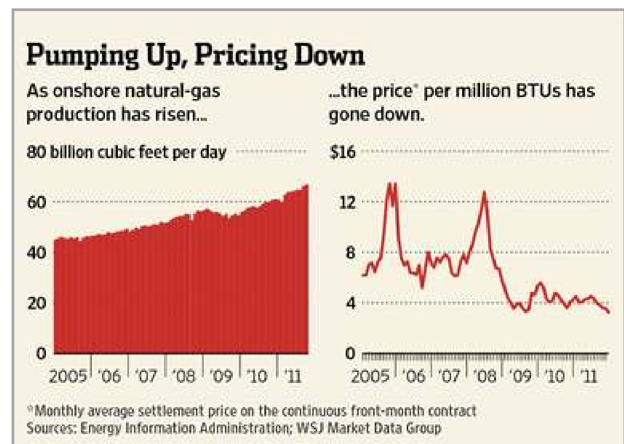
AMG Market Commentary

February 2012

‘Age of Shale’ & Its Implications

Last month in these pages, we talked about how technological advancement in horizontal drilling and hydraulic fracturing have combined to unfold the wealth of energy stored in previously hard-to-tap shale rock formation. This has led to an exploration and drilling boom that some expert in the sector proclaimed the dawn of the ‘Age of Shale’.

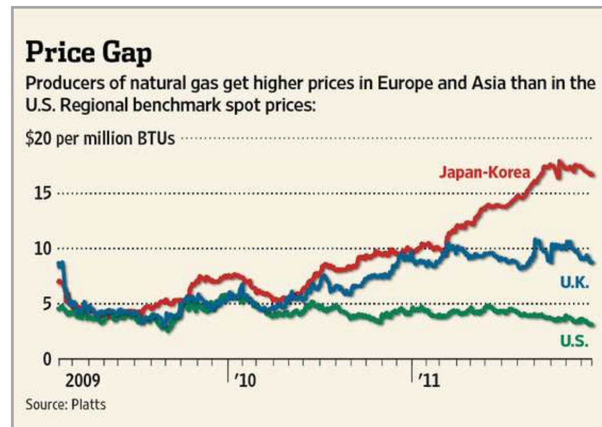


The surge in shale drilling has resulted in a 17-fold increase in shale gas production since 2000. The explosive increase in supply has in turn pressured natural gas prices which have fallen to their lowest levels since the trough during the financial tsunami. Some analysts expect Nymex natural gas price to further decline to US$2 per million Btu (MMBtu) later this year. The rapid erosion in natural gas price may not be music to the ears of exploration companies but it is a boon to those regions in the U.S. where wide-spread drilling are taking place plus there are other unexpected benefits.

Consider the Bakken shale that lays beneath much of the North Dakota state. Already the fourth largest oil-producing state in the U.S. — trailing only Texas, Alaska, and California — North Dakota is expected to leap-frog to number two before 2015. Some estimate there are now over 6,000 active oil wells in the Bakken shale field and the number is rising every other week. With thousands of rigs to operate, tens of thousands of people are needed to fill jobs in various kinds of supporting businesses.

Take the town of Williston in North Dakota as an example. It’s population has nearly doubled from 12,600 to 23,000 people in less than three years as of last-September. In addition to the thousands of rig operators, there are also thousands of truck drivers. With such a large influx of people, Williston has ran out of proper housing to accommodate these people. According to the town mayor, there are about 9,000 men living in ‘man camps’ around the city, which are essentially shipping containers converted into housing units. Needless to say,

housing construction in Williston is running at full tilt but it will be some time before the supply of new homes to catch up with the immense demand. Apart from housing, there are other basic needs including restaurants and bars, grocery stores and supermarkets, and schools. Lest not forget of the strain on infrastructure such as clean water for drinking and bathing, electricity, sewage, and roads. The oil boom has brought both growth and tension to Williston and other similar towns in North Dakota and Montana states. It's a bitter-sweet situation that other parts of the U.S. wish to have – whereas the national unemployment rate is hovering at 8.5%, Williston has less than 1 percent unemployment and there are still thousands of job openings to be filled.



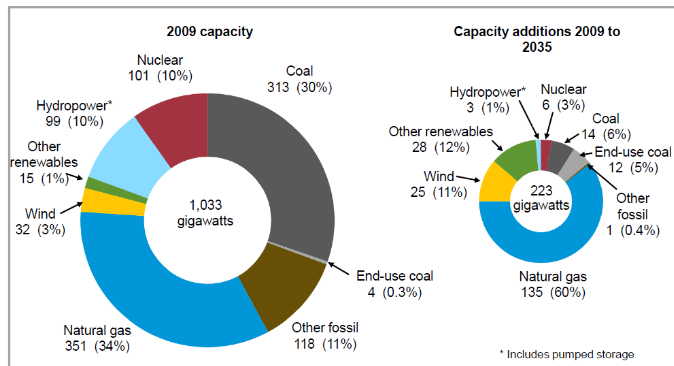
The boom in U.S. natural gas production has forced down domestic prices that are far lower than prices in Europe and Asia (see right chart). For gas producers, they are naturally looking to export natural gas abroad where they can fetch prices three to four times that in the U.S.. But to do so, producers must first secure blessing from the Energy Department in the form of export permits. Gas producers are presenting their case that increasing exports will not sufficiently drain domestic supplies and inflate national prices, thus hurting domestic users. Moreover, export will help create jobs and narrowing of trading account deficit. Gas producers' plead may now have the backing of President Barrack Obama, who in his latest State of the Union address, touted the benefits of drilling for gas in shale rock and gave his support for cleaner energy sources to boost the economy.

While waiting for the Energy Department's decision on granting export permission, plans are already laid on how to turn ideas into reality. In order to send natural gas across the oceans, gas must be supercooled to liquid form for easier transportation. Liquefied natural gas (LNG) could then pump through pipelines to storage tanks and then load onto purpose-built carriers to ship to overseas destinations. This would mean building gas processing facilities next to drilling fields to make liquefied natural gas, pipelines for transporting LNG to storage tankers, massive coastal facilities for loading onto specially built carriers.

To free up the flow of natural-gas liquids, about 12,000 miles of pipeline needs to be built by 2035, costing $14.5 billion, according to estimates from the Interstate Natural Gas Association of America, a trade association.	Material used for tanks that store liquefied natural gas must have very low coefficient of thermal and properly constructed so as to prevent any LNG from flowing off the site.	LNG carriers are some of the most sophisticated vessel types to build by shipyards as they need to store LNG at minus 162 degrees Celsius. Each LNG carrier can cost as much as 3 VLCC (Very Large Crude Carrier) tankers.

However, all of the above merely exist on paper. It would take years and hundreds of billions of dollars to build out the entire infrastructure, and along the way thousands and even millions of jobs will be created. To illustrate how the world is unprepared for this natural gas boom, consider that there are only 358 LNG carriers in operation as of mid-November of last year. In comparison, the latest estimates from U.S.'s Central Intelligence Agency counted 4,295 oil tankers at end of 2007. Meanwhile, there were 9,535 container ships in service at end of 2010.

Another development that is ongoing, amid at a gradual pace, is moving from coal-fueled electricity generation to natural gas based and building of new gas-fueled power plants. According to estimates from EIA (see above chart), 30% of electricity capacity in the U.S. come from coal-fueled power plants compared to 34% from gas-fueled ones at end of 2009. From now to year 2035, at least 60% of new electricity generation capacity is expected to utilize natural gas as fuel source while just 6% will be coal-fueled. The remaining 34% will harness a variety of renewable and green energy sources including wind, nuclear, solar and hydropower.



One unexpected by-product of the shale gas boom is the resuscitation of petrochemical industry in the U.S. While the primary objective of energy producers is drilling for oil and gas, the same technologies are also unlocking vast amount of ethane, propane and butane, collectively known as natural-gas liquids. These liquids are valuable sources for industrial uses. Butane is now the most common and widely used form of refrigerant as it's relatively harmless and would not delete the earth's ozone layer. Propane in liquefied form is generally known as LPG, and is widely used as a fuel in heating appliances and powering vehicles. For example, in Hong Kong nearly all taxis and minibuses run on LPG. Ethane can be processed cheaply into plastics that are broadly used for auto parts, Styrofoam and other products.

The abundance and cheap supply of natural-gas liquids is attracting domestic and foreign players to either expand existing or build new ethane-processing plants in the U.S.. According to American Chemical Council, an industry trade association, many of its member companies including The Dow Chemical Company, Shell Chemical, LyondellBasell, and Bayer MaterialScience, among others, have announced new investments in U.S. petrochemical capacity to benefit from available resources and grow their chemical businesses. Mexican state oil company Pemex is also mulling about making a multi-billion dollar investment in a U.S. refinery to secure gasoline supplies. Mexico depends on imports to meet more than 40 percent of the nation's gasoline demand. Pemex has a refining joint venture with Shell at Deer Park, Texas, that was first built in the 1970s producing gasoline to transport back to Mexico.

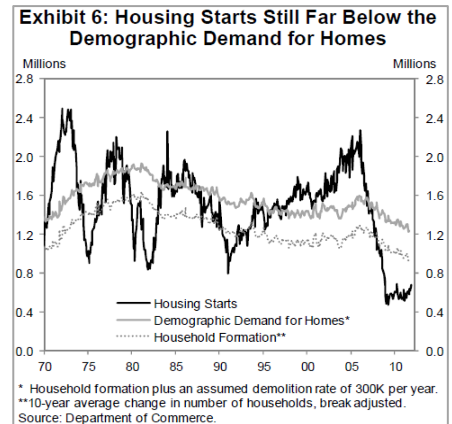
It's nearly three-and-a-half years since the collapse of Lehman Brothers that many regarded as a triggering point of the financial tsunami and the Great Recession. While U.S.'s GDP has recovered to pre-crisis level on a nominal basis, its economy is not creating enough jobs to absorb growth in its population and labour force. The 'Age of Shale' and its related developments could usher in a new era that lifts U.S. economic growth out from doldrums.

US: Neutral

The most talked about topic concerning the U.S. economy in late January is whether the Fed would launch a third round of QE, and if so, in what form it would take. There is growing consensus among analysts for such decision from the Fed. They cite a number of observations to support their views. Firstly, the nation's level of output is still far below potential. Secondly, "operation twist" would end in mid-2012 and there aren't any clear succeeding stimulus measures. Thirdly, core inflation is below the Fed's threshold which allows room for another round of QE. Last but not least, the latest FOMC statement provided sufficient time for more stimulus measures stating that "exceptionally low levels of federal fund rates" will maintain till late 2014.

Some analysts expect the Fed would conduct the new round of QE via purchases of agency

mortgage-backed securities in the hope of reviving the housing market. In a recent report, Goldman Sachs calculated demographic demand by summing the 10-year average rate of household formation and an assumed 300,000 demolition rate for existing homes. It concluded the plunge in new housing starts since the financial tsunami has resulted in new homes fallen far below demographic demand. As shown in the above chart, since the subprime mortgage crisis, household formation has declined alongside a weak labor market and poor public finance situation. Demand has been accumulating and will release in force once present depressing factors diminish or reverse. The hope is that house prices would rebound if the new round of QE aims at purchasing of agency mortgage-backed securities.



* Household formation plus an assumed demolition rate of 300K per year.
**10-year average change in number of households, break adjusted.
Source: Department of Commerce.

The Department of Commerce estimated Q4 GDP growth of 2.8%. While the pace is highest in a year, it fell short of market consensus. Final sales gained 0.8% and inventories added 1.5%. Both numbers were worse than expected. The drop in government spending and widening of trade deficit were also disappointing. Government purchases drop 4.6% with the federal defense category down 12.5% in Q4. Another big surprise comes from business investment, growing only 1.7% versus 15.7% in Q3. Structures category was much weaker than expected because of sharp drop-off in oil drilling activity. The Q4 GDP report raises the spectra of slower growth in coming quarters.

Annualized percent change from previous quarter	1Q-11	2Q-11	3Q-11	4Q-11
Real GDP (chain-weight)	**0.4**	**1.3**	**1.8**	**2.8**
Final sales	0.0	1.6	3.2	0.8
Final domestic demand	0.4	1.3	2.7	0.9
Consumption	2.1	0.7	1.7	2.0
Business Investment	2.1	10.3	15.7	1.7
Structures	-14.3	22.6	14.4	-7.2
Equipment and Software	8.7	6.2	16.2	5.2
Residential investment	-2.4	4.2	1.3	10.9
Change in inventories (05$)	49.1	39.1	-2.0	56.0
Net exports (05$)	-424.4	-416.4	-402.8	-405.8
Exports	7.9	3.6	4.7	4.7
Imports	8.3	1.4	1.2	4.4
Government purchases	-5.9	-0.9	-0.1	-4.6
GDP Chain Price Index	**2.5**	**2.5**	**2.6**	**0.4**
Core PCE Price Index	1.6	2.3	2.1	1.1

Source: Bureau of Economic Analysis

Europe: Negative

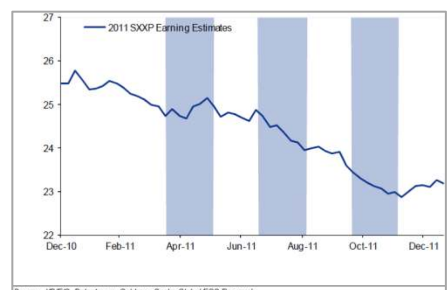
In the U.S., most of the biggest companies in the S&P 500 Index have already reported Q4 results. In contrast, by end of March somewhat over 490 companies, representing 83% of the STOXX Europe 600, would have reported results. The reporting season in Europe is more spread out than U.S.. The table below shows the reporting time table of different industries.

Exhibit 2: Banks, Personal & Household Goods and Utilities will kick off the season
Market cap distribution of reporting by sector. Shading when 20% or more of the market is reporting annual results

Sector	Percentage of sector market cap reporting annual earnings in the week starting on							
	23-Jan	30-Jan	06-Feb	13-Feb	20-Feb	27-Feb	05-Mar	12-Mar
Automobiles & Parts	0%	2%	14%	5%	7%	7%	43%	21%
Banks	2%	27%	4%	11%	40%	3%	0%	2%
Basic Resources	0%	11%	21%	22%	12%	5%	7%	0%
Chemicals	0%	0%	7%	18%	6%	14%	12%	17%
Construction & Materials	0%	4%	16%	23%	21%	21%	1%	11%
Financial Services	2%	0%	1%	37%	3%	3%	10%	5%
Food & Beverage	0%	12%	5%	15%	2%	26%	1%	3%
Health Care	7%	17%	34%	11%	10%	10%	1%	0%
Industrial Goods & Services	7%	1%	11%	8%	18%	25%	15%	1%
Insurance	0%	12%	2%	28%	19%	7%	14%	9%
Media	0%	0%	4%	15%	21%	26%	5%	3%
Oil & Gas	0%	2%	69%	5%	4%	4%	3%	5%
Personal & Household Goods	8%	35%	1%	14%	12%	2%	3%	2%
Real Estate	1%	0%	29%	19%	7%	1%	34%	0%
Retail	2%	3%	0%	0%	0%	24%	31%	8%
Technology	6%	2%	3%	1%	11%	1%	32%	0%
Telecommunications	2%	16%	6%	1%	30%	11%	16%	0%
Travel & Leisure	0%	0%	0%	16%	4%	6%	1%	1%
Utilities	0%	33%	2%	1%	10%	33%	1%	5%
STOXX Europe 600	**3%**	**11%**	**13%**	**12%**	**15%**	**12%**	**11%**	**4%**

Source: Bloomberg, Goldman Sachs Global ECS Research

Consensus earnings for European companies have been revising downward throughout last year, particularly for Q3 and Q4 earning seasons. Weak PMI readings for Eurozone countries point towards a recessionary environment that should exert continue downward pressure on earnings. It is expected that negative revisions will be concentrated in the financial sector and in peripheral regions. In contrast, those companies with customer bases in BRIC and emerging markets are more likely to have positive revisions.



Source: I/B/E/S, Datastream, Goldman Sachs Global ECS Research

The never-ending Euro sovereign debt crisis continues haunting the EU. Failure of coming up with a lasting resolution has prompted deposits from GIIPS (Greece, Ireland, Italy, Portugal and Spain) fleeing to core member nations. Such influx of hot money might lead to bloated money supply in core nations, fueling inflation these countries have sought to avoid.

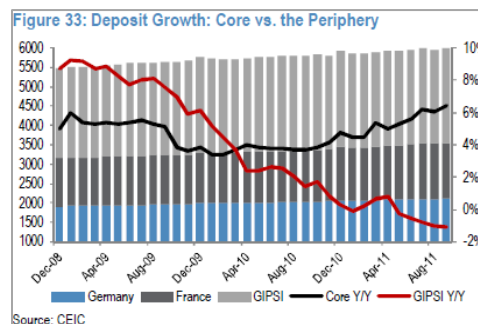


Figure 33: Deposit Growth: Core vs. the Periphery

Source: CEIC

Last year, total deposits have increased by 5% in Germany and 9% in France, compared to outflows in Greece (-15%) and Ireland (-9%). Non-bank and non-government deposits are more worrisome, falling €37bn in November for Italy and €31bn the past two months in Spain.

International Monetary Fund (IMF) published its latest views on the world's economic outlook on Jan 24. In the article titled "Global Recovery Stalls, Downside Risks Intensify", it states the most immediate risk is intensification of the adverse feedback loops between sovereign and bank funding pressures in the euro area, resulting in much larger and more protracted bank deleveraging and sizable contractions in credit and output.

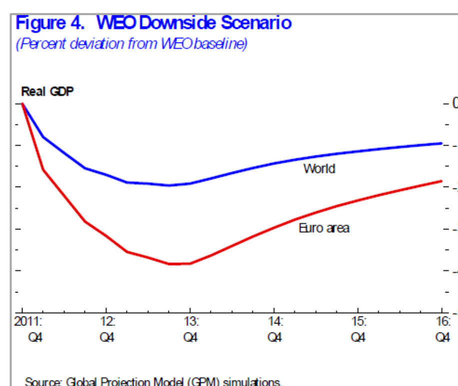


Figure 4. WEO Downside Scenario

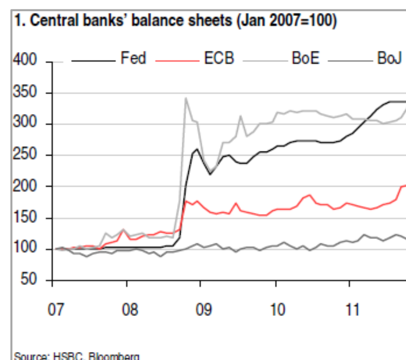
(Percent deviation from WEO baseline)

Source: Global Projection Model (GPM) simulations.

Another downside risk arises from insufficient progress in developing medium-term fiscal consolidation plans in the U.S. and Japan. This risk is temporarily mitigated as the turbulence in the euro area makes government debt of these economies more attractive to investors. The graph on the right demonstrates the forecasted GDP growth under IMF downside scenario.

Japan: Neutral

In last month's market commentary, we highlighted our concern that any pick up in Japan's economic outlook may only be a short-lived pop driven by post-tsunami rebuilding activities. Indeed, there seems to be a lack of willingness in the part of Bank of Japan to undertake further quantitative easing which may dampen economic growth. Compare to other central banks, its balance sheet has barely expanded in the past few years, with just a temporary injection of liquidity immediately after last March's tsunami. Partly as a result of BoJ's restrained action, the Japanese yen has continually appreciated last year. Lately, Japanese yen has risen to 76 against the greenback, leading to Japan Prime Minister Yoshihiko Noda calling for "bold" action to stem the yen's appreciation. All eyes will now be on the BoJ.



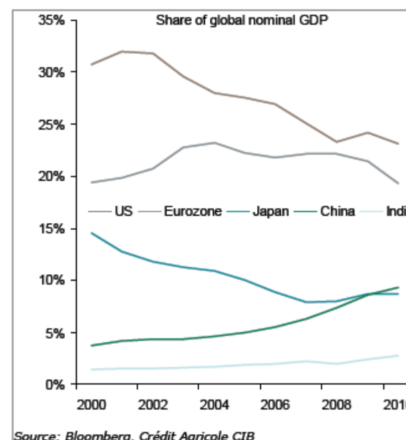
1. Central banks' balance sheets (Jan 2007=100)

Source: HSBC, Bloomberg

China: Neutral

According to CEIC, China's share in EM Asia GDP has risen from 37% in 2000 to 53% in 2010. Meanwhile, India's share has only expanded from 14% to 16%. In fact, China has been contributing more to global growth than the U.S. since 2006. Its prominence has accelerated over the past decade, from 1.6% in 1990's to 3.7% in 2000's.

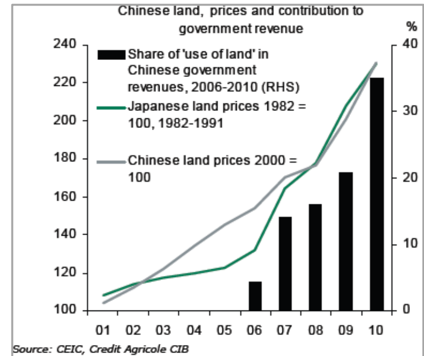
For this year, moderating of property prices remains a major concern. Although Chinese people do not heavily reliant on mortgages buying properties, banks still have large exposure to real estate. Home mortgages and loans to real estate developers account for 28% of total loans last year.



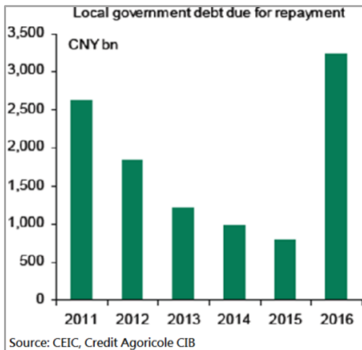
Source: Bloomberg, Crédit Agricole CIB

Residential real estate investment accounts for 10% of GDP in China, comparing to 6% of GDP in the U.S. before the Lehman crisis. According to Credit Agricole, each 0.1% slowdown of housing investment in China would directly subtract 0.8% from GDP growth and might result in further indirect repercussions.

Some observers claimed that land prices in China in the past decade have been ascending on a similarly path as that in Japan during the ten years prior to the bursting of that nation's real estate bubble. Local governments are relying heavily on land sales for revenues and for repayment of debt.



Source: CEIC, Credit Agricole CIB



Source: CEIC, Credit Agoricole CIB

However, according to CEIC, China local government debt due for repayment is set to decrease over the next few years. In addition, construction of affordable housing will supplement private sector real estate investment.

Other than concerns over NPLs, there are other factors affecting China's banking sector. The graph on the right shows deposit growth is fallen behind loan growth. This development may be partially attributed to negative real interest rate. Moreover, decline in capital inflows may continue as domestic demand gains pace while export growth slows. As a result, both FX reserve and hot money inflow decline, leading to low deposit growth in these few years.

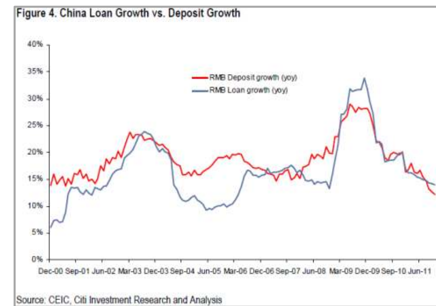


Figure 4. China Loan Growth vs. Deposit Growth

Source: CEIC, Citi Investment Research and Analysis

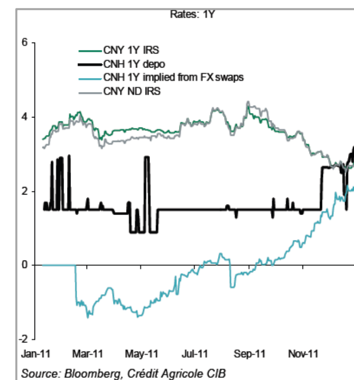
Another evolving trend in China's banking sector is the rapid growth of wealth management products. This can be explained by a low base factor for these products' low penetration level and also the lack of investment alternatives. According to Citi research, outstanding wealth management products of five leading banks have grown 24% QoQ. Total notional amount of wealth management products is roughly 5-10% of total deposit for these banks. It is generally agreed that wealth management products will maintain their fast growing pace in the foreseeable future.

Figure 9. Major Banks' WMPs' outstanding balance grew by 24% qoq in 3Q11

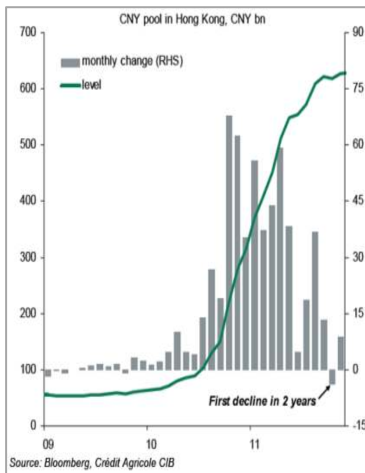
Outstanding WMPs (Rmb bn)	2010	2Q11	3Q11	QoQ Growth	% of total deposits (3Q11)
ICBC	600	637	887	39%	7%
CCB	n.a.	451	631	40%	6%
ABC	n.a.	200	300	50%	3%
BOC	n.a.	530	560	6%	7%
CMB	n.a.	173	100	-42%	5%
Total		**1,991**	**2,478**	**24%**	

Source: Companies, Citi Investment Research and Analysis

For most time of last year, there existed sizable spreads between onshore and offshore money market rate but these rates have been converging since mid-year. This may be due to two factors. Onshore rates are falling in line with ongoing monetary easing while CNH money market curve is shifting up as liquidity conditions deteriorated with a shrinking CNH pool in Hong Kong.

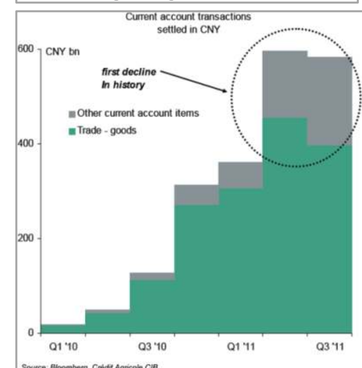


Source: Bloomberg, Crédit Agricole CIB



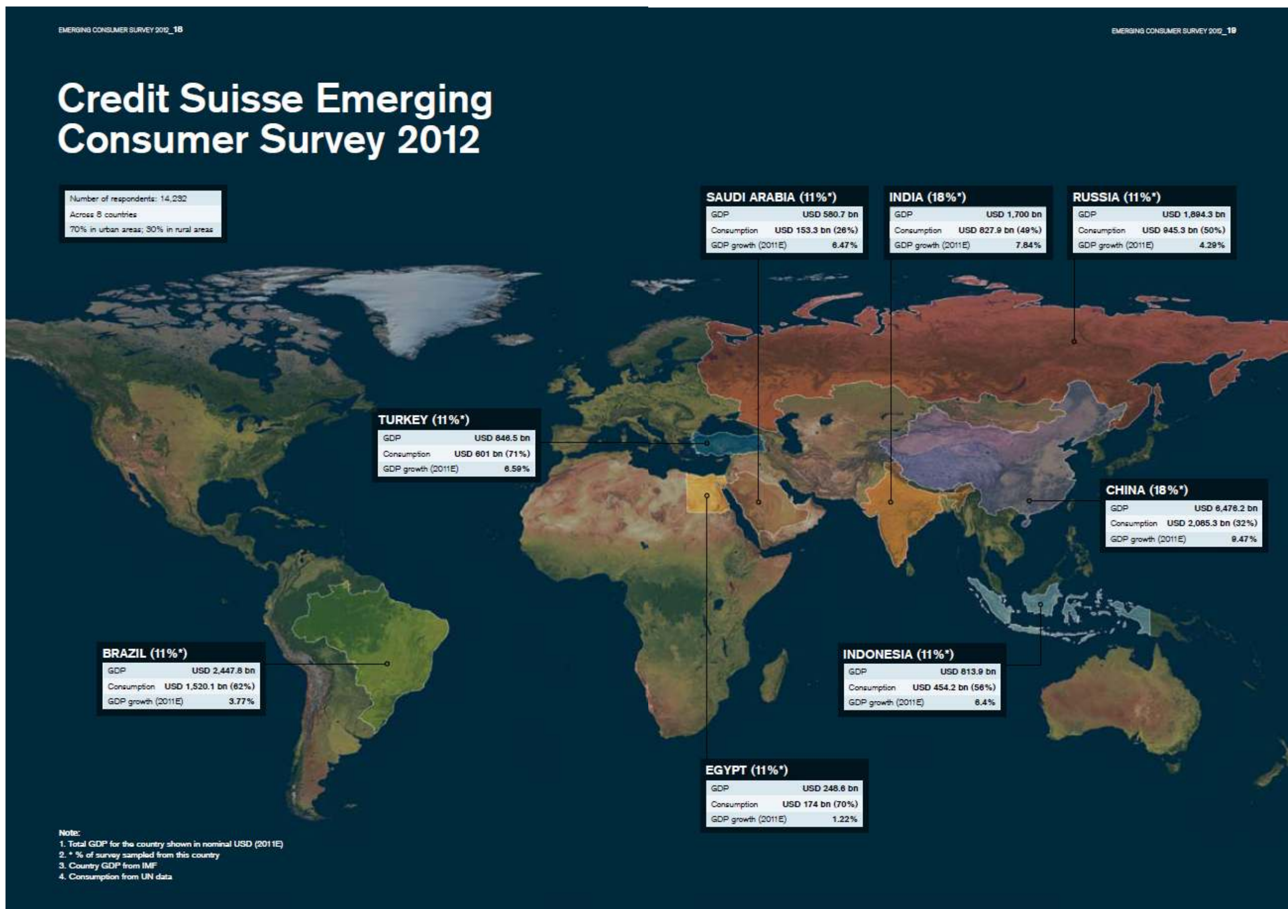
Source: Bloomberg, Crédit Agricole CIB

There may also be changes in market mechanism. Growth of the CNY pool in Hong Kong slowed since Q2 last year and then turned negative in October. There are several reasons accounting for the negative growth. Firstly, slowdown of CNY-settled foreign direct investment (FDI) gradually led to an outflow of CNH from Hong Kong. Secondly, China expanded the CNY-trade settlement program to more and more trading partners. Overseas trading partners would demand CNY to settle trades hence leading to outflow of CNH. Thirdly, the passage of RQFII may aggravate capital outflow from the mainland.



Source: Bloomberg, Crédit Agricole CIB

Emerging Markets: Negative

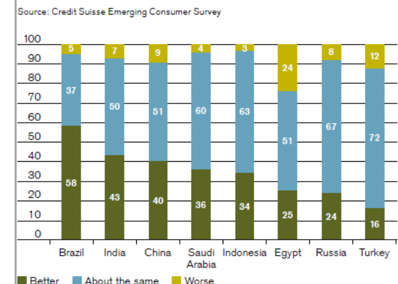


Credit Suisse conducted a survey amongst emerging market consumers on their expectation of personal finances over the coming six months and found some interesting results. Optimism on personal financial outlook is strongest in Brazil, India and China, in descending order. 58% of Brazilian respondents said they expected improvement in personal wealth. Of the BRIC countries, Russian consumers are the most pessimistic.

Figure 1

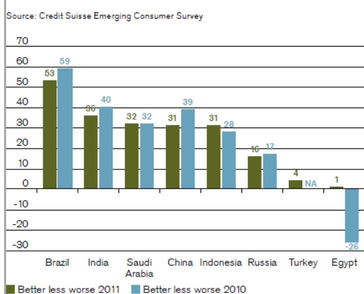
Do you think the state of your own personal finances over the next six months will be better, worse or about the same?

Source: Credit Suisse Emerging Consumer Survey



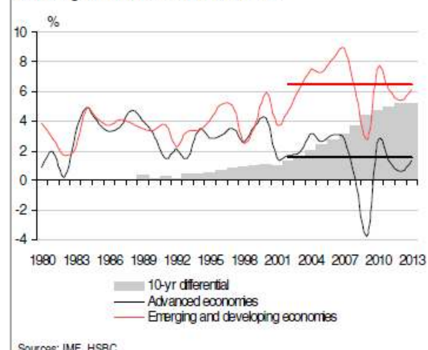
Do you think the state of your own personal finances over the next six months will be better, worse or about the same? 2011 versus 2010 results

Source: Credit Suisse Emerging Consumer Survey



On the other hand, consumers in Egypt and Turkey expressed greater degree of pessimism in personal finance prospects. Even so, Egyptian consumers are much more upbeat then previous year which could be a result of political changes that have took place in that country. Also, we can see that general sentiment has improved in emerging markets.

EM-DM growth differential at its widest

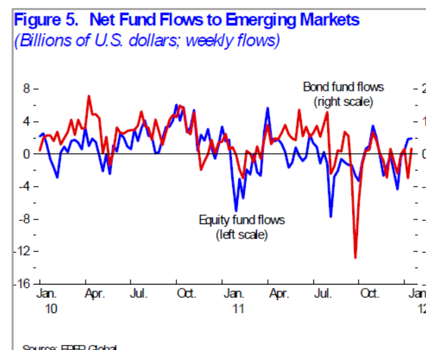


Sources: IMF, HSBC

The graph on the right was taken from a HSBC report which shows GDP growth of emerging economies (EM) and developed economies (DM) since 1980, and the 10-year average growth differential. The growth differential is assumed to peak this year due to the fact that emerging markets have room to launch countercyclical policies to boost growth, while developed markets are severely constrained to do much. However, HSBC also noted that inflationary pressure remains a concern and may limit the extent of stimulus measures for many countries at the moment.

For emerging markets, their focus in the near term is how to respond to

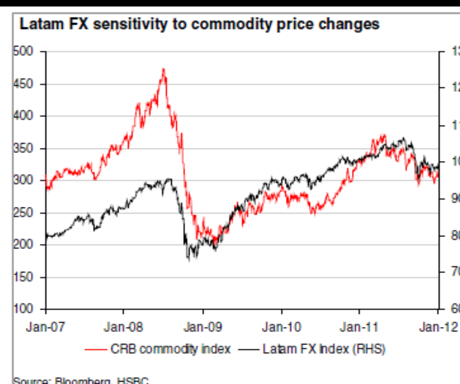
moderating domestic demand and slowing external demand from advanced economies, as well as volatile capital flows. The chart to the right shows capital inflows have slowed in the past few months. Some analysts argue that credit growth and inflation growth may have peaked.



According to International Monetary Fund (IMF), it grouped situations among emerging markets into three categories in its January World Economic Outlook. Given their economic situation, policy options available to them vary widely. This is summarized in the table below.

Region	Description
China and selected emerging economies in Asia	Inflation under control, public debt is not high and external surpluses are appreciable.
Various economies in Latin America	Diminishing inflation pressure but weaker fiscal fundamentals
India and various economies in the Middle East	Relatively high inflation and public debt

There is growing expectation for weakening of Latin American (Latam) currencies. This may be due to a number of considerations. Firstly, domestic growth is generally slowing in Latin America. As governments shift their focus from inflation to growth, they may tolerate weaker currencies. Secondly, China seems to be steering towards a soft landing which may lead to lower growth in demand of commodities. This means commodity prices could retreat further. The chart above shows sensitivity of Latam currency to commodity price changes. Lastly, rising capital outflows associated with domestic companies' investing abroad or with the remittance of profits and dividends from foreign companies are likely to trim the size of foreign direct investment in Latam, thus leading to downward pressure on exchange rates.



Commodities: Neutral

资料来源: DOE.

	% of Iran's exports	Total volume of crude imported from Iran, thousand b/d	Iran as % of total crude imported
European Union	18	450	
Italy	7	183	13
Spain	6	137	13
France	2	49	4
Greece	1	20	14
Germany	1	17	1
UK	0	11	1
Netherlands	1	33	2
Japan	14	341	10
India	13	328	11
South Korea	10	244	10
Turkey	7	182	51
South Africa	4	98	25
Sri Lanka	2	39	100
Taiwan	1	33	4
China	22	543	11
Total	**91**	**2258**	

资料来源: 资料来源: Global Trade Atlas, APEX, EIA, Goldman Sachs Global ECS Research.

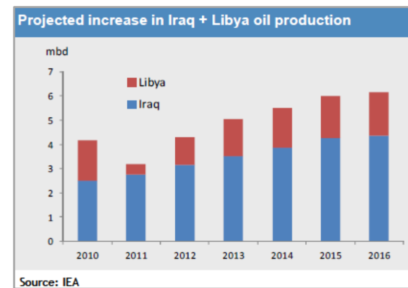
U.S. and European countries are uniting in tightening sanctions against importation of Iranian oil in an effect to force Iran to abandon its nuclear development program. For the U.S., it has not imported Iranian crude for 20 years, and EU is now the biggest user. The table to the right lists the major importers of Iranian oil.

In response to international sanctions, Iran has threatened to block the Strait of Hormuz and in January conducted 10 days of naval exercises close to the strait. The Strait of Hormuz is the world's most important oil chokepoint, connecting the Persian Gulf with the Gulf of Oman and the Arabian Sea. Its potential closure prompted a steep rise in oil prices as according to DOE, almost 17 million b/d of oil passed through the strait last year, or roughly 35% of all seaborne crude. 75% of which was destined for Asia markets. The strait is 21 miles wide at its most narrow point, and particularly, the shipping lanes are only 2 miles wide on each side due to the relatively shallow depth along the strait. A sustained closure of the Strait would cause a massive

spike in crude oil prices.

To stabilize oil prices, Saudi Arabia officials indicated the nation can make up for the shortfall. Meanwhile, International Energy Agency (IEA) forecasts that Libya and Iraq can boost supply by 620kbpd at 2016. The development in Libya is a major concern of projected increase in supply. Local production levels have restored faster-than-expected but recurrent military conflicts remain a potential hazard.

Projected increase in Iraq + Libya oil production



Source: IEA

Precious metals are also rebounding amid growing expectations of new round of quantitative easing from various central banks which might hurt the purchasing power of cash. Meanwhile, sentiment on palladium is also more upbeat than before. In recent months, auto sales have been growing steadily in the U.S.. At the same time, light vehicles production in China and U.S. has been growing strongly. These two markets combined to make up 40% of global production. Lastly, it is expected that Russian stockpiles of palladium will be depleted over the next 12-24 months.

	2005	2006	2007	2008	2009	2010	2011E
Demand							
Auto catalysts							
Europe	975	890	920	1005	995	1325	1485
North America	1430	1415	1695	1290	1020	1360	1480
China	170	220	325	390	685	975	1100
Japan	660	795	820	885	590	815	675
Rest of the world	630	695	785	895	760	975	1175
Total	**3865**	**4015**	**4545**	**4465**	**4050**	**5450**	**5915**
Jewellery							
Europe	35	40	40	45	50	70	65
North America	20	40	55	60	60	65	45
China	1250	890	705	740	560	380	330
Japan	155	145	125	115	80	75	75
Rest of the world	30	25	25	25	25	30	30
Jewellery recycled	60	135	235	130	70	70	210
Net jewellery demand	**1430**	**1005**	**715**	**855**	**705**	**550**	**335**
Investment							
Europe	0	0	280	370	525	-55	60
North America	220	50	-20	50	95	1130	-285
Japan	0	0	0	0	0	10	10
Rest of the world	0	0	0	0	5	0	0
Total	**220**	**50**	**260**	**420**	**625**	**1085**	**-215**
Industrial							
Europe	445	485	465	375	345	365	391
North America	795	610	565	515	480	501	537
China	350	410	435	320	320	312	334
Japan	835	635	635	625	610	608	652
Rest of the world	345	500	540	585	525	569	610
Total	**2465**	**2350**	**2325**	**2075**	**1885**	**2020**	**2165**
Total palladium demand	**7980**	**7420**	**7845**	**7815**	**7265**	**9105**	**8200**
Supply							
Mine supply							
Southern Africa	2730	2910	2900	2570	2550	2795	2870
Russia	3925	3220	3050	2700	2675	2720	2700
North America	910	985	990	910	755	590	945
Rest of world	145	135	150	170	160	185	155
Total	**7710**	**7250**	**7090**	**6350**	**6140**	**6290**	**6670**
Stock sales							
Russia	695	700	1490	960	960	1000	750
Total stock sales	**695**	**700**	**1490**	**960**	**960**	**1000**	**750**
Auto catalyst recycling							
Europe	165	225	300	310	330	443	385
North America	30	30	35	75	55	59	70
China	390	500	590	660	480	656	925
Japan	0	0	20	30	35	50	35
Rest of the world	40	50	70	65	65	97	90
Total	**625**	**805**	**1015**	**1140**	**965**	**1325**	**1505**
Total palladium supply	**9030**	**8755**	**9595**	**8450**	**8065**	**8615**	**8925**
Supply-demand surplus/(deficit)	**1050**	**1335**	**1750**	**635**	**800**	**-490**	**725**

Source: Johnson Matthey, CIRA estimates

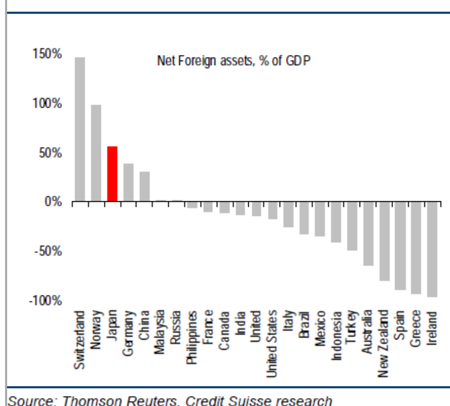
Hedge Fund: Mixed

December was another difficult month for most hedge fund strategies due to poor market liquidity and trading volume. The big event was the roll out of Long Term Refinance Operation (LTRO) by the ECB which provided much needed liquidity for Italian and Spanish banks. Managed futures managers had a positive month as some longer trading programs smoothed out market whipsaw. In particular, long exposure to fixed income and the USD, together with short Euro crosses, generated good profits. Relative value managers and fixed income arbitrageurs benefitted from the ECB's LTRO.

Event driven managers recorded flat return, hampered by equity related exposure and widening in merger arbitrage spreads. Equity hedged managers lost money in the first half of December and failed to recoup their losses in the second half. Global equities proved mixed.

Bonds: Mixed

Figure 38: **Japan's net foreign assets, at 57% of GDP, are the highest for any of the G20 economies**



Source: Thomson Reuters, Credit Suisse research

Yield curves of Asian sovereign bonds have flattened amid uncertainties in global economies with risk of further cuts to benchmark interest rates. Flat yield curve is unfavorable to insurers as they cannot earn higher return from investing on longer dated securities despite their long-term mandates.

Figure 102: 10-year government bond yield has come off in recent months with a flattening happening across all durations

Source: CEIC. Note: 3.5% for China, 3.8% (Korea) & 1.3% (Taiwan) as of Dec 15, 2011.

Take China as an example, current 1-year deposit rate is 3.5% while 10-year government bond is 3.5%. Meanwhile, CPI was at 4.1% in last December. For insurers, there is no excess in yield to speak of and at the same time there is rising risk of asset-liability mismatch.

It may be ironic to some investors that Japanese government bonds can serve as a safe haven for capital given that Japan is only rated AA- but U.S. and UK are rated AA+ and AAA. This apparent strange situation may be partly explained by the size of net foreign assets as of percentage of GDP, which for Japan is only behind Switzerland and Norway.

While it is true that Japan's level of government debt at 213% of GDP is the highest among developed nations, if we calculate net assets level held by government, we found that total leverage is not much higher than the UK, Euro nations and the U.S..

* Unless otherwise stated, all figures and informa tion are collected from WSJ, Bloomberg or Haver Analytics.

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