures in place to ensure they are able to perform certain basic operational functions in the event of a significant internal or external interruption to their operations. Depending on the firm's size and its business and product mix, clearing members must have procedures in place to allow them to continue to operate during periods of stress or to transfer accounts to another fully operational clearing member with minimal disruption to CME Clearing. Clearing members must perform periodic testing of disaster recovery and business continuity plans, have duplication of critical systems at back up sites and periodically back-up critical information.

Refer to Rule 983 (Disaster Recovery and Business Continuity).

## Required Records and Reports

The books and records of a clearing member shall be made promptly available for inspection upon request by the Exchange.

Refer to Rule 980 (Required Records and Reports), CME Rule 8F04.9 (OTC Clearing Member Obligations and Qualifications) and CME Rule 8H04.7 (CDS Clearing Member Obligations and Qualifications).

## Clearing of Customer Activity

If the OTC Clearing Member will clear OTC derivative products for customers, it must be properly registered or authorized for such activity by its primary regulator and it must be registered as an FCM with the CFTC and NFA. FCMs are subject to CFTC rules and regulations including rules and regulations pertaining to regulatory capital, financial reporting and customer protection.

Information on FCM registration can be obtained from the National Futures Association (www.nfa.futures.org or 312.781.1401). CFTC rules and regulations can be found on their Web Site at www.cftc.gov.

OTC derivatives submitted to clearing for the account of a customer will be assigned and held in a Customer Cleared Swaps Account unless the CFTC has issued an order permitting particular OTC derivatives products to be included in customer segregated accounts. Refer to CME Rule 8F03 (Classification of Positions) and CME Rule 8H03 (Classification of Positions).

All Clearing Members which clear OTC derivatives for customers are required to:

- Maintain sufficient funds in cleared swaps accounts;
- Compute, record and report daily cleared swaps Statements;

- Obtain satisfactory cleared swaps acknowledgement letters;
- Provide immediate written notice to CME Group's Audit Department of a failure to maintain sufficient funds in cleared swaps accounts.

Refer to CME Rules 8F120 through 8F132 regarding cleared swaps customer protection requirements,

In addition, all clearing members must ensure that its customers meet any eligibility requirements established for trading certain OTC derivatives products.

Hedge Fund OTC Clearing Members

OTC Clearing Members which are hedge funds are subject to additional clearing membership requirements including:

- Establishing separate clearing accounts for each fund whose activity is being cleared by the Hedge Fund OTC Clearing Member.
- Additional reporting of risk exposures and liquidity resources of the Hedge Fund OTC Clearing Member and all affiliated funds for which it clears OTC derivatives products.

In addition, if the Hedge Fund OTC Clearing Member will clear OTC derivative products for related funds, it must be registered as an FCM unless the related funds qualify as noncustomer or proprietary accounts as defined in CFTC Regulation 1.3(y).

Product Specific Requirements

The Clearing House Risk Committee, the IRS Risk Committee for IRS products, the CDS Risk Committee for CDS products or CME Clearing may establish product-specific requirements or require specific agreements for certain OTC derivative products. In addition, other clearing, system access or customer agreements or addendums may be required depending upon the OTC derivative product(s) the OTC Clearing Member intends to clear.

Examinations

All clearing members are subject to on-site examinations and on-going oversight by the appropriate Clearing House Risk Committee. Documents requested during an examination must be provided to Exchange staff in a in a timely manner and in the requested format.

Additional Documentation

OTC Clearing members must execute any additional documentation and agreements, including any clearing agreements, license agreements, or debit authorizations, which the Exchange will required to clear OTC derivative transactions.

**OTC Clearing Membership**
**Parent Guarantee and Cross-Guarantee**

## Parent Guarantee

The parent guarantee requirements are stated in Rule 901.L. (General Requirements and Obligations). Unless an exemption is granted, all clearing members must submit to the Exchange a written guarantee, on a form provided by the Exchange, from each person or entity owning 5% or more of the equity securities of the clearing member.

A parent guarantee shall guarantee all obligations of the clearing member to the Exchange arising out of noncustomer and proprietary accounts cleared by the clearing member. These accounts are classified and carried in the house (i.e. noncustomer) origin of the clearing member at CME Clearing and are defined in CFTC Regulation 1.3(y).

Rule 8F03 (Classification of Positions) provides that all OTC derivative positions submitted for clearing by an OTC Clearing Member for its proprietary account, are assigned to and held in a house account of the OTC Clearing Member. Generally, affiliates of the OTC Clearing Member are not considered "customers" under CFTC regulations. The OTC derivative positions of these noncustomers are also assigned to and held in the house account of OTC Clearing Member. A parent guarantee shall guarantee all obligations of the OTC Clearing Member to the Exchange arising out of noncustomer and proprietary accounts.

Such noncustomer and proprietary obligations covered under the parent guarantee include performance bond and settlement for noncustomer and proprietary positions held and cleared, noncustomer and proprietary trades executed by traders qualified by the clearing member until accepted for clearing by another clearing firm, and noncustomer and proprietary trades executed and processed through the Give-Up Payment System ("GPS") by the clearing member until accepted for clearing by another clearing firm.

A parent guarantee shall not apply to any obligations of the clearing member to pay an assessment to the Exchange pursuant to Rule 802.B. (Protection of Clearing House - Satisfaction of Clearing House Obligations). Note: Rule 802.B. sets forth a clearing member's financial responsibilities in the event of a default of another clearing member.

### Ownership Information and Structure

All clearing members must submit and maintain with the Audit Department a current list of every person or entity that directly or indirectly through intermediaries, is the beneficial owner of 5% or more of any class of equity security of the clearing member. If such person or entity owns the clearing member indirectly through intermediaries, all intermediaries must be listed, including, if a corporation, all shareholders who own 5% or more of any class of equity security, or, if a partnership, all general and any limited or special partners who have contributed 5% or more of the partnership's capital. If the intermediary's shareholders or partners are not individuals, the clearing member must include the chain of ownership of 5% shareholders, general partners and 5% limited or special partners until individuals or a publicly traded company is listed.

**OTC Clearing Membership**
**Parent Guarantee and Cross-Guarantee**

For purposes of parent guarantee requirements, the term "equity security" shall include any stock, partnership interest or similar security; or any security convertible, with or without consideration, into such a security, or carrying any warrant or right to subscribe to or purchase such a security; or any such warrant or right; or any other security which the Audit Department shall deem to be of similar nature and consider necessary or appropriate to treat as an equity security.

Application of Parent Guarantee Requirements

A clearing member's ultimate parent should provide a parent guarantee unless an intermediate company providing a guarantee has capital greater than or equal to $300,000,000. Note: If the parent company is a regulated entity, capital shall be defined as adjusted net capital. If the parent company is a non-regulated entity, capital shall be defined as assets less liabilities plus acceptable subordinated debt.

All parent guarantees must be submitted on Exchange-approved forms. There are two acceptable forms described below and contained in Exhibits B and C.

Full Parent Guarantee

An individual or an entity is required to execute a full guarantee if the individual or entity owns, directly or indirectly, 50% or more of the clearing member. Refer to Exhibit B.

If the parent guarantee is not executed on behalf of an individual, such guarantee shall be signed by an authorized officer for a corporation, an authorized member or manager for a limited liability company, a general partner of a partnership or the trustee (not the beneficiary) of a trust. In addition, the guarantor must submit a Board of Director's resolution or similar written documentation stating the guarantor's decision to guarantee the clearing member's obligations to the Exchange under Rule 901.L. (General Requirements and Obligations) and granting such officer, member, manager or partner authority to sign the guarantee. Refer to Exhibit D.

Partial Parent Guarantee

A partial guarantee is required for individuals or entities owning, directly or indirectly, 5% or more but less than 50% of the clearing member. The individual or entity need only provide a guarantee to the extent of their ownership. Refer to Exhibit C.

If the partial parent guarantee is not executed on behalf of an individual, such guarantee shall be signed by an authorized officer for a corporation, an authorized member or manager for a limited liability company, a general partner of a partnership or the trustee (not the beneficiary) of a trust. In addition, the guarantor must submit a Board of Director's resolution or similar written documentation stating the guarantor's decision to guarantee the clearing member's obligations to

the Exchange under Rule 901.L. (General Requirements and Obligations) and granting such officer, member, manager or partner authority to sign the guarantee. Refer to Exhibit D.

Parent Guarantee Exemptions

An OTC clearing member may request an exemption from the parent guarantee requirements due to one of the following:

- The clearing member maintains $300,000,000 or more in adjusted net capital or Tier 1 capital.
- The clearing member does not clear, execute and give-up, or qualify individual traders who execute non-customer or proprietary trades.
- The clearing member has minimal activity in their house origin.

A clearing member is determined to have minimal activity in the house origin if the average house performance bond requirement is less than 1% of the firm's excess adjusted net capital up to a maximum house performance bond requirement of $500,000. The average house performance bond requirement is recalculated and reviewed quarterly by CME Clearing. In addition, clearing members receiving this exemption are monitored to ensure that all execution-only business or other significant volume is not part of their house activity. If an OTC clearing member exceeds these thresholds, it is allowed 2 weeks to either scale down the activity, move the positions to another clearing firm or provide the appropriate guarantee(s).

The exemption request must be in writing and submitted to the Audit Department. The request will be reviewed during the membership approval process.

Cross-Guarantee Agreement

Rule 901.G. (General Requirements and Obligations) states that if any person directly or indirectly controls, owns 10% or more of, or has the right to 10% or more of the profits of two or more clearing members, then each clearing member shall guarantee the obligations of the other clearing members to CME Clearing. This rule is applicable if any OTC Clearing Member and a CME, CBOT, NYMEX or COMEX Clearing Member have common ownership and an exemption has not been provided.

Each clearing member shall execute a written guarantee to CME Clearing on an approved form. Refer to Exhibit E.

The cross-guarantee shall be signed by an authorized officer for a corporation, an authorized member or manager for a limited liability company, or a general partner of a partnership. In addition, each clearing member shall submit a Board of Director's resolution or similar written documentation stating the clearing member's decision to execute such Cross-Guarantee Agreement and granting such officer, member, manager or partner authority to sign the guarantee.

## OTC Clearing Membership
## Parent Guarantee and Cross-Guarantee

Unless a cross guarantee is provided, affiliated clearing members may not both clear IRS or CDS products within the house origin. That is, only one affiliated clearing member may clear house IRS and/or CDS activity. The other affiliated clearing member may clear customer IRS and/or CDS activity (if it is properly registered as an FCM).

Exchange staff may grant exemptions from the cross-guarantee requirements.

# OTC Clearing Membership
# Contact Listing

## Contact Listing

| | | | |
|---|---|---|---|
| Kim Taylor | President, CME Clearing | (312) 930-3156 | Kim.Taylor@cmegroup.com |
| Tim Doar | Managing Director and Chief Risk Officer, Clearing House Risk | (312) 930-3162 | Tim.Doar@cmegroup.com |
| Anne Bagan | Managing Director, Audits | (312) 930-3140 | Anne.Bagan@cmegroup.com |
| Dale Michaels | Managing Director, Credit and Market Risk Management, Clearing House Risk | (312) 930-3062 | Dale.Michaels@cmegroup.com |
| Sasha Rozenberg | Managing Director, OTC Risk Management, Clearing House Risk | (212) 299-2106 | Sasha.Rozenberg@cmegroup.com |
| Legal Department | | | |
| Lisa Dunsky | Executive Director and Associate General Counsel | (312) 338-2483 | Lisa.dunsky@cmegroup.com |
| Jason Silverstein | Executive Director and Associate General Counsel | (212) 299-2228 | Jason.silverstein@cmegroup.com |
| Audit Department | | | |
| Debbie Kokal | Executive Director, Audits | (312) 930-3235 | Debbie.Kokal@cmegroup.com |
| Cathy Downs | Senior Director, Audis | (312) 648-3802 | Cathleen.Downs@cmegroup.com |
| Laurie Egan | Director, Audits | (312) 338-2405 | Laurie.Egan@cmegroup.com |
| Clearing House | | | |
| Steve Staszak | Executive Director, Clearing House Operations | (312) 930-3189 | Steve.Staszak@cmegroup.com |
| Michael Kobida | Executive Director, Collateral Services Program, Clearing House Financial | (312) 454-8961 | Michael.Kobida@cmegroup.com |

**OTC Clearing Membership**
**Application Checklist**

The application process of OTC Clearing Members requires the submission of numerous documents, the establishment of various relationships, and approval by the Clearing House Risk Committee, the IRS Risk Committee for IRS products and the CDS Risk Committee for CDS products. To assist OTC Clearing Member applicants, the following checklist has been established to provide guidance. Note: Not all items on the checklist will apply to every OTC Clearing Member. Likewise, items not included on the checklist may be required for OTC Clearing Membership approval dependent upon the unique circumstances of the applicant.

All OTC Clearing Member applicants must execute and submit the following documents unless otherwise indicated:

1. OTC Clearing Membership Application including:
    - Articles of Incorporation, Operating Agreement, or Partnership Agreement (including all sub-agreements)
    - Certificate of banking license or authorization, or equivalent, from the organization's primary regulator (with an English language translation), if applicable _____
    - List of Officers, Managing Members of an LLC, or Partners, including titles, direct telephone and fax numbers and e-mail addresses _____
    - Authorization to do business in the State of Illinois or New York, as applicable, or executed Agency Agreement _____
    - Resolution authorizing the person signing the application to represent the organization _____
    - Corporate Structure (including percentages of ownership and business form) of all significant entities in the corporate structure _____
    - Most current examination report from the organization's primary regulator, if applicable _____
    - IRS Form W-9 or W-8BEN, as applicable _____

2. The organization's most recent certified financial statement (in the English language) _____

3. The organization's most recent monthly/quarterly, as applicable, financial statement (in the English language) filed with its primary regulator, if applicable, including the calculation of capital. Also, if applicable, a summary of the capital and financial reporting requirements imposed the organization by its primary regulator. _____

4. Parent Guarantee(s), if applicable _____

5 Cross-Guarantee, if applicable _____

**OTC Clearing Membership**
**Application Checklist**

6. Deposit of Minimum Guaranty fund deposit prior to the CME Clearing House Risk Committee and/or IRS Risk Committee or CDS Risk Committee meeting _____

7. Deposit of Membership Requirement prior to the CME Clearing House Risk Committee or IRS Risk Committee or CDS Risk Committee meeting _____

8. Other Documentation, as applicable _____

9. Other Requirements _____

CME Group

A CME/Chicago Board of Trade/NYMEX Company

# AGENCY AGREEMENT

WHEREAS, _____ ("**Member**") with offices located at

_____ is a clearing member of Chicago Mercantile Exchange Inc. ("CME"), Chicago Board of Trade, Inc. ("CBOT"), New York Mercantile Exchange, Inc. ("NYMEX"), and/or Commodity Exchange, Inc. ("COMEX"), (collectively, "Exchanges"), as applicable, and such other exchange as may become a member of CME Group Inc. ("CME Group");

WHEREAS, the **Member** hereby appoints _____ ("**Agent**") as its agent for service of process and other communications in connection with the above-referenced business; and

WHEREAS, the **Agent** accepts such appointment to act as agent for service of process and other communications;

NOW THEREFORE, the parties agree as follows:

1. Services. The **Member** appoints the **Agent** as its agent for service of process and other communications in connection with its activities related to clearing membership. The **Agent** shall accept service of process and other communications on behalf of the **Member** and shall transmit such communications to the **Member**. Such communications shall be transmitted to the address set forth above or by electronic or telephonic means.

2. Termination of Agreement. This Agency Agreement ("Agreement") may be terminated by agreement of the parties provided that the **Member** first provides to the Exchanges an Agreement appointing an agent for service of process that is acceptable to the Exchange(s).

3. No Assignment. This Agreement shall not be assigned by either party without the written consent of Exchange staff.

4. Applicable Law. This Agreement shall be governed by and construed in accordance with the laws of the State of _____ (Illinois or New York), United States of America.

5. Choice of Forum and Consent to Jurisdiction. Each party consents to the personal jurisdiction of the courts (check one):

   ____ of Illinois and the United States District Court for the Northern District of Illinois over any action at law, suit in equity, or judicial proceeding under or which may otherwise arise out of the **Member** activities as a clearing member or this Agreement and

agrees not to contest venue for any such proceeding in Cook County, State of Illinois. The **Member** agrees that any action at law, suit in equity, or judicial proceeding under or which may otherwise arise out of the **Member**'s activities as a clearing member or this Agreement shall be instituted by the **Member** only in the Courts of the State of Illinois or the United States District Court for the Northern District of Illinois.

____ New York and the United States District Court for the Southern District of New York over any action at law, suit in equity, or judicial proceeding under or which may otherwise arise out of the **Member**'s activities as a clearing member or this Agreement and agrees not to contest venue for any such proceeding in Kings County, State of New York. The **Member** agrees that any action at law, suit in equity, or judicial proceeding under or which may otherwise arise out of the **Member**'s activities as a clearing member or this Agreement shall be instituted by the **Member** only in the Courts of the State of New York or the United States District Court for the Southern District of New York

6. Severability. If any provision of this Agreement is held by any Court of competent jurisdiction to be invalid, illegal or unenforceable for any reason, the remaining provisions of this Agreement shall not be affected and this Agreement shall be construed and enforced as if this Agreement did not contain the provision which is held to be invalid, illegal, or unenforceable.

7. Heirs, Successors, and Assigns. This Agreement shall be binding on and shall inure to the benefit of the heirs, executors, administrators, successors, and assigns of the parties. Nothing in this paragraph shall be construed as a consent by either party to any assignment of this Agreement except as provided in Paragraph 3 of this Agreement.

8. Notices. Except as provided in Paragraph 1, all notices or communications required by or given under this Agreement shall be deemed given as of the date of receipt or, if earlier, as of the date five days after such notices or communications are deposited in the United States mail, airmail postage prepaid, or in the mails of any other country, airmail postage prepaid, or delivered to any generally recognized international air carrier.

All notices to the **Agent** shall be addressed as follows:

_____

_____

_____

All notices to the **Member** shall be addressed to the address set forth at the beginning of this Agreement.

Executed on _____, 20____, at

_____ _____ _____
(City) (State, Province, etc.) (Country)

_____
(Signature)

_____
(Printed Name)

_____
(Title)

Approved and accepted by the **Agent** on _____, 20____,

_____ _____ _____
(City) (State, Province, etc.) (Country)

AGENT

By: _____
(Signature)

_____
(Printed Name)

_____
(Title)

CME Group

A CME/Chicago Board of Trade/NYMEX Company

FULL GUARANTEE

# GUARANTEE AGREEMENT

In consideration of Chicago Mercantile Exchange Inc. ("CME"), Chicago Board of Trade, Inc. ("CBOT"), New York Mercantile Exchange, Inc. ("NYMEX"), Commodity Exchange, Inc. ("COMEX") and such other exchange as may become a member of CME Group Inc. (collectively, "Exchanges"), as applicable, accepting/retaining _____ (Clearing Member) as a clearing member, _____ (Guarantor), which is an owner or part owner of Clearing Member, hereby guarantees to Exchanges the due and punctual performance of all obligations to Exchanges arising out of accounts cleared by Clearing Member that are:

1. non-customer accounts, including proprietary accounts as defined by Commodity Futures Trading Commission (CFTC) Regulation 1.3(y); and
2. accounts carried by another futures commission merchant if such accounts would be considered non-customer accounts, including proprietary accounts as defined by CFTC Regulation 1.3(y), of Clearing Member, if carried directly by Clearing Member.

Notwithstanding anything herein to the contrary, this guarantee shall not apply to any obligations of Clearing Member to pay an assessment to CME pursuant to Rule 802.B., nor shall it apply to any obligations arising out of non-customer accounts if such obligations arose solely because Exchanges took margin from such non-customer accounts and applied it to a default of a customer account.

Guarantor unconditionally guarantees and promises payment of all indebtedness which Clearing Member may now or in the future owe with respect to obligations covered by this guarantee including, but not limited to, the posting and payment of margins and premiums pursuant to Exchange Rules. Exchanges will attempt to notify Guarantor by telephone of any default by Clearing Member in the performance of an obligation covered by this guarantee, and will thereafter confirm such notice in writing, but the liability of Guarantor to Exchanges pursuant to this agreement shall become due and payable immediately upon any such default by Clearing Member.

Guarantor's liability may be enforced without notice to Guarantor and without first proceeding against Clearing Member or resorting to any collateral, security or other guarantors or obligors, if any, or pursuing any other remedy. Any collateral, security or obligations of any other guarantors or obligors, if any, may be sold, released, surrendered, exchanged, settled, compromised, waived, subordinated or modified, in each case without consideration and on any terms or conditions, without notice to or further assent from Guarantor. Guarantor's liability is several and independent of any other guarantees in effect with respect to any part of the above obligations and may be enforced regardless of the existence of any other guarantees.

Notwithstanding any other provision in this agreement, this guarantee shall continue in effect or shall be reinstated if at any time payment or other performance, or any part thereof, by

Clearing Member to Exchanges with respect to any of the above obligations is rescinded, or must otherwise be repaid by Exchanges as a result of bankruptcy or reorganization of Clearing Member.

No payment or other performance by Guarantor shall entitle Guarantor, by subrogation or otherwise, to any right against Clearing Member, including any payment by Clearing Member or out of property of Clearing Member, except after the full performance, payment and discharge of all of the above obligations. All remedies, rights, powers and privileges granted to Exchanges pursuant to this agreement are cumulative and not alternative. The exercise of any or all such rights by Exchanges shall not reduce, limit, impair, discharge, terminate or otherwise affect the liability of Guarantor. No failure or delay by Exchanges in exercising any remedy, right, power or privilege pursuant to this agreement shall operate as a waiver, and any such remedy, right, power, or privilege may be exercised by Exchanges at any time. No partial exercise of any such rights shall preclude further exercise or the exercise of any other remedy, right, power or privilege.

No modification of this guarantee or waiver shall be valid unless in writing and signed by Exchanges and then only to the extent specifically set forth in such writing. No notice or demand by Exchanges upon Guarantor or any other guarantor of the above obligations shall preclude Exchanges from taking further action without notice or demand.

This guarantee shall remain in full force until Exchanges receives and accepts written notification of termination. Such acceptance of termination shall not be unreasonably withheld. Guarantor acknowledges that this guarantee applies to all obligations covered by this guarantee arising prior to Exchanges' acceptance of such termination.

This guarantee shall bind the heirs, personal representatives, successors and assigns of Guarantor and shall inure to the benefit of Exchanges, its successors and assigns. Guarantor hereby waives notice of any such assignment by Exchanges.

This guarantee shall be governed by, and construed in accordance with, the laws of the State of Illinois. Any action or litigation of any kind initiated by Guarantor, Clearing Member or Exchanges in connection with this guarantee shall be adjudicated in the appropriate courts located in Chicago, Illinois. Guarantor, Clearing Member and Exchanges hereby consent to the jurisdiction of such courts and to service of process by any means authorized by Illinois or federal law, and hereby waive the right to transfer the venue of any such litigation.

Name of Guarantor:_____ Date: _____

Signed: _____

Printed Name:_____

If Guarantor is a Firm:

By: _____

Title: _____

CME Group

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PARTIAL GUARANTEE

# GUARANTEE AGREEMENT

In consideration of Chicago Mercantile Exchange Inc. ("CME"), Chicago Board of Trade, Inc. ("CBOT'), New York Mercantile Exchange, Inc. ("NYMEX"), Commodity Exchange, Inc. ("COMEX") (collectively, "Exchanges") and such other exchange as may become a member of CME Group Inc. as applicable, accepting/retaining _____ (Clearing Member) as a clearing member, _____ (Guarantor), which is an owner or part owner of Clearing Member, hereby guarantees to Exchanges the due and punctual performance of all obligations to Exchanges arising out of accounts cleared by Clearing Member that are:

1. non-customer accounts, including proprietary accounts as defined by Commodity Futures Trading Commission (CFTC) Regulation 1.3(y); and
2. accounts carried by another futures commission merchant if such accounts would be considered non-customer accounts, including proprietary accounts as defined by CFTC Regulation 1.3(y), of Clearing Member, if carried directly by Clearing Member.

Guarantor's liability under this agreement is limited to _____ percent of the above obligations.

Notwithstanding anything herein to the contrary, this guarantee shall not apply to any obligations of Clearing Member to pay an assessment to CME pursuant to Rule 802.B., nor shall it apply to any obligations arising out of non-customer accounts if such obligations arose solely because Exchanges took margin from such non-customer accounts and applied it to a default of a customer account.

Guarantor unconditionally guarantees and promises payment of all indebtedness which Clearing Member may now or in the future owe with respect to obligations covered by this guarantee including, but not limited to, the posting and payment of margins and premiums pursuant to Exchange Rules. Exchanges will attempt to notify Guarantor by telephone of any default by Clearing Member in the performance of an obligation covered by this guarantee, and will thereafter confirm such notice in writing, but the liability of Guarantor to Exchanges pursuant to this agreement shall become due and payable immediately upon any such default by Clearing Member.

Guarantor's liability may be enforced without notice to Guarantor and without first proceeding against Clearing Member or resorting to any collateral, security or other guarantors or obligors, if any, or pursuing any other remedy. Any collateral, security or obligations of any other guarantors or obligors, if any, may be sold, released, surrendered, exchanged, settled, compromised, waived, subordinated or modified, in each case without consideration and on any terms or conditions, without notice to or further assent from Guarantor. Guarantor's liability is several and independent of any other guarantees in effect with respect to any part of the above obligations and may be enforced regardless of the existence of any other guarantees.

Notwithstanding any other provision in this agreement, this guarantee shall continue in effect or shall be reinstated if at any time payment or other performance, or any part thereof, by Clearing Member to Exchanges with respect to any of the above obligations is rescinded, or must otherwise be repaid by Exchanges as a result of bankruptcy or reorganization of Clearing Member.

No payment or other performance by Guarantor shall entitle Guarantor, by subrogation or otherwise, to any right against Clearing Member, including any payment by Clearing Member or out of property of Clearing Member, except after the full performance, payment and discharge of all of the above obligations. All remedies, rights, powers and privileges granted to Exchanges pursuant to this agreement are cumulative and not alternative. The exercise of any or all such rights by Exchanges shall not reduce, limit, impair, discharge, terminate or otherwise affect the liability of Guarantor. No failure or delay by Exchanges in exercising any remedy, right, power or privilege pursuant to this agreement shall operate as a waiver, and any such remedy, right, power, or privilege may be exercised by Exchanges at any time. No partial exercise of any such rights shall preclude further exercise or the exercise of any other remedy, right, power or privilege.

No modification of this guarantee or waiver shall be valid unless in writing and signed by Exchanges and then only to the extent specifically set forth in such writing. No notice or demand by Exchanges upon Guarantor or any other guarantor of the above obligations shall preclude Exchanges from taking further action without notice or demand.

This guarantee shall remain in full force until Exchanges receives and accepts written notification of termination. Such acceptance of termination shall not be unreasonably withheld. Guarantor acknowledges that this guarantee applies to all obligations covered by this guarantee arising prior to Exchanges' acceptance of such termination.

This guarantee shall bind the heirs, personal representatives, successors and assigns of Guarantor and shall inure to the benefit of Exchanges, its successors and assigns. Guarantor hereby waives notice of any such assignment by Exchanges.

This guarantee shall be governed by, and construed in accordance with, the laws of the State of Illinois. Any action or litigation of any kind initiated by Guarantor, Clearing Member or Exchanges in connection with this guarantee shall be adjudicated in the appropriate courts located in Chicago, Illinois. Guarantor, Clearing Member and Exchanges hereby consent to the jurisdiction of such courts and to service of process by any means authorized by Illinois or federal law, and hereby waive the right to transfer the venue of any such litigation.

Name of Guarantor:_____ Date: _____

Signed: _____

Printed Name:_____

If Guarantor is a Firm:

By: _____

Title: _____

**CORPORATE RESOLUTION AUTHORIZING**
**GUARANTEE TO CHICAGO MERCANTILE EXCHANGE INC.**

I, _____, do hereby certify that I am the duly elected, qualified and acting Secretary and keeper of the records of _____ (the "Corporation"), organized and existing under the laws of _____; that the following resolutions were duly adopted as of _____, 20___ in accordance with the by-laws of the Corporation, by the unanimous written consent of, or at a duly-convened meeting of, the Board of Directors of the Corporation; and that such resolutions are now in full force and effect and are not in contravention of or in conflict with the by-laws or the charter or the articles of incorporation of the Corporation:

RESOLVED, that the Corporation guarantee to Chicago Mercantile Exchange Inc. ("Exchange") the obligations of _____("Clearing Member") to the Exchange arising out of accounts cleared by Clearing Member to the extent required under Rule 901.L. of the Exchange; and

FURTHER RESOLVED, that the following named individuals, each of whom is a properly elected or appointed officer of the Corporation, be and hereby are authorized and directed to execute a written guarantee to the above effect in the form provided by the Exchange:

Name/Title _____
Name/Title _____
Name/Title _____

IN WITNESS WHEREOF, I have hereunto subscribed my name on this ____ day of _____, 20___.

Corporate Seal*

_____
Secretary

*If required by the laws of the Corporation's place of incorporation or the Corporation's by-laws

CME Group
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# CROSS-GUARANTEE AGREEMENT

In consideration of Chicago Mercantile Exchange Inc. ("CME"), Board of Trade of the City of Chicago, Inc. ("CBOT"), New York Mercantile Exchange, Inc. ("NYMEX"), and Commodity Exchange Inc. ("COMEX") (collectively, "Exchanges"), accepting/retaining as Clearing Members _____ and _____ (each hereinafter referred to individually as a "Guaranteeing Member" and collectively as "Guaranteeing Members"), which share common ownership, control or profits as set forth in the Exchanges' Rule 901.G., each Guaranteeing Member hereby:

1. Unconditionally guarantees and promises payment of any and all indebtedness or other obligations which the other Guaranteeing Member may now or hereafter owe to the Exchanges. The Exchanges will attempt to notify the Guaranteeing Member by telephone of any default by the other Guaranteeing Member and will thereafter confirm such notice in writing; however, the liability of the Guaranteeing Member to the Exchanges for such default pursuant to this Cross-Guarantee Agreement shall become due and payable immediately upon such default;

2. Agrees that such Guaranteeing Member's liability hereunder may be enforced without notice to it and without first proceeding against the defaulting Guaranteeing Member or resorting to any collateral, security or other guarantors or obligors, if any, or pursuing any other remedy. Any collateral, security or obligations of any other guarantors or obligors, if any, may be sold, released, surrendered, exchanged, settled, compromised, waived, subordinated or modified, in each case without consideration and on any terms and conditions, without notice to or further assent from either Guaranteeing Member. Each Guaranteeing Member's liability is several and independent of any other guarantees in effect with respect to any part of the above obligations and may be enforced regardless of the existence of any other guarantees;

3. Agrees that notwithstanding any other provision in this Cross-Guarantee Agreement, this guarantee shall continue in effect or shall be reinstated if any time, payment or other performance, or any part thereof, by either Guaranteeing Member to the Exchanges with respect to any of the above obligations is rescinded, or must otherwise be repaid by the Exchanges as result of bankruptcy or reorganization of either Guaranteeing Member;

4. Agrees that no payment or other performance by either Guaranteeing Member shall entitle it, by subrogation or otherwise, to any right against the defaulting Guaranteeing Member, including any payment by the defaulting Guaranteeing Member or out of property of the defaulting Guaranteeing Member, except after the full performance, payment and discharge of all of the above obligations. All remedies, rights, powers and privileges granted to the Exchanges pursuant to this Cross-Guarantee Agreement are cumulative and not alternative. The exercise of any or all such rights by the Exchanges shall not reduce, limit, impair, discharge, terminate or otherwise affect the liability of either

Guaranteeing Member. No failure or delay by the Exchanges in exercising any remedy, right, power or privilege pursuant to this Cross Guarantee Agreement shall operate as waiver thereof and any such remedy, right, power or privilege may be exercised by the Exchanges at any time. No partial exercise of any such rights shall preclude further exercise or the exercise of any other remedy, right, power or privilege by the Exchanges;

5. Agrees that no modification of this Cross-Guarantee Agreement or waiver of any portion hereof shall be valid unless in writing and signed by the Exchanges and then only to the extent specifically set forth in such writing. No notice or demand by the Exchanges upon either Guaranteeing Member or any other guarantor of the above obligations shall preclude the Exchanges from taking further action without notice or demand;

6. Agrees that this Cross-Guarantee Agreement is binding upon its respective heirs, personal representatives, successors and assigns, and shall inure to the benefit of and be enforceable by the Exchanges and its transferees, successors and assigns. Each Guaranteeing Member hereby waives notice of any such assignment by the Exchanges;

7. Agrees that this Cross-Guarantee Agreement and all rights, obligations and liabilities arising hereunder shall be governed by the laws of the State of Illinois in all respects, including but not limited to matters of construction, validity and performance;

8. Agrees that any action or litigation of any kind whatsoever initiated by the Guaranteeing Members or the Exchanges in connection with this Cross-Guarantee Agreement, shall be adjudicated in a court of competent jurisdiction located in Chicago, Illinois. The Guaranteeing Members and the Exchanges hereby consent to the jurisdiction of such courts and to service of process by any means authorized by Illinois or Federal law and hereby waive the right to transfer the venue of any such litigation or action; and

9. Agrees that if (1) one of the Guaranteeing Members ceases to be a clearing member of the Exchanges or (2) the Guaranteeing Members provide the Exchanges with written notice that they no longer share common ownership, control or profits as set forth in Rule 901.G., this Cross-Guarantee Agreement shall remain in effect until the Clearing House Risk Committee of the CME Clearing House determines that any and all indebtedness and other obligations owing to the Exchanges from each Guaranteeing Member have been satisfied in full.

| | |
|---|---|
| _____ | _____ |
| (Guaranteeing Member) | (Guaranteeing Member) |
| By: _____ | By: _____ |
| (Signature of General Partner or Authorized Officer) | (Signature of General Partner or Authorized Officer) |
| _____ | _____ |
| (Printed Name / Title) | (Printed Name / Title) |
| _____ | _____ |
| (Date) | (Date) |