Global Economic Themes and the 2014 US Outlook

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Global Context
Outline

- Global Context – In the Rear View Mirror
  - At the end of 2012, among other things, we were worrying about:
    - the US going off the fiscal cliff,
    - the sovereign debt crisis-induced austerity and recession in Europe,
    - Japan’s new stimulus policies, and
    - the potential for a hard landing in China.
  - As it happened,
    - the US avoided the cliff,
    - Europe appears to have touched bottom even if not yet growing,
    - the Japanese yen weakened for a few months then stabilized, and
    - China managed its deceleration and transition to new leadership very well.
Outline

• Global Context – Going Forward
  - For 2014, our concerns have shifted:
    • For Europe to grow, the banking system needs more capital and EU-wide reforms. How this happens in the midst of a leadership vacuum is not so clear.
    • The UK is doing better than the continent and may even contemplate raising rates in 2014 if improved economic trends take hold, possibly the lifting the pound relative to the euro.
    • Japan is likely to hit a major bump in the road with the national sales tax increase coming in April.
    • China appears to be choosing to accelerate its reforms and increase the pace of economic liberalization with more market-based initiatives.
    • Global energy markets are watching the course of diplomacy with Iran and trying to understand the longer-term implications of rising supply from North America.
Euro-Zone & UK

Real GDP Growth: UK Compared to the Euro-Zone Countries

Source: Bloomberg Professional.
Japan

Real GDP, Quarter over Quarter at Annualized Rate

Source: Bloomberg Professional

Projected Sales Tax Increase Arrives in April 2014
Emerging Markets – Role of Global Influences

Emerging market economies, led by the large BRIC nations are seeing their economic growth decelerate from the superior pace which they had become accustomed in the previous decade. We have noted two separate reasons.

First, less than robust growth in the older, industrial countries (i.e., Japan, Europe, the US) since the 2008 financial panic is providing a significant drag on the ability of emerging market countries to grow their exports.

Second, the rising tide of the strong growth period (2003-2010) lifted all boats, but the ebbing tide has exposed serious, although quite different, structural challenges in each of the BRIC nations. In addition, to slowing economic growth, the structural issues have raised risk flags for global investors, and emerging market currencies and equities came under intense pressure in 2013.
BRIC Nations

Average BRIC Real GDP Growth is Decelerating

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimate</th>
<th>Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-2009</td>
<td>8.4%</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>8.2%</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>6.8%</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>5.6%</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>5.5%</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>5.1%</td>
<td></td>
</tr>
</tbody>
</table>

BRIC countries include Brazil, Russia, India, and China.
Source: Bloomberg Professional for historical Real GDP Data.
CME Research for Aggregation of Growth Rates and Forecasts
Emerging Market Currencies per US$
Indexed to January 1st 2013

Depreciating against US$

Source: Bloomberg Professional (BRL, INR, RUB, MEXA).
Calculations by CME Economics.
Structural Challenges faced by the BRIC Nations

Brazil

The expansion of the middle class, taking millions out of poverty, has also come with raised expectations of the services they look to the government to provide – from education to public safety to water and electricity. Brazil is behind the curve on many of these services. The juxtaposition of deficiencies in basic services with substantial government spending on the upcoming World Cup and Olympics has resulted in increased political turmoil.
Brazilian Real GDP Growth

Source: Data from Bloomberg Professional (BZGDYOY)
Structural Challenges faced by the BRIC Nations

Russia

Essentially an energy-exporting syndicate, Russian government revenues are closely tied to the fortunes of the global oil and gas industries. While the expansion of global oil and gas production, especially from North America, has yet to lower world oil prices, Russia is highly vulnerable should prices slide. To assist in diversifying the economy, Russia has entered the World Trade Organization (WTO), but no meaningful increase in foreign direct investment has materialized given serious concerns about property rights and enforcement of contracts in the country.
Russia

Russian Commodity Exports in US Dollars

Source: Central Bank of Russia, Key Economic Indicators 2006-2013

Export revenues are flat lining.
India subsidizes both petroleum and food to the tune of several percentage points of GDP annually. These subsidies effectively lock in a current account deficit. India is also a leading country in gold importation. There is little progress on reducing subsidies, but India has raised import tariffs on gold to reduce demand. Current account deficits are difficult to fund given India’s relatively restrictive capital controls, which work to limit foreign direct investment. This means that short-term capital flows to offset the current account deficit often are attracted only at the price of a depreciating currency.
India

Indian Government Current Account (as percent of GDP)

Source: Data from Bloomberg Professional (EHCAIN).

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China

China’s new leadership has recognized that the state-run infrastructure spending of the last 30 years has now entered a period of diminishing returns. A transition is underway to shift toward a more domestic-demand growth model. That transition is only likely to go well if greater price flexibility is provided to consumers and companies to improve the price discovery process and allow for more efficient allocation of resources and capital. Moreover, the price discovery process will be badly flawed if all segments of the economy are not allowed to participate in domestic markets that have meaningful linkages to international markets. The new leadership apparently has come to grips with the need to trade away some powers of control to obtain the promised benefits. A faster pace of renminbi normalization and an opening of markets to more international linkages now seems increasingly likely.
China

Chinese Exports
Percent Change Year over Year

Stagnant or slow growth in many of China’s major export partners

Uptrend?

Source: Data from Bloomberg Professional (CNFREXP$).

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China

China: Real GDP Growth Rates by Decade

<table>
<thead>
<tr>
<th>Decade</th>
<th>Annual Average Real GDP Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960s</td>
<td>3.59%</td>
</tr>
<tr>
<td>1970s</td>
<td>6.22%</td>
</tr>
<tr>
<td>1980s</td>
<td>9.29%</td>
</tr>
<tr>
<td>1990s</td>
<td>10.42%</td>
</tr>
<tr>
<td>2000s</td>
<td>10.48%</td>
</tr>
<tr>
<td>2010s</td>
<td>6.50% (Estimate)</td>
</tr>
</tbody>
</table>

US Economic Outlook
US Economic Outlook

- Financial Recession’s Lagging Impacts:
  - Finally Leaving Deleveraging Behind
- Fiscal and Regulatory Policy:
  - Drag diminishing
- Monetary Policy:
  - QE Ends, Zero Target Federal Funds Rate Stays, and Lagged Effects Start to Kick-In
- Energy Boom:
  - Key Policy Decisions Loom, yet Overall Impact Remains Highly Positive
- US 2014 Economics Projections
  - US Real GDP for 2014 = 3.5%
  - US Core Inflation by December 2014 = 1.7%
  - Target Federal Funds Rate by December 2014 = 0.25%
US Financial Health

Leaving the Deleveraging Phase Behind

- Recovery from financial disasters is generally more difficult and takes longer than a cyclical correction.
- US corporations generally had restored profitability by 2011.
- US consumers mostly completed their deleveraging by 2012.
- State and local governments, for the most part, did not get their operating expenses lined up with their revenues until 2013.
- From a financial health perspective, the US enters 2014 in the best shape since the recovery began.
- The US economy is position to see further job growth and an unemployment rate below 6.5% in the second half of 2014.
US Corporate Profits

US Corporate Profits After Tax with Inventory Valuation Adjustment and Capital Consumption Adjustment (GDP Basis)

Corporate Profits Rebounded Relatively Quickly

Source: St. Louis Federal Reserve FRED Database (CPATAX)
US Private Sector Jobs

Source: Federal Reserve Bank of St. Louis FRED Database (USPRIV)

Private sector job growth has been about as strong as the last economic recovery -- starting from a lower base.
US Consumer Credit

Total Consumer Credit Owned and Securitized

Source: St. Louis Federal Reserve FRED Database (TOTALSL)

Consumer is no longer deleveraging
US Labor Market

US Federal, State, and Local Government Jobs

Census Workers (2010)

QE was never going to help state and local governments get their budgets in order -- jobs needed to be adjusted to revenues and they finally have.

Source: Federal Reserve Bank of St. Louis FRED Database (USGOVT)
US Labor Market

US Civilian Unemployment Rate

The Fed first referenced a 6.5% rate threshold in Dec-2012. In Feb-2013 we issued a projection that we would reach the 6.5% rate in the summer of 2014. We are still on track.

Source: St. Louis Federal Reserve Bank "Fred" Database (UNRATE)
Monthly jobs data are noisy, but the economy has the resilience to bounce back from weak months. And, the trend may accelerate in 2014-2015 without the drag from government job losses.

Source: St. Louis Federal Reserve Bank "FRED" Database (PAYEMS)
US Labor Market

US Civilian Labor Force Growth

Source: Federal Reserve Bank of St. Louis FRED Database (CLF16OV)
US Fiscal & Regulatory Policy

• The US federal budget deficit was vastly expanded at the end President Bush’s second term with then Treasury Secretary Paulson’s trillion dollar emergency request to combat the financial crisis.

• The federal budget deficit peaked in FY2009 at $1.4 trillion (10% of GDP). For FY2013, the federal deficit was $680 billion (4% of GDP). And, For FY2014, we are projecting a federal deficit of “only” $500 billion (3% of GDP).

• Deficit reduction is being accomplished with much higher tax revenues (up 8% FY2013 over FY2012) and expense stability (essentially flat FY2013 over FY2012)

• Financial regulatory policy in the US was vastly complicated by the Dodd-Frank Act of 2010 with almost a 1000 pages of legal code leading to 14,000 pages of new rules and regulations, and still counting.

• The Affordable Health Care Act of 2010 (aka ObamaCare) is proving exceedingly difficult to implement.

• The regulatory drag from new rules and regulations and the fiscal drag from reducing the budget deficit were most active in 2011-2013, and are less constraining in 2014, but still provide a drag on economic growth potential.

• While we are confident that the US Congress will continue to play an economically damaging game of brinkmanship with budget and debt ceiling legislation, we see that as an uncertainty that gets resolved in Q1/2014 and does not reappear until Q1/2015, conveniently (for the US Congress at least) after the November elections.
US Fiscal Policy

US Federal Budget Balance as Percent of GDP

Source: St. Louis Federal Reserve Bank "FRED" database (FYFSGDA188S for historical data, and CME Economics for FY 2013 through FY 2015 projections.)
US Fiscal Policy

US Federal Government Tax Receipts

Government Tax Receipts are Growing in Excess of 8% per year.

Source: St. Louis Federal Reserve FRED Database
(W006RC1Q027SBEA)
US Fiscal Policy

**US Federal Government Current Expenditures**

Government Expenditures are No Longer Growing.

Source: St. Louis Federal Reserve FRED Database (FGEXPND)
Professor Bernanke, a scholar of the Great Depression, led the Fed into QE without a credible exit plan. As he hands the gavel to Dr. Yellen (a scholar of labor markets), the Fed is likely to see off QE during 2014.

As Fed Chair, Dr. Yellen will have to lead the Fed through any unintended consequences from the Bernanke QE experiment, which she supported. This will include coping with the unrealized losses in the QE-expanded Fed balance sheet.

Our quantitative analysis suggests QE lowered bond yields in 2012 and early 2013 by 100 basis points, which was quickly reversed as soon as Chairman Bernanke initiated the QE exit debate in May 2013. We do not think QE created one net new job (the jobs problem was with state and local governments – see previous charts), and so the absence of QE makes little difference for the labor market, although it will allow natural bond volatility and risks to be appropriately priced into the market and may cause some challenges for equity markets in 2014.
Monetary Policy: Yellen, Keynes, Freidman, Mundell

• Our expectations are that Dr. Yellen will focus intently, and in a balanced manner, on the dual mandate of encouraging full employment and price stability. Initially, we see her focusing on long-term unemployment, the duration of unemployment, and unutilized labor resources as a risk for deflation. Thus, she will most likely be a strong advocate of maintaining a near-zero target federal funds rate so long as core inflation is below 2% (the stated Fed long-term target), and will probably want to see at least 2.5% core inflation before raising rates.

• Notably, we agree with Professor John Maynard Keynes that monetary policy is not particularly effective in stimulating an economy recovering from a financial recession, since the deleveraging required is a necessary part of the healing process which low interest rates do not cure.

• And lastly, we agree with Professor Milton Friedman that the lags in monetary policy are long and variable. Our caveats are twofold. First, since we do not think the deleveraging phase of the economic recovery was essentially over until 2013, we do not expect inflation pressures until 2015 or later. And secondly, being global economists in the school of Nobel Laureate Robert Mundell, our perspective is that until the US dollar shows any substantial weakness, inflation pressures will remain subdued, and for now, the US dollar is trading comfortably without any real trends (except against the yen, which is weak).
US Economic Outlook

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Source: St. Louis Federal Reserve Bank "Fred" Database (UNRATE)
No Inflation Pressure in Sight
(US Core Inflation, Less Food & Energy)

The Fed may wait until core inflation surpasses 2.5% before increasing the target federal funds rate.

Source: St. Louis Federal Reserve Bank "Fred" Database (PCRPILFE, Personal Consumption Expenditure Price Index less Food & Energy)
Fed Balance Sheet

Composition of Federal Reserve Assets

Source: Federal Reserve Bank of St. Louis FRED Database

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Fed Balance Sheet

Federal Reserve Holdings of US Treasury Securities with a Maturity of 10 Years or Longer

Source: St. Louis Federal Reserve Bank "FRED" Database (TREAS10Y)

$ Billions


QE Exit?
Fed’s Guidance, Transparency, and Credibility

QE Tapering
- Treasuries
- Mortgage Backed Securities

Fed’s credibility

Forward Guidance
- Promise of maintaining low FFR
- Data-dependent decisions
- Soft unemployment and inflation targets
US Inflation and Bond Yields

US Core Inflation and 10-Year Treasury Yield

Source: St. Louis Federal Reserve FRED Database.
US Equities

S&P500 Historical Volatility

Annualized Standard Deviation of Daily Percent Price Change, Approximately One-Month Exponentially Weighted Average

Source: Date from Bloomberg Professional (SPX). Volatility Calculations by CME Economics.
Phases of FX Markets

Bretton Woods - USD fixed to Gold

Strong USD, Volcker Fed

Plaza-Louvre Accords to Weaken USD

Greenspan Fed 1% Rates

Weak USD, Inflationary 1970s

Euro Convergence, Disinflation

ZIRP

Source: Bloomberg Professional (DXY)

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US Energy Boom

• The US energy production boom began in 2005-2006. As of 2014, US crude oil production and natural gas production are both expected to be some 40% higher than 2005-2006 levels.

• Our estimates are that this energy boom has been assisting the US economy to the tune of 0.5% real GDP growth per year in the post-financial crisis period, and that this energy growth dividend will continue for 3-7 years into the future.

• Increased oil production has lowered imports.

• Increased natural gas production has displaced coal as fuel for electrical power and resulted in a doubling of coal exports since 2006.

• Infrastructure bottlenecks have led to two interesting pricing spreads. The Brent-WTI spread represents the disconnect between US and Canadian crude oil and global pricing. The WTI-Natural Gas spread in BTU terms (NG is much cheaper) represents a BTU gap that will continue to encourage more uses for natural gas, from municipal transit systems to fertilizer plants to electrical power and more.

• Key policy decision revolve around the Keystone pipeline (more jobs for the US if approved, a challenge for the Canadian dollar if aborted) and export permits for US natural gas (more jobs and liquification facilities, lower gas prices in Europe and Japan, less energy tax revenue for Russia, and a small step back from energy independence for the US, if approved.)
Coal

US Coal Export and Imports

Brent vs WTI Crude Oil Price Spread

Source: Bloomberg Professional (USCRWTIC and EUCRBRDT)
Spread Calculation by CME Economics.
WTI vs US Natural Gas BTU Gap

WTI Crude Oil vs US Natural Gas
BTU Percent Value Spread

Percentage Difference Between BTUs from a $1 of US Natural Gas relative to a $1 of WTI Crude

Source: Bloomberg Professional (USCRWTIC, NGUSHHUB)
Natural Gas

Natural Gas Prices: US, Germany, Japan

Source: Bloomberg Professional (NGUSHHUB, NGIMGEP2, LNGJLNJP)
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