BBVA

ChinaWatch

Economic Research Department

July 2008

China's real GDP growth slowed down somewhat, led by lower export growth and real fixed asset investment

While domestic food prices subsided, inflationary pressures from high global commodity and energy prices continued to build

Further economic moderation is expected. The authorities will need to strike a delicate balance between containing inflation and maintaining growth

Contents

Closind date: July 17, 2008

Publication coordinator:

Alicia García-Herrero alicia.garcia-herrero@bbva.com.hk

This publication was prepared by:

Li-Gang Liu lliu@bbva.com.hk
Andrew Tsang andrew.tsang@bbva.com.hk
Yuande Zhu yzhu@bbvashangai.com

1. Editorial

- The first half of 2008 has proven difficult for China. The country has experienced severe natural disasters, such as the snow storm in January, the devastating earthquake in May, and serious flooding in some Southern provinces in June. Despite these unexpected shocks, the economy continued to grow at a solid, though slower, pace. In fact, GDP growth was 10.4% in the first half of the year, 1.8 percentage points lower than during the first half of 2007.
- Real GDP growth was also slower in the second quarter of 2008 than the first, mainly because of a more moderate external demand but also slower growth in real fixed asset investment. The rest of domestic demand seems to be holding up well as shown by the robust growth in real retail sales in the second quarter 13.2%, supported by solid wage and income growth.
- While growth in exports has slowed considerably, imports surged to 32.2%, reflecting rising commodities prices and a strengthened Renminbi. This has led to a decline in the trade surplus in the second quarter of 2008 to a still massive figure: US$ 58.1 billion.
- Inflation control continues to be a top priority for the Chinese government. The central bank has aggressively raised the reserve requirement ratio imposed on commercial banks, intensified sterilization operations, and tightened lending practices, especially for real estate. In addition, the central bank has allowed faster renminbi appreciation to alleviate the impact of rising import prices on domestic inflation. Meanwhile, the government has also used fiscal subsidies to facilitate food supply and moderate the impact of rising food prices. More recently, the government has lowered fuel subsidies to alleviate shortage in some local areas and provide incentives for state oil refiners.
- All these measures seem to have helped moderate CPI inflation, which declined to 7.8% in the second quarter of 2008 from 8.0% in the first. However, such slowdown comes from food prices while non-food prices have been climbing steadily. Furthermore, the June inflation figure continues to be much higher than the government's inflation target set at 4.8%. Inflationary pressures from domestic sources appear to have subsided somewhat, but those from external ones continued to build because of pass-through of rapidly rising PPI inflation to CPI inflation.
- We expect the economy to continue to moderate in the second half of 2008, reflecting a gloomier global outlook admist continued financial turbulence in the United States. Given China's high dependence on international trade, it is difficult to envisage that China will be immune to a protracted and severe slowdown in global economy. Against this background, we expect real GDP to growth by 9.8% in 2008, and 9.4% in the second half of 2008. Inflation, on the other hand, should continue to moderate, reaching 6.1% at the end of 2008.
- Looking forward, a number of risks and uncertainties will affect China's macroeconomic and financial stability. First, perhaps the biggest challenge facing the economy is a protracted and severe US-led global recession. We believe the authorities will need to initiate an expansionary fiscal policy to preempt the negative impact of falling external demand. Second, inflationary pressures continued to build on the back of elevated commodities and energy prices. Given the sources of inflation have been shifting from a domestic origin to a foreign one, the central bank should continue to allow faster renminbi appreciation. Third, capital inflows could eventually reverse suddenly if the Chinese economy were to slow and trade balance were to deteriorate. Despite its huge reserves, China also has extremely high M2 to GDP ratio at over 170%. With capital account liberalisation, a sudden reversal of capital flows remains a risk to financial stability. Therefore, the authorities will have to be watchful on sharp movements of capital flows. Indeed, the recent measures to strengthen capital controls by closely scrutinizing trade invoices is a step in the right direction.

2. Recent Economic Developments

1. Real sector

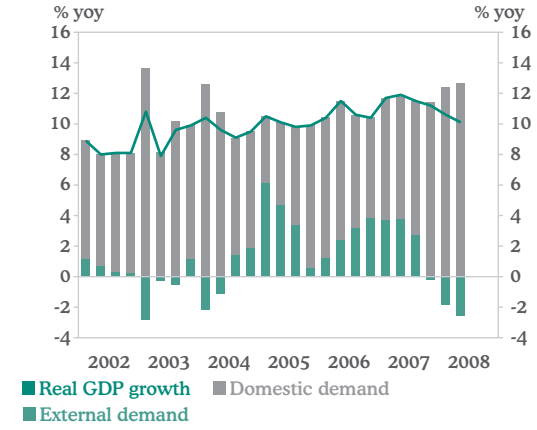
China's GDP grew by 10.1% yoy in Q2, after a 10.6% yoy growth in Q1, in line with a more moderate global growth (Chart 1). For the first half as a whole, growth slowed to 10.4%. The moderation in real GDP growth was led by a slower export growth and a more moderate investment growth. Despite the severe snowstorm in early 2008 and the Sichuan earthquake, growth in domestic demand remained solid, thus somewhat offsetting the more moderate export growth.

Industrial activities have show signs of slowing as well. Value-added industrial production grew by 16.3% in the first half of 2008, 2 percentage points lower than that in 2007 (Chart 2). The Q2 growth slowed to 15.9%. Specifically, growth in light industry production continued to follow a slowing, though volatile, trend; growth in heavy industry also shows signs of moderation, though from a still elevated pace.

Retail sales in nominal terms surged to over 20% yoy in the first half of 2008. On the other hand, real retail sales grew by 13.2% yoy in the first half of 2008, higher than 12.4% yoy in 2007, thanks to rising household income in recent years (Chart 3). Real retail sales growth in Q2 increased further to 14%. Household disposable income rose by around 20% yoy in 2007 and increased further by more than 10% yoy in 2008, reflecting rising manufacturing wages, which have accelerated starting from 2007 Q3 after staying at a growth rate at around 20% for some time. Growth in agricultural wages slowed to 10% in 2008 Q1, after rising rapidly to 17 yoy in 2006 Q3 from a previously slow pace at around 5%.

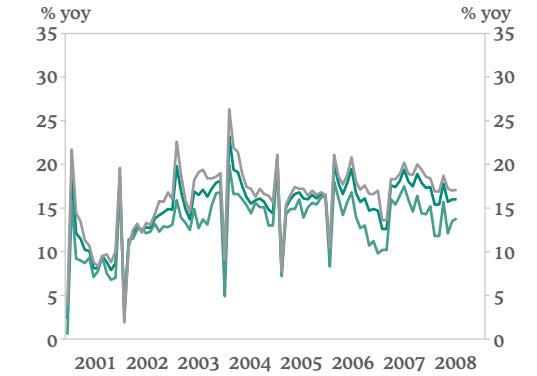
Growth in domestic investment decelerated. While fixed asset investment (FAI) in nominal terms continued to increase by 26.8% yoy in 2008 H1, real FAI growth has slowed to 18.4% yoy over the same period (Chart 4). For 2008 Q2, nominal and real FAI grew by 26.7% and 18.4%, respectively. Real fixed asset investment slowed to 18.4 in Q2, about 6 percentage points lower than 2007 Q2, reflecting a significant slowing in industrial profits and tightened lending practices. Slower real FAI growth was partly due to a fall in industrial profits and tightened monetary policy conditions, particularly in sectors related to real estate market.

Chart 1: Real GDP growth



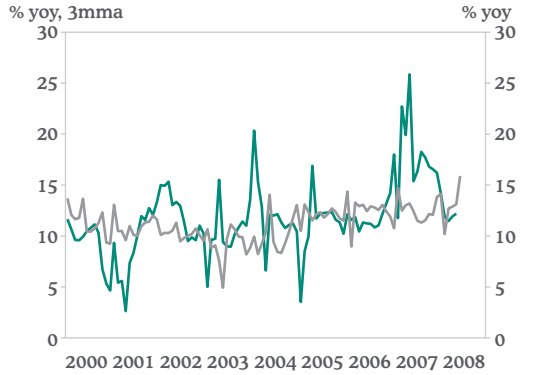
Sources: CEIC and BBVA estimates.

Chart 2: Industrial Production



Sources: CEIC and BBVA estimates.

Chart 3: Retail sales and income

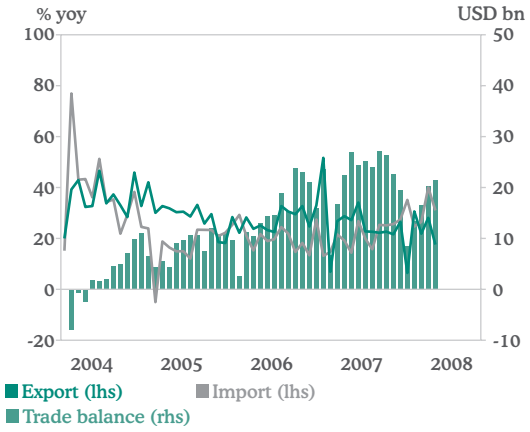


Sources: CEIC and BBVA estimates.

Chart 4: Fixed asset investment

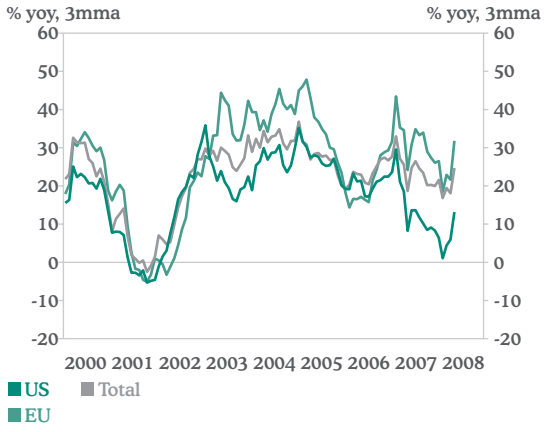
Sources: CEIC and BBVA estimates.

Chart 5: External trade



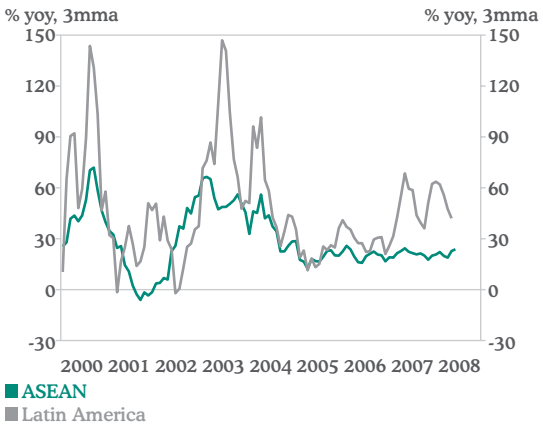
Source: CEIC.

Chart 6: Exports by destinations



Source: CEIC.

Chart 7: Sharp import growth



Sources: CEIC and BBVA estimates.

2. External Trade

China's exports grew by 21.9% yoy in the first half of 2008, about 5.7 percentage points lower than that in 2007, while import growth surged to 30.6% yoy in imports. Although trade surplus remained substantial, it declined to US$ 99 billion, compared with US$ 112 billion in the first half of 2007 (Chart 5).

Specifically, growth in exports to the US market decelerated sharply while growth in exports to the EU market held up well, remaining at about 20% (Chart 6). Chinese export growth is likely to decline further on a slower external demand, the stronger RMB, rising wages, and high costs in raw materials and energy inputs. It appears that sectors with high export exposures have started to see their inventories rise and profit margin being squeezed. There are also some preliminary signs that sectors with high export exposure may have started to expand their sales in domestic markets. (See Box 1).

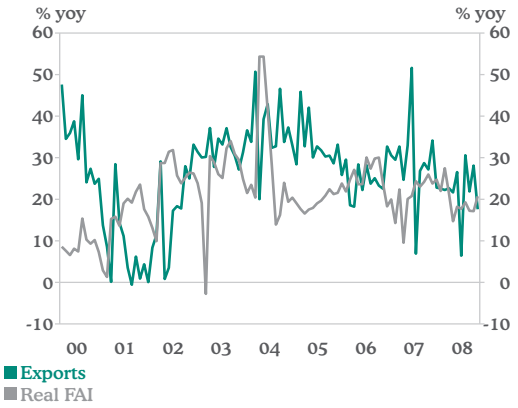
The surge in commodity prices is the main reason behind the surge in Chinese import growth. Latin America is one of main beneficiaries of China's booming imports. While growth in Chinese imports from ASEAN economies remained steady at 21%, its growth in imports from Latin America soared to 54% for the first five months in 2008 (Chart 7).

Box 1: How do sectors with high external exposure fare amidst a US-led economic slowdown?

China has maintained a spectacular fixed asset investment growth throughout the new century, reflecting high savings, large FDI inflows, low costs in energy and labor, and to some extent, relaxed enforcement in environmental standards. The high investment growth appears to be highly correlated with its export growth and this relationship has strengthened markedly after China's entry to the WTO in 2001 (Chart 1a). The WTO accession has reduced political uncertainties surrounding China's trading status with some important trading partners and has also expanded global opportunities for both Chinese firms and multi-national corporations that use China as an important platform in their global productions network.

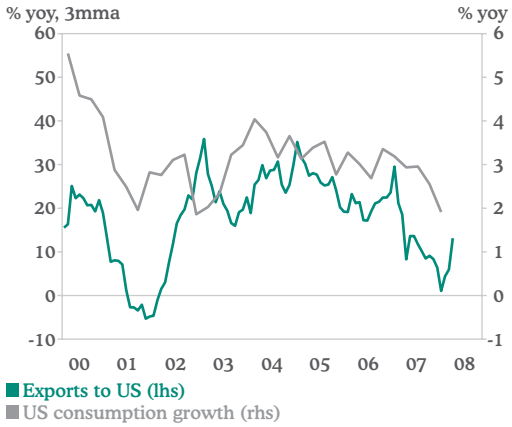
How would sectors with a large export exposure fare in light of a US-led global economic slowdown? This box intends to provide some preliminary evidence in an attempt to shed some lights on this important issue, given growth in Chinese exports is closely linked to that in US consumption (Chart 1b) and both of them slowed significantly in 2008 H1.

Chart 1a) Exports and FAI



Sources: CEIC, BBVA estimates
Note: Figures for FAI are deflated by PPI.

Chart 1b) US consumption and Chinese exports to the US



1) Identifying industrial sectors with high export exposures

We identify sectors with high external exposure by calculating the ratio of delivery value of exports (DVE) to industrial production in each manufacturing industry. Using this methodology and setting 20% as a cutoff point, we find that there are 12 industries with export exposure larger than 20% (Table 1). These 12 sectors accounted for 32% of industrial production but 72% of DVE in 2007. In particular, seven industries such as Electronic & Communication Equipment, Cultural Educational & Sports Articles, Instruments Meters Cultural & Office Machinery, Furniture Manufacturing, Handicraft & Other Manufacturing, Leather Fur Down & Related Products, Garment Footwear & Headgear Manufacturing have an export exposure of more than 40%.

Table 1: Industrial Sector by Export Exposure

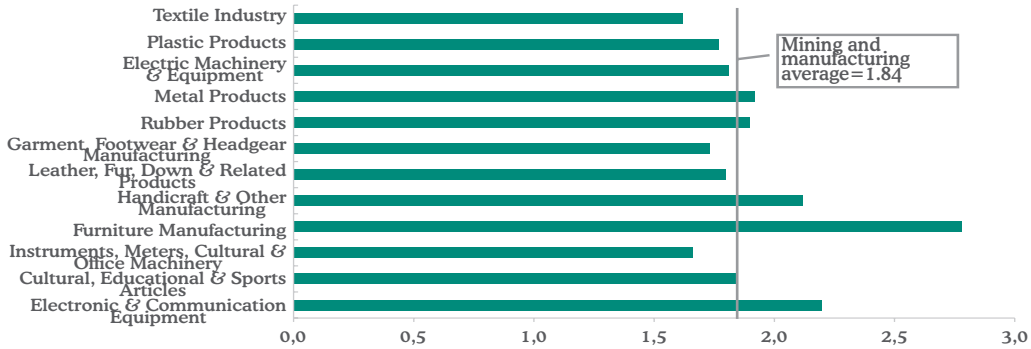
	Foreign Exposure 1/			Gross Industrial Production RMB billion		
	2006	2007	2008	2006	2007	2008H1
Electronic & Communication Equipment	65.5%	71.3%	65.4%	3,280	3,944	1,660
Cultural, Educational & Sports Articles	62.6%	62.4%	55.7%	176	215	86
Instruments, Meters, Cultural & Office Machinery	48.0%	50.7%	46.4%	355	445	192
Furniture Manufacturing	46.7%	45.5%	39.8%	185	242	109
Handicraft & Other Manufacturing	45.7%	44.5%	35.8%	252	326	152
Leather, Fur, Down & Related Products	45.9%	43.6%	37.1%	418	521	215
Garment, Footwear & Headgear Manufacturing	43.7%	43.1%	36.9%	612	760	319
Rubber Products	25.6%	26.6%	22.7%	273	346	158
Metal Products	25.1%	25.7%	22.0%	845	1,137	521
Electric Machinery & Equipment	24.6%	25.6%	23.4%	1,804	2,395	1,106
Plastic Products	23.5%	23.1%	19.9%	635	802	353
Textile Industry	23.9%	22.6%	19.4%	1,529	1,877	796
Total Mining and Manufacturing Industry	19.0%	19.2%	16.2%	31295	40542	18836

Sources: CEIC, NBS, BBVA estimates
1/ Foreign exposure = Delivery Export Value/ Gross Industrial Production, and ranked by 2007; data in 2008 data ended in May.

Capacity expansion

We then use net fixed assets to approximate the capacity in each of the 12 industries, and calculate the expansion ratio by dividing net fixed assets in 2007 by that in 2003. This ratio indicates how much the capacity in each of these 12 industries has expanded over the last 4 years. Given the overall ratio of capacity expansion for all industries in China is 1.84, six sectors with high export exposure, namely, electronic & communication equipment (ECE), cultural educational & sports articles, furniture manufacturing, handicrafts and other manufacturing, rubber products, and metal products, have exceeded this average, while the capacity expansion ratios for the rest of the sectors are either close to the average or slightly below the average (Chart 2a).

Chart 2: Capacity Expansion 2003-2007

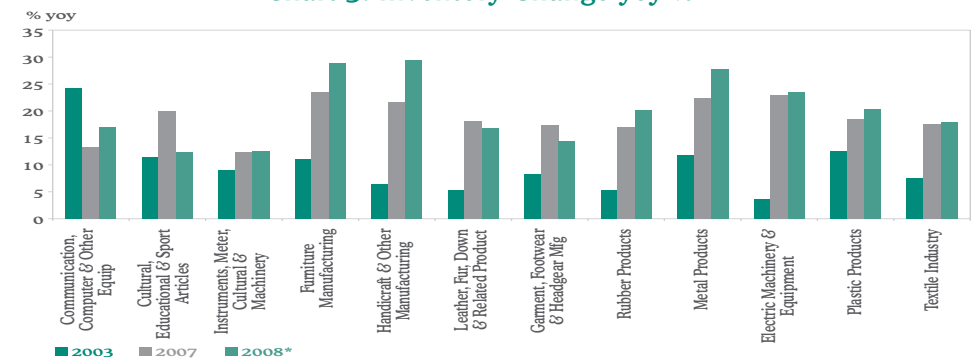


Source: CEIC, BBVA estimates

Inventory has started to build

In light of external demand slowdown, inventory in these export oriented industries appears to have started to increase in 2007. This trend has also continued in 2008, though with exceptions in a few sectors (Cultural, Educational & Sport Articles, Leather, Fur, Down & Related Product, and Garment, Footwear & Headgear Mfg).

Chart 3: Inventory Change yoy %

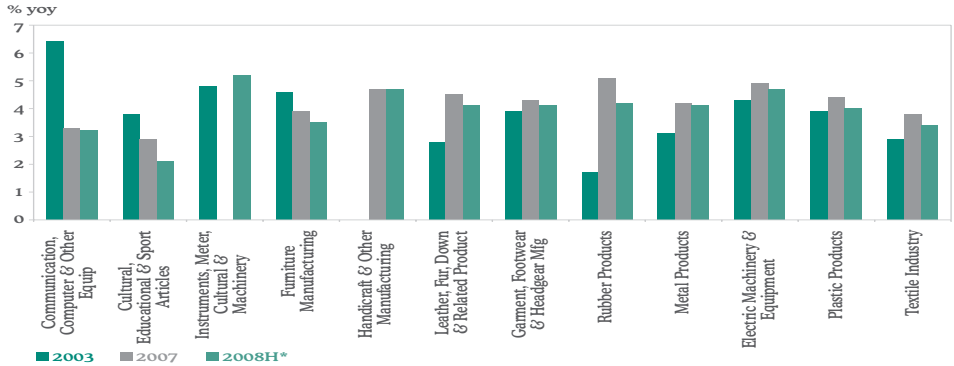


Sources: CEIC, BBVA estimates

Profit margins continued to be squeezed

Meanwhile, the profit margins for these export heavy sectors, already lower than the industrial average, continued to be squeezed. For example, the profit margin for all Chinese industrial sectors is 6.5% and 6% in 2007 and the first five months in 2008, respectively, while the average margin for these export heavy sectors are 4.35% and 3.94% for the same years. In particular, the profit margins appear to be the lowest for electronic and communications equipment and cultural ad educational and sports articles at about 3% and 2%, respectively. While rising wages are a factor, a decline in demand is more important.

Chart 4: Profit Margins by industries

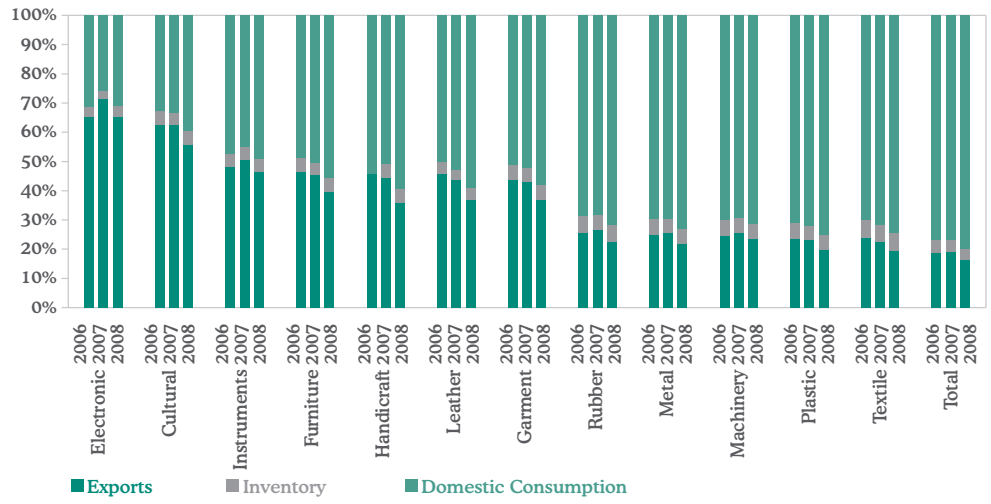


Sources: CEIC, BBVA estimates; * data in 2008H1 are ended with May 2008.

2) How do these sectors manage a global economic slowdown?

As expected, these sectors with high external exposure in 2008 H1 have seen their export shares drop considerably (Table 2). Meanwhile, inventory share has increased somewhat. In some sectors, inventory share increases are quite sizable. For example, inventory shares of electronic & communication equipment, cultural educational & sports articles and furniture manufacturing have increased by at least 0.5 percentage points in 2008, compared to 2007. Although we do not have reported data to show whether these sectors have attempted to increase their domestic sales, our straightforward approximation suggests that that their shares going to the domestic market have also increased (Chart 5). Note that domestic consumption share is computed by adjusting the total production after accounting for exports and inventory shares.

Chart 5: Export and Inventory shares in Industrial Production



Sources: CEIC, BBVA estimates
Note: 1/ inventory is monthly average of inventory data in each year; industrial production in 2008 has been adjusted to annual ones with data of the first five months proportionately.

3) Implications for domestic prices

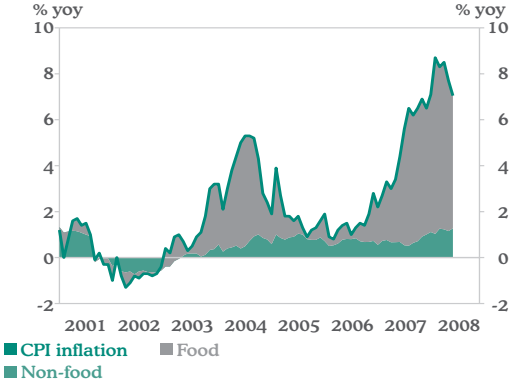
The preliminary evidence suggests that high export exposure sectors have started to feel the pinch of a global slowdown, as shown by their increased inventory holding and their further squeezed profit margins. Some of these sectors have reverted to exploring domestic market by expanding sales to domestic markets. Given the production capacity built over the last 5 years has been large, it is unlikely for the domestic market to absorb the slack left by the declining external demand. This implies that these sectors may have limited pricing power. Looking forward, it appears that price increases in these sectors at domestic market may be limited, despite rising producer prices owing to rising primary and energy prices in the medium term.

3. Inflation

CPI inflation fell slightly to 7.8% yoy in Q2, after reaching a ten-year high of 8.0% in Q1 (Chart 8), led by elevated food prices. It appears that food prices peaked in February 2008 and have started to fall in recent months. The latest data on weekly food price indexes monitored by the State Development and Reform Commission and the Ministry of Commerce indicate that food prices will continue to fall in coming months thanks to a good summer harvest.

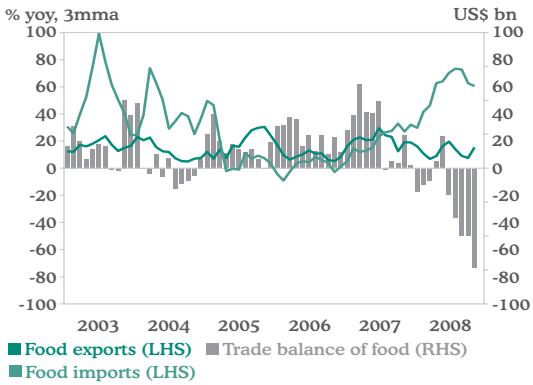
China's food supply is mostly self-sufficient (Chart 9). Although China is running a trade deficit in food, the deficit figure is very small amounting to only US$ 1.5 billion. This is perhaps the reason why China's wheat and rice prices have a pattern of their own and are mostly not much unaffected by recent surges in international food prices (Chart 10 a) and b)). However, for those products (corn and soybean) that China relies increasingly on imports, domestic prices appear to follow international prices closely. It is worth to note that China's domestic soybean price is about US$ 300 higher than the international one. Given rises in energy and commodities prices, it is expected that Chinese food prices will continue to rise in the long run.

Chart 8: CPI inflation



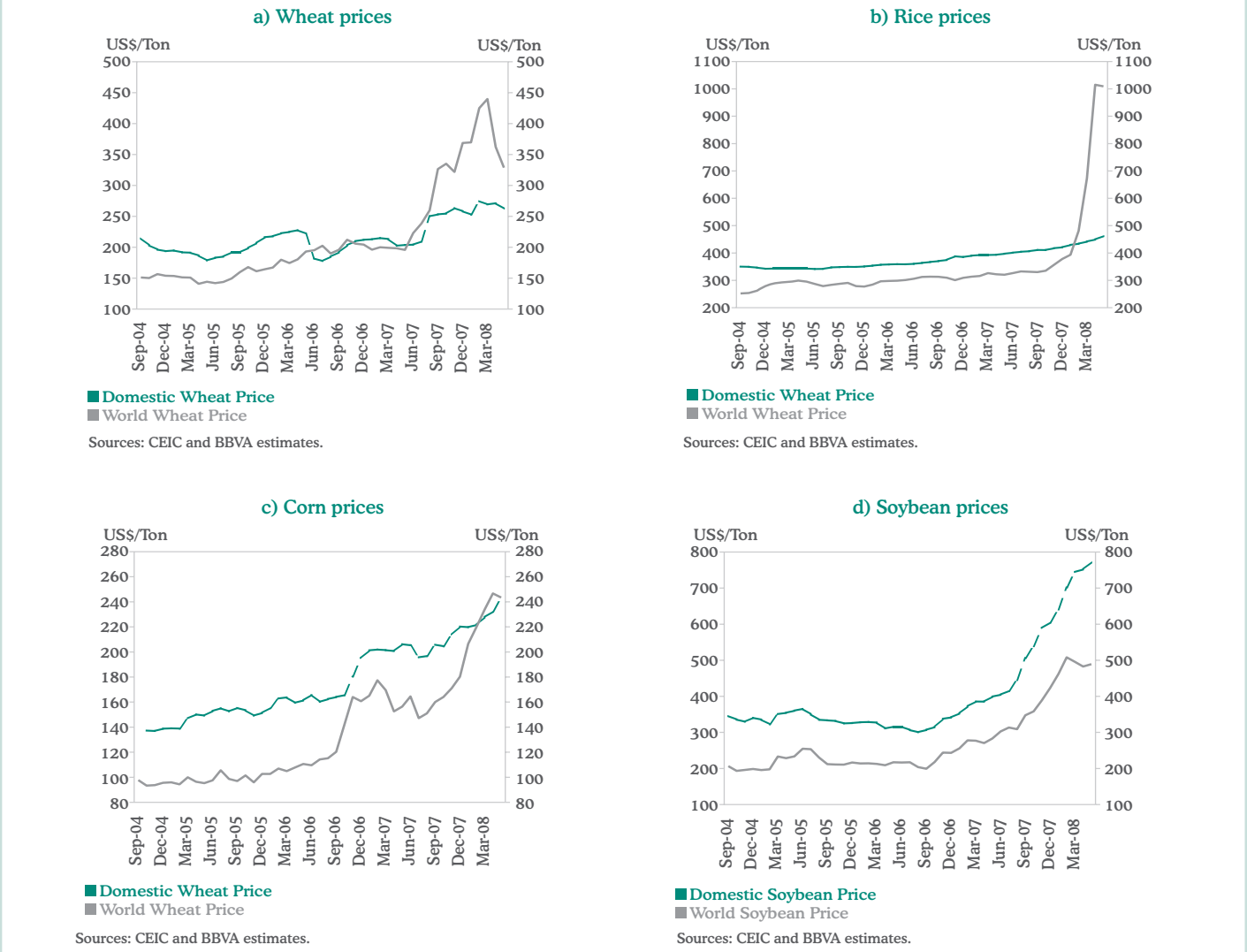
Sources: CEIC and BBVA estimates.

Chart 9: Food trade balances



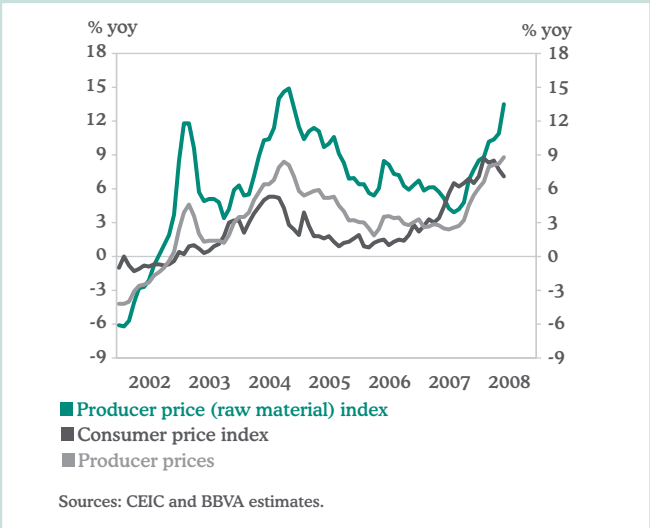
Sources: CEIC and BBVA estimates.

Chart 10: Global Commodities Prices and China Domestic Food Prices



Although food prices are expected to ease considerably in coming months, inflationary pressures from non-food prices continue to build. Owing to rapidly rising global commodities and energy prices, China's PPI inflation is again rising at a fast pace (Chart 11). As primary and intermediate goods dominate China's imports, this implies a relatively fast pass-through from international commodities prices to domestic producers' prices. Indeed, our empirical findings suggest that a ten percent increase in international commodity prices would lead 1.2 percent increase in PPI (Box 2). Thus, rising prices in non-food component of the CPI basket will likely offset the easing food price inflation in the near future.

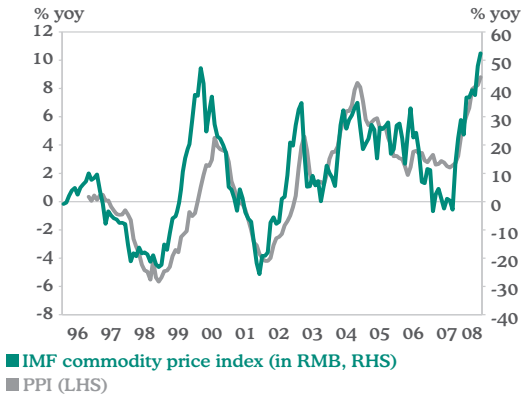
Chart 11: PPI and CPI



Box 2: Quantifying the pass-through effect from global commodity prices to Chinese CPI inflation

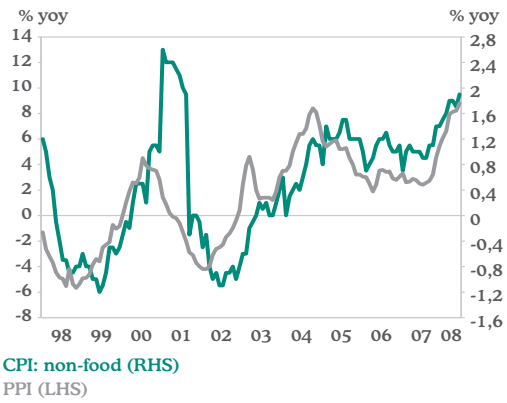
While China's inflationary pressures from food price increases may have subsided, non-food prices are expected to continue to rise, largely reflecting rising commodities and energy prices. As indicated by Charts 1a and 1b, there appears to be a close relationship between changes in global commodities prices and those in China's producer price index. Furthermore, the relationship between changes in PPI and those in non-food CPI also looks quite close, suggesting China's CPI inflation is sensitive to changes in global commodities prices. This box therefore attempts to quantify the pass-through effect from changes in global commodities prices to Chinese CPI inflation in a two-step approach: First, we assess the pass-through effect from global commodities prices to PPI. Second, we estimate the pass-through effect from PPI to non-food CPI as well as CPI. These estimates will also allow us to approximate the indirect effect of the RMB appreciation on CPI inflation.

Chart 1a) Global Commodity Prices and China's PPI



Sources: IMF, CEIC and BBVA estimates.

Chart 1b) Non-food CPI and PPI



Sources: CEIC and BBVA estimates.

Our empirical findings can be summarized as follows: First, the pass-through elasticity of producer price inflation to non-food CPI inflation is at around 0.09 in the short run (one month ahead) and 0.19 in the medium run (3 months ahead) for the sample period from Oct 1996 to May 2008. This implies a 10 percent increase in producer price inflation will lead to an increase in CPI inflation by 0.9 percent in the short run and about 1.9 percent increase in the medium run (Table 1a).

Table 1a: Pass-through estimates from PPI to CPI

(Dependent variable: non-food CPI inflation)			
Constant		-0.046	
		(-1.15)	
Producer price inflation	$ß_{20}$ (short run)	0.09	*
		(1.8)	
	$\sum_{i=0}^{3} ß_{2i}$ (medium run)	0.19	***
		(9.21)	
Retail sales		0.03	**
(control variable)		(2.2)	
Adjusted R2		0.08	

Note: T-statistics are in parenthesis and F-statistics for those summations of coefficients are in brackets. ***, ** and * indicate statistical significance at the 1%, 5%, and 10% levels respectively.

Second, we find that a ten percent increase in international commodity prices would lead to a 0.22% increase in consumer price inflation in the medium run, whereas a ten percent appreciation of the renminbi against US dollar would lead to a 0.83% decrease in consumer price inflation, also in the medium run (Table 1b). Our empirical findings suggest that a faster pace of the RMB appreciation will help reduce input costs and thereby dampen the speed of pass-through of high global commodities and energy prices to domestic producer prices, which in turn help rein in CPI inflation.

Table 1b: Pass-through estimates from commodities prices to PPI

Commodity price inflation	
Short run	0.002
Medium run	0.002
RMB/USD exchange rate	
Short run	0.026
Medium run	0.083

Detailed Analysis:

1) Pass-through of global commodities prices to China's producer price

Following a standard framework on the relationship between import prices and exchange rate after adjusting for domestic demand factors, we estimate the elasticity of pass-through from international commodities prices to PPI inflation using the monthly data for the period of July 2005 to May 2008.[1,2], Specifically, the pass-through equation can be written as follows:

$$\Delta PPI_t = \beta_1 + \sum_{i=0}^{3} \beta_{2i} \Delta PCOMD_{t-i} + \sum_{i=0}^{3} \beta_{3i} \Delta RMB_{t-i} + \beta_4 \Delta TDD_t + \varepsilon_t \quad (1)$$

where changes in PPIt, PCOMDt, RMBt, and TDDt refer to producer price inflation, international commodity price inflation (IMF definition and in US dollar), year-on-year change in the RMB-US dollar exchange rate, and year-on-year growth in total demand for China's industrial output, which is the sum of retail sales, fixed asset investment and exports. [3] Since an appreciation of the RMB/USD has a negative sign and a depreciation of the RMB/USD a positive sign, the coefficient for the RMB exchange rate therefore should have a positive sign, that is, a depreciation of the RMB/USD exchange is associated with rising PPI inflation. The short-run (contemporaneous) elasticity between the producer price inflation and the international commodity price inflation is given by estimated coefficient $ß_{20}$ and the short-run (contemporaneous) elasticity between producer price inflation and international renminbi is given by estimated coefficient, $ß_{30}$. The medium-run (over three months) elasticities of the same relationship can be obtained by summing the coefficients of contemporaneous change and three lags of each external factor terms $\sum_{i=0}^{3} \beta_{2i}$ and $\sum_{i=0}^{3} \beta_{3i}$, respectively. We also first difference these variables to control for potential unit roots.

The estimation results of equation (1) are summarised in Table 2. We find that the pass-through elasticity of commodity price inflation to producer price inflation is at around 0.02 in the short run and 0.12 in the medium run for the sample period from July 2005 (when the reform of RMB exchange rate system) to May 2008. This suggests that a 10% increase in international commodity inflation would lead to an increase in PPI by 0.2 percent in the short run and about a 1.2 percent increase in the medium run. Meanwhile, the pass-through elasticity of renminbi exchange rate to producer price inflation is at around 0.30 in the short run (but insignificant statistically) and 0.44 in the medium run. This implies that, other things being equal, a ten percent appreciation of renminbi exchange rate against US dollar would lead to a decrease in producer prices by about 4 percent in the medium run.

Table 2: Pass-through elasticities to producer price inflation

(Dependent variable: producer price inflation)		
Constant		0.11 *
		(1.4)
Producer price inflation	$ß_{20}$ (short run)	0.02 *
		(2.1)
	$\sum_{i=0}^{3} ß_{2i}$ (medium run)	0.12 ***
		(32.74)
RMB/USD exchange rate	$ß_{30}$ (short run)	0.30 *
		(2.0)
	$\sum_{i=0}^{3} ß_{2i}$ (medium run)	0.44 **
		(4.63)
Total demand		0.01
(control variable)		(0.9)
Adjusted R^2		0.60

Note: 1) Total demand is equal to the sum of retail sales, fixed asset investment and exports of goods.
2) T-statistics are in parenthesis and F-statistics for those summations of coefficients are in brackets.
***, ** and * indicate statistical significance at the 1%, 5%, and 10% levels respectively.

2) Pass-through of producer price inflation to consumer price inflation

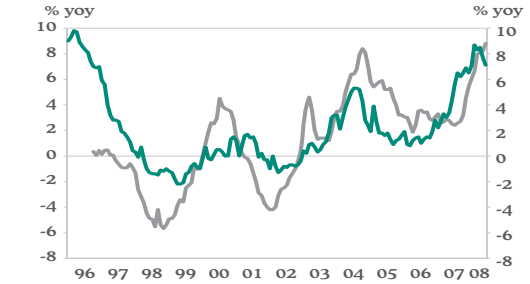
Using a similar framework, the pass-through of producer price inflation to consumer price inflation can be written in this equation:

$$\Delta CPI_t = \beta_1 + \sum_{i=0}^{3} \beta_{2i} \Delta PPI_{t-i} + \beta_3 \Delta Sales_t + \varepsilon_t \quad (2)$$

[1] See Campa, J. M. and L. S. Goldberg (2005), "Exchange Rate Pass Through into Import Prices", Review of Economics and Statistics, November, 87 (4): pp679-690.
[2] The choice of the sample period coincides with the change of the RMB exchange rate regime.
[3] Given China is less influenced by international food and fuel prices because of its food supply self-sufficiency and fuel subsidies, the ideal data series should exclude these two components.

where $Sales_t$ refers to growth in real retail sales to act as a control variable for domestic demand. By the same definition, the short-run (contemporaneous) elasticity between consumer price inflation and producer price inflation is given by estimated coefficient, $ß_{20}$. The medium-run (over three months) elasticities of the same relationship can be obtained by summing the coefficients of contemporaneous change and three lags of PPI inflation terms $\sum_{i=0}^{3} \beta_{2i}$. We also first difference these variables to control for potential unit roots.

Chart 2: CPI and PPI



Sources: CEIC and BBVA estimates.

The estimation results of equation (2) are summarised in Table 3. We find that the pass-through elasticity of producer price inflation to consumer price inflation is at around 0.22 in the short run and 0.20 in the medium run for the sample period from Oct 1996 to May 2008. One percents increase in producer price inflation will lead CPI inflation to increase by 0.22 percent in the short run and about 0.20 percent increase in the medium run. It appears that contemporaneous effect is larger than the medium run effect, suggesting pass-through to CPI is predominated by contemporaneous effect and the lag effect dissipated very quickly.

Table 3: Pass-through elasticities of PPI inflation to consumer price inflation

(Dependent variable: consumer price inflation)			
Constant		0.004	
		(0.1)	
Producer price inflation	$ß_{20}$ (short run)	0.22	***
		(3.0)	
	$\sum_{i=0}^{3} ß_{2i}$ (medium run)	0.20	
		(2.74)	
Retail sales		0.14	
(control variable)		(1.4)	
Adjusted R^2		0.03	

Note: T-statistics are in parenthesis and F-statistics for those summations of coefficients are in brackets. ***, ** and * indicate statistical significance at the 1%, 5%, and 10% levels respectively.

3) Pass-through of increases in commodities prices to consumer price inflation

By combining the estimates above, we are able to calculate the pass-through of increases in commodities prices to consumer price inflation. In the medium run, a ten percent increase in international commodity prices would lead to a 0.24% (1.2*0.2) increase in consumer price inflation, holding other things constant. By contrast, a 10% appreciation of renminbi against US dollar would lead to a 0.89% (4.4*0.2) decrease in consumer price inflation, again holding other things constant (Table 4).

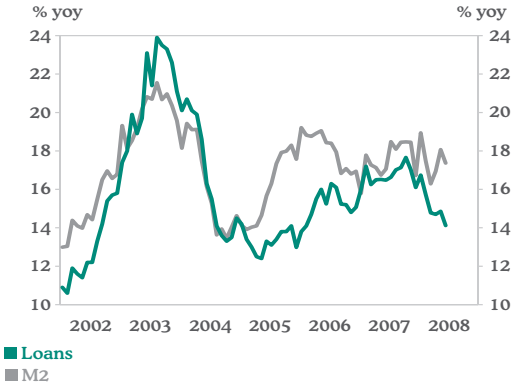
Table 4: Pass-through elasticities of external factors to CPI inflation

Commodity price inflation	
Short run	0.004
Medium run	0.024
RMB/USD exchange rate	
Short run	0.066
Medium run	0.089

4) Implications for the exchange rate policy

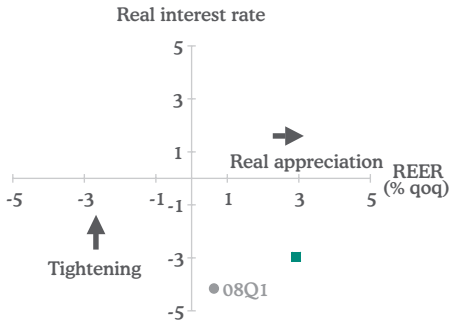
Our empirical estimates established that there is a close relationship between international commodities prices and China's PPI. In addition, pass-through from PPI to non-food CPI appears to be quite substantial. We also show that RMB appreciation can help dampen the pass-through effect from international commodities prices to PPI inflation and thereby to the non-food CPI inflation. Our findings suggest that the RMB exchange rate should be allowed for fast appreciation to contain inflation, especially in an environment of rapidly rising international commodities and energy prices.

Chart 12: M2 and Credit Growth



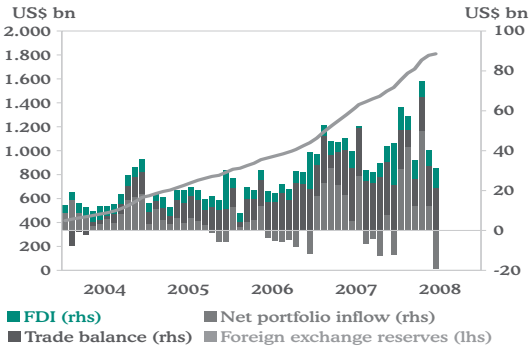
Sources: CEIC and BBVA estimates.

Chart 13: Monetary Conditions measured by real interest rate and REER



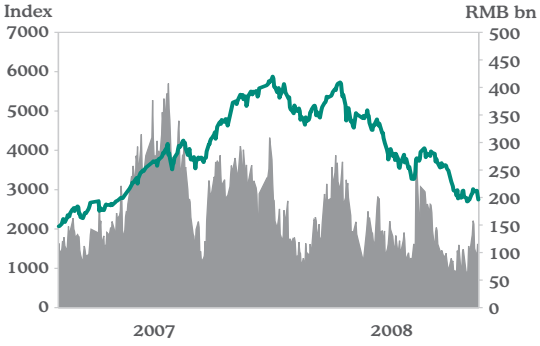
Sources: BIS, CEIC and staff estimates.
Note: Real interest rate is equal to 1-year deposit rate minus CPI inflation.

Chart 14: Capital inflows



Sources: CEIC, News and BBVA estimates.

Chart 15: Stock market slumps and trading shrinks



Source: Wind Financial.

4. Monetary conditions

Broad money (M2) growth rose slightly in Q2 to 17.4% yoy, compared to 2007 Q2, whereas credit growth continued to decline in Q2 (Chart 12). Interest rates after six rises in 2007 have stabilized so far in 2008 H1. Given high inflation rate, the real interest rate, measured by the 1-year time deposit rate minus CPI inflation, became less negative in Q2, as compared to that in Q1, thanks to declining CPI inflation. In addition, the REER appreciated further in Q2. Relative to Q1, it appears that China's monetary conditions have tightened in Q2 (Chart 13). Meanwhile, the People's Bank of China (PBC) has continued to tighten monetary policy by raising the reserve requirement ratio (RRR) six times to 17.5%, intensifying open market operations, and allowing for faster renminbi appreciation in the first half of 2008. As a result, reserve money growth has fallen sharply after February due to increased sterilization measures by the monetary authorities.

Capital inflows remained strong in Q2, led by continued strong FDI inflows and more recently, portfolio capital inflows. China's foreign exchange reserve increased by US$127 billion in Q2, compared with a rise of US$ 154 billion in Q1, to reach US$1.809 trillion (Chart 14). Specifically, the net portfolio inflows increased by US$44 billion, compared with US$ 85 billion in Q1. However, portfolio investment started to flow out in June at about US$ 20 billion, probably reflecting more pessimistic asset price outlook in China.

Attractive returns on RMB deposits relative to US dollar deposits may have explained the motivation behind rapid portfolio capital inflows in H1. For example, the 1-year time deposit interest differential between China and Hong Kong is 3.3% p.a. in Q2. If adding 7.2% of the one-year implied NDF appreciation, the expected return on RMB deposit will be 10.5%, thus easily beating inflation and obtain a return that is much higher than the average returns in stock market in 2008 H1. Should the pace of the RMB appreciation accelerated, the return on hot money will be even higher. Indeed, this may also explain the surge in RMB deposits by 18.9% yoy in 2008 H1.

5. Asset prices

China's stock prices fell by more than 50% in the 2008 H1 from the peak in last October. The decline in stock prices was particular large in June, after a short rebound in late April. Meanwhile, trading value also fell to about one-third of the turnover at the peak level (Chart 15). The PE ratio also returned to a more sustainable level, declining to less 20 from a peak of 70 in October 2007.

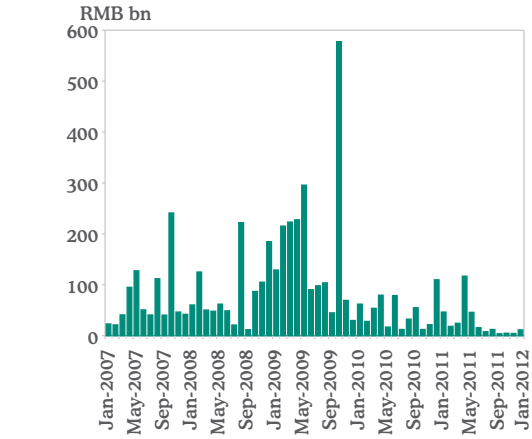
Falling profits of Chinese firms may have explained a part of the decline. The expected circulation of previously locked shares is perhaps the key reason for the glooming sentiment in the stock market. As shown in Chart 16, the peak of non-tradable shares entering the market will not be reached until late 2009.

After a sharp increase in property prices in 2007 H2, nationwide growth in real estate prices has seen a slight decline so far this year. However, growth in real estate prices in Shenzhen experienced a sharp decline, Beijing a small one, while Shanghai rebounded (Chart 17). It appears that tight monetary policy has worked to slow rapid price growth in real estate market.

6. Exchange rate

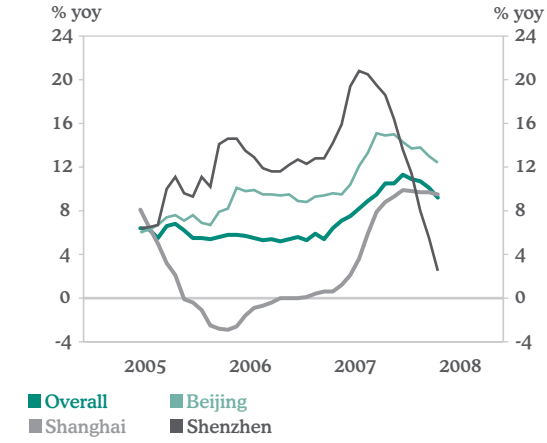
Renminbi appreciation has maintained an accelerated trend since the beginning of 2008, despite a slowdown in April (Chart 18). Assuming the renminbi appreciation will return to the average pace since July 2005, the renminbi exchange rate is forecast to appreciate at around 6.67 per one US dollar by the end of 2008. While this scenario is consistent to the expectations of the NDF market, there are good reasons to believe that the RMB may follow a faster pace of appreciation, especially at time imported inflation is likely to continue to put upward pressures on Chinese inflation. The advantage of a fast appreciation is that it helps relieve rising input costs and dampen inflation expectations resulting from rising PPI inflation (See Box 3).

Chart 16: Timetable for non-tradable shares (market capitalization 1/)



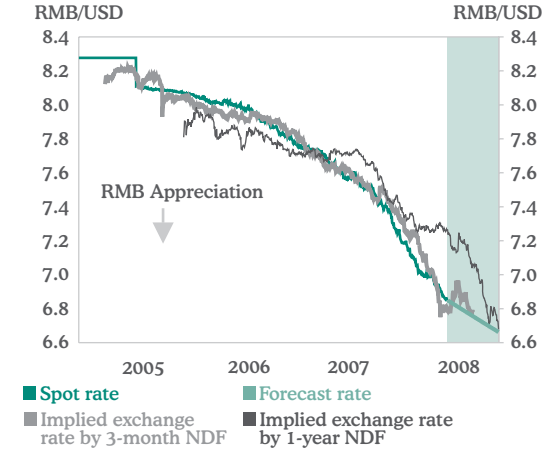
Source: Wind Financial, BBVA estimates.
Note: 1/ Real market capitalization before July 2008; Market capitalization calculated with stock price of July 1 for data after July 2008.

Chart 17: Property prices



Source: CEIC.

Chart 18: RMB appreciation



Sources: CEIC and BBVA estimates.

Box 3: Imported inflation and the RMB exchange rate policy

China's sources of inflationary pressure appear to be shifting from a domestic source to a foreign one. Thanks to a good summer harvest, rising food prices are expected to ease further in the next few months. Meanwhile, domestic asset prices have fallen shapely so far this year, thus substantially lessening the risk of an investment boom. While inflationary pressure due to strong domestic demand has subsided, the pace of the PPI inflation has gathered speed, largely reflecting the rapidly rising global energy and commodities prices. As China's inflationary pressure is going to be driven by high import prices, this then requires a reassessment of policy instruments used in the current cycle of monetary policy tightening.

Similar to other central banks, the policy instruments at disposal for the People's Bank of China (PBC) to achieve its policy objective such as price stability and maximum employment include reserve requirement ratio, central bank base interest rates, re-discounting, central bank lending, open market operations, and other administrative policy instruments (including window guidance) specified by the State Council. Other than these monetary policy instruments and because of capital control, exchange rate appreciation could also be considered as an instrument for monetary tightening. The PBC has so far relied mostly on raising the reserve requirement ratio imposed on commercial banks and engaging in sterilization operations in order to mop up massive liquidity from the banking system. Simultaneously, the PBC has applied moral suasion such as window guidance measures to rein in credit growth, facilitated by the fact that the banking system is mostly within the control of the state. These monetary policy measures appear to have achieved their intended objectives, as growth rates in credit and M2 have fallen from their historical highs.

But as the RRR is at 17.5%, the natural question is how much higher can the PBC raise the RRR as a way to tighten money policy. Furthermore, whether this policy will continue to be effective given the inflationary pressure has shifted from a domestic source to a foreign one remains in doubt? In history, the Chinese RRR was as high as 40%, but that was much before the commercialization of China's banks.[4] Moreover, the RRR approach is a rather blunt instrument as it treats all banks alike and the excessive reliance on it will exacerbate the problem for small and medium firms to access credit, especially loans from small and medium size city commercial banks. Meanwhile, the costs of holding excess reserves for the banking system is also rising, thus directly affecting its profitability and destroying shareholder value. That said, one would have to wonder what other policy instruments, interest rate and especially the RMB exchange rate, can do to help stem off inflationary expectation at a time of rising commodities and energy prices.

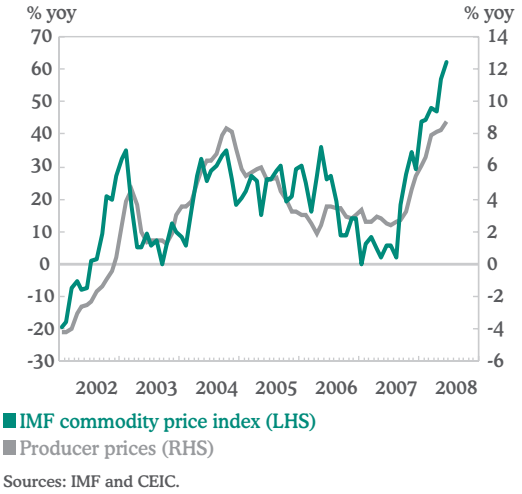
There are always concerns of using the interest rate policy to help tighten monetary policy in China. First, it is well documented that the transmission of the interest rate policy is not effective due to market segmentation among short-term interest rate and interest insensitivity of state-owned enterprises.[5] Second, higher interest rate coupled with expected RMB appreciation will attract further capital inflows in the economy, which in turn defeats the purpose of monetary tightening. Third, raising interest rate increases the sterilization costs of the PBC, thus diminishing the effectiveness of the sterilization operations. Notwithstanding these limitations, the interest rate should be more of a useful tool over time, particularly as Chinese financial markets develop. In fact, interest rates are the best signaling and communication tool for a central bank's monetary policy as has been the experienced of other Asian countries so far and previously of developed countries.

The other important tool is the exchange rate. A recent empirical paper on China's monetary policy finds that RMB appreciation at a time of rising CPI inflation would be effective in helping rein in inflation. Furthermore, the simulation results from the study show that a one-off large appreciation appears to be too disruptive to the output and inflation processes of the economy, while a gradual appreciation brings about least disturbance to macroeconomic volatility. The fact that a gradual appreciation is feasible largely benefiting from capital controls.[6] In addition, that RMB appreciation is effective in controlling inflation also reflects fact that China's imports are dominated by primary and intermediate goods imports and thereby a relatively fast pass-through from international prices to domestic producers' prices (Chart 1).

Therefore, a faster pace of RMB appreciation in an environment of rapidly rising oil and commodities prices and a sinking US dollar helps reduce import costs, thus dampening the speed of pass-through of high global energy and commodity prices to domestic producers' prices (See Box 2). This is perhaps a new dimension that the PBC would need to consider when contemplating its monetary policy in next stage.

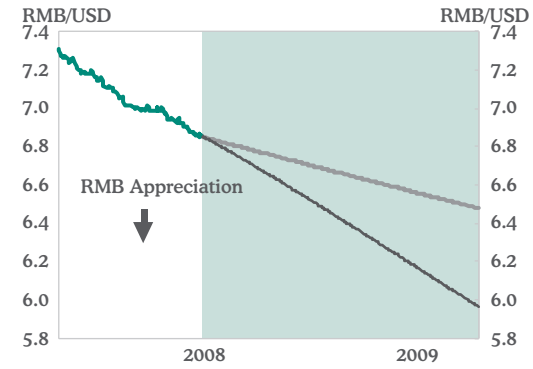
[4] In 1984, the required reserves ratio for saving deposits was 40%, 20% for corporate deposits and 25% for agricultural deposits.
[5] See Podpiera, R. (2006), "Progress in China's banking sector reform: Has bank behaviour changed? IMF Working Paper No. 71, International Monetary Fund.
[6] See Liu and Zhang, (2007), "A New Keynesian Model for Analysing Monetary Policy in Mainland China," Working Paper 2007/18, Hong Kong Monetary Authority, http://www.info.gov.hk/hkma/eng/research/working/pdf/HKMAWP07_18_full.pdf

Chart 1: Global Commodity prices and China's PPI



Sources: IMF and CEIC.

Chart 2: RMB forecasts



Sources: Bloomberg and BBVA estimates.

If the PBC agrees with our reasoning, what would be the implications for the RMB/USD exchange rate going forward? If we use the sample period starting from this year to conduct forecasts, our fast appreciation path suggests that the CNY/USD rate will reach 6.64, 6.40, 6.18, and 5.96 in Q3,2008 Q4, 2008, Q1,2009, and Q2,09, respectively (Chart 2).

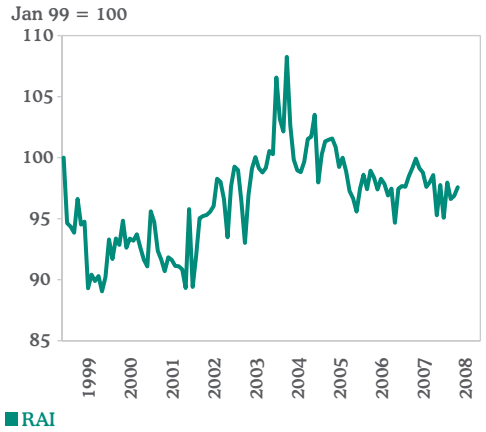
That said, this fast appreciation scenario is also subject to a number of risks and uncertainties. They include: 1) China's external demand slows considerably led by a more severe US recession, 2) Chinese export growth grounds to a halt leading to rising unemployment problem, and 3) inflationary pressures starts to dissipate on sharp falls in global commodities and energy prices owing to a severe global economic recession.

Table 1: Development of RRR in 2008

Date of Announment	Date of charge	Before the change	After the change
16-Jan-08	25-Jan-08	14.5	15.0
18-Mar-08	25-Mar-08	15.0	15.5
16-Apr-08	25-Apr-08	15.5	16.0
12-May-08	20-May-08	16.0	16.5
7-Jun-08	15-Jun-08	16.5	17.0
7-Jun-08	25-Jun-08	17.0	17.5

Source: PBC.

Chart 19: Real Activity Index



Sources: CEIC and BBVA estimates.

3. Economic Policy and Outlook

Policy response

The authorities have made fighting inflation and maintaining price stability a top economic priority for this year. A number of serious natural disasters such as the severe snow storm in January, the Sichuan earthquake in May, and the more recent flooding in June has made this task extremely challenging. While CPI inflation has started to decline since May led by declining food prices, inflationary pressures continue to build via high import prices in primary goods and energy products. A US-led global economic slowdown will pose a great challenge to the authorities in the second half of 2008. The government will need to strike a delicate balance between containing inflation expectation and maintaining sustainable growth.

The authorities have used both monetary and fiscal policy to contain inflation expectations. On monetary policy, the PBC has raised the required reserve ratio 6 times so far this year, bringing the RRR from 14.5% in January to 17.5% by the end of June 2008 (Table 1). This is equivalent of mopping up RMB 1,317 billion out of the banking system or 66% of net foreign exchange inflows. Meanwhile, the PBC has also intensified open market operations to sterilize large capital inflows. Its outstanding central bank bills increased by RMB 597 billion in H1 2008. On credit policy, the bank regulators have tightened lending practices, especially on loans related to the real estate sector. It appears that these policies have achieved their intended results. Tightened monetary conditions have led to a considerable slowdown in real investment growth, a significant fall in stock market prices, and a stabilizing or even falling real estate prices.

The authorities have been more willing to use the exchange rate policy instrument to help tighten monetary conditions. RMB appreciation has accelerated in H1 2008 in spite of increased uncertainties of the global economies. Given the sources of China's inflation has been shifting from a domestic origin to a foreign one, we argue the exchange rate should be given more weight in fighting inflation, because faster appreciation will help dampen the speed of pass-through of foreign imports to domestic inflation (Box 3).

To contain food price increases, the government has used various fiscal policy measures to discourage or restrict exports of grains and fertilizer and to encourage imports by lowering or removing import tariffs. To encourage food production, the government has increased direct subsidies to farmers by 75% to RMB 63 billion and also set a minimum procurement price for wheat. These policies have increased incentives for farmers to plant grains and soybeans and helped stabilizing rising food prices. Once the domestic supply conditions have improved, rising global food prices will have only limited impact on Chinese domestic food prices because China food supply is largely self-sufficient.

As inflationary pressure from rising food prices subsided, the government moved to remove fuel subsidies in order to alleviate shortages in some local areas. While fuel subsidies continued to remain sizable at 0.8% of GDP according to a World Bank estimate, it is not as high as some other economies in the region. This is because China still produces half of its domestic oil consumption at home, despite its increased reliance on international oil market.

Economic Outlook and Prospects

Economic activity is expected to continue to moderate in 2008 H2, in line with a slower global economy. Our real activity index shows that economic momentum has been quite volatile so far this year owing to the natural disaster shocks, and has been following a downward trend since the peak in 2007 (Chart 19).

By taking the latest external developments into consideration (Chart 20), we forecast GDP growth in 2008 to be at around 9.8%. It is expected that the economy will continue to moderate in 2009 to around 8.8%. More specifically, the quarterly growth in Q3 and Q4 2008 is expected to moderate to 9.6% and 9.3%, respectively. Our forecasts is lower than the June market consensus that is at 10.1% in June, largely reflecting our view that China is unlikely to decouple from a more moderate growth in the G-3 economies because of its high trade dependence on the global economy.

The latest global developments have complicated the inflation outlook for 2008 H2. On the one hand, inflationary pressures will continue to build due to rising commodities and energy prices. On the other hand, food prices have stabilised or even started to decline. China's inflation outlook is further clouded by a more moderate global slowdown, which will certainly reduce demand for Chinese exports. As shown in Box 1, sectors with high export exposure have started to feel the pinch of global slowdown with squeezed profit margins and increased inventory holdings. By taking these competing factors into consideration, we forecast CPI inflation to be at around 7.1% for 2008, still much higher than the targeted 4.8% set by the government, it is in line with the market consensus. Specifically, we forecast the contribution of food price to CPI inflation to be less than 5% by the end of 2008, while that of non-food price to CPI inflation to be close to 2%, owing to increased pass-through effect from high commodities and energy prices to CPI (Chart 21).

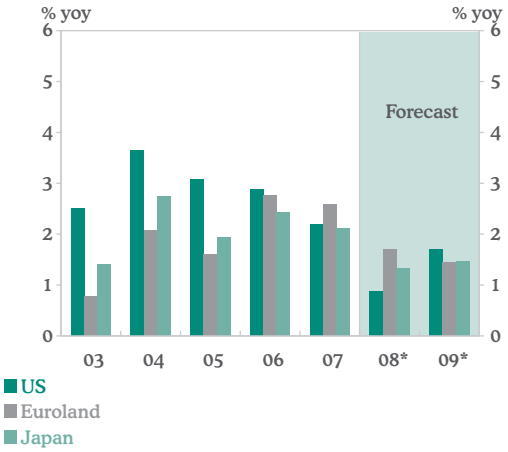
Risks and Uncertainties facing the Chinese economy

Premier Wen anticipated that 2008 was one of the most difficult years facing the authorities. He has proven to be correct so far. In the first half of 2008, China experienced a number of serious natural disasters such as the severe snow storm in January, the devastating earthquake in May, and more recent severe flooding in June. While these natural disasters proved to very disruptive, their impact on the Chinese economies appears to be small. For example, according to some government and World Bank preliminary estimates, the direct damage and losses from the earth-quake in Sichuan was at about RMB 200 billion, while the indirect damage could be larger. This is equivalent to 0.7% of China's GDP in 2007.

Looking forward, a number of risks and uncertainties will affect China's macroeconomic and financial stability. First, perhaps the biggest challenge surrounding the Chinese economy is a more protracted and severe US-led global economic slowdown. Indeed, the probability for such an event has increased significantly with the latest developments concerning the solvency of Fannie Mae and Freddy Mac, two giant US government-sponsored mortgage corporations. The risks of Fannie and Freddy going under will certainly make US financial turmoil continue to deepen, credit losses to worsen, mortgage loans much harder to come by, and housing prices to fall sharply. Falling housing prices in turn will continue to depress US consumption, which pushes the US recession to a more protracted and severe one. Given China's high dependence on international trade, it is difficult to imagine that China can escape such a severe global downturn unscathed.

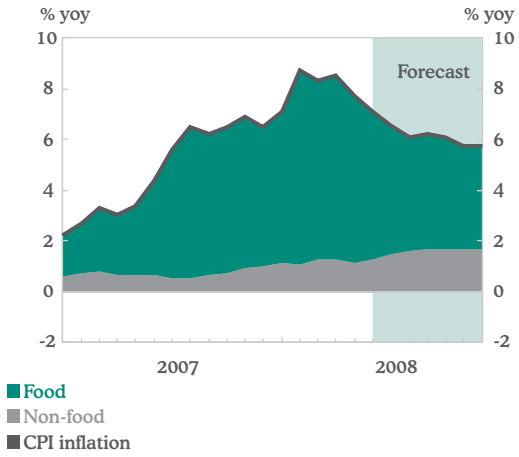
As indicated by some preliminary evidence in Box 1, China's export dependent sectors have already started to feel the pinch of the incipient global slowdown. These sectors have started to see their profit margins being squeezed and inventory rise. Because of rapid capacity expansion over the last four years, there have been signs that these sectors may have sought to expand their sales in domestic market since the end of 2007. Although domestic demand has risen thanks to recent increases in wages in manufacturing sector, it is doubtful that domestic demand can more than offset the slack left by the decline in external demand, especially in an environment where consumer confidence has fallen;

Chart 20: Assumptions for forecasts



Sources: US Fed, Consensus Forecasts and IMF WEO.

Chart 21: Inflation forecasts



Sources: CEIC and BBVA estimates.

Table 2: Forecasts

	2008 Actual		2008 Forecast		2008 Forecast	2009 Forecast
	Q1	Q2	Q3	Q4	Whole year	Whole year
GDP	10.6	10.1	9.6	9.3	**9.8**	**8.8**
CPI Inflation	8.0	7.8	6.3	5.9	**7.1**	**4.5**

Source: BBVA estimates.

the domestic stock markets have experienced a sharp correction; and the real estate market prices have started to decline.

To preempt the negative impact of a global economic slowdown, the authorities will need to contemplate how best to coordinate fiscal and monetary policy. Tight monetary policy has so far done most of the heavy lifting by bringing the economy close to its potential and the RMB exchange rate close to its equilibrium value. However, falling external demand will drive the economy to fall further below its potential. This in turn will likely lead to capital outflows and an exchange rate depreciation farther away from the equilibrium value. This thus creates a waxing problem for the authorities: An output falling below its potential will increase the unemployment problem while a depreciated exchange rate at a time of rising commodities and fuel prices will import inflation from abroad. As a result, the economy may run the risk of slow growth and rising inflation. In order to make up for the slack left by the falling external demand, the authorities must engage in an expansionary fiscal policy, for example, by increasing government investment in health, education, and even reducing income taxes to the extent that will bring the economy back to its output potential and the exchange rate again close to equilibrium. This argument can be illustrated more straightforwardly in a diagrammatic framework as described in Box 4.

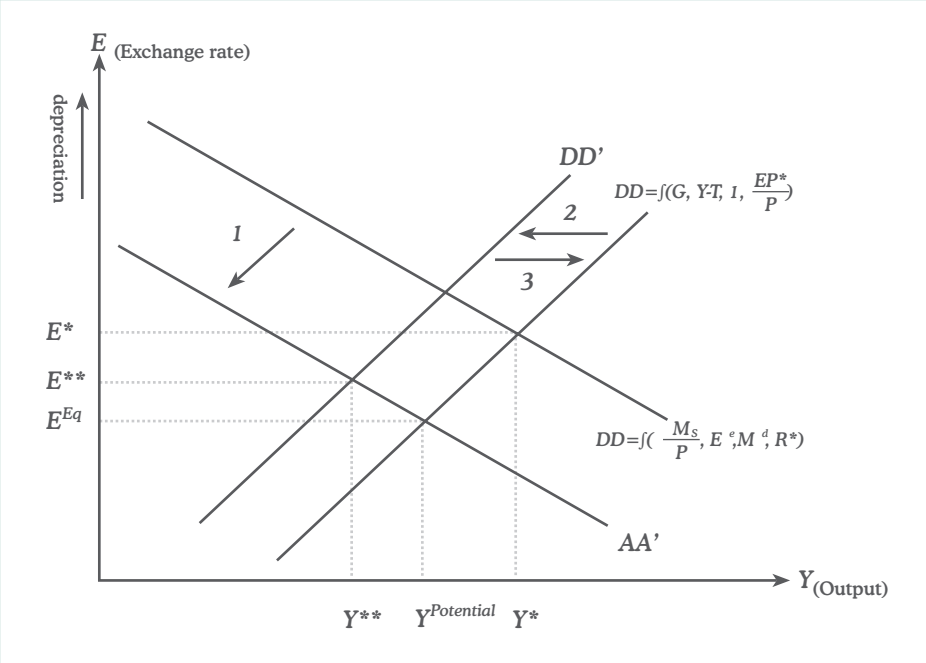
Second, a significant decline in external demand will also have important implications for the inflation outlook. Although inflation continues to be a risk because of the still high food prices and rising import prices in commodities and energy, a protracted and severe decline in external demand is likely to exacerbate the overcapacity problem in China and push industrial profits lower or even negative. This then will force firms to cut costs by laying off workers, leading to slower domestic demand while inflation remains elevated because of rising input costs. However, if firms started to lower prices for increased market share, there is a likelihood that competition may push prices downward and lead the economy to a disinflation process. Although this is a likely scenario in the medium run, the probability of its materializing is low because prices are sticky in the short run. Thus, inflation in the short run remains a macroeconomic risk.

Third, capital inflows may reverse suddenly if the Chinese economy were to slow and trade balance were to deteriorate. Although China's foreign exchange reserve is about 50% of GDP, its M2 as a share of GDP is also extremely high at over 170%. Given capital controls have been relaxing further and the control effectiveness is waning as evidenced by recent surges in capital inflows that can not be explained by legal capital inflows alone, sudden capital outflows remain a risk to financial stability. The authorities therefore will have to be watchful on sharp movements of capital outflows. Indeed, the recent announcement of a strengthening capital controls by closely scrutinizing trade invoices is a step in the right direction.

Box 4: Coordination of fiscal and monetary policies

The rationale for domestic fiscal and monetary policy coordination can be illustrated by the following diagram. Let a curve named DD represent all possible combinations of output and the exchange rate for which a short-term output market is in equilibrium, that is, aggregate demand equals aggregate supply. [7] The DD curve is similar to a traditional IS curve where a change in government expenditure (G), taxation (T), investment (I), the real exchange rate (EP*/P), disposable income (Y-T), and domestic demand (C + I + G) will all affect the direction of the shift of the DD curve. To close the model, let a curve called AA represent the equilibrium in the money and foreign exchange market where for any output level, there will be a unique exchange rate, E, that will satisfy the interest parity condition. Five factors such as domestic money supply (M^s), domestic prices (P), expected exchange rate appreciation or depreciation (E^e), domestic money demand (M^d), and foreign interest rate (R*) will all affect how the AA curve shifts. When the two curves cross each other, the economy will be at a temporary equilibrium where both the output market and the asset market clear at a given exchange rate and output level.

Suppose the economy at a temporary equilibrium Y* and E* where the output is above economic potential and the exchange rate undervalued. As illustrated by step ① in the graph, the ongoing monetary tightening will shift AA curve downward to AA'. This shift could be induced by an (expected) appreciation of domestic currency (Ee) and then actualized by an increase of domestic money demand (Md) because both domestic and foreign investors would like to hold more domestic currency when anticipating an exchange rate revaluation. This then leads the economy to $Y^{potential}$ and E^{Eq} where the economy is operating on its potential growth rate and the exchange rate fairly valued. Because of the global economic slowdown, external demand falls and this leads the DD curve shift to the left, as shown in step ≠ . As a result, the output falls to Y** below the potential and exchange rate to E** deviating from the equilibrium. This then leads to increases in unemployment and rising inflation as an undervalued exchange rate will import inflation in an environment of high oil and commodities prices. In order to make up the slack left by the falling external demand, the authorities must engage in an expansionary fiscal policy, for example, by increasing government investment in health, education, and by reducing income taxes to the extent that pushes the DD curve back to its original position from DD' as indicated in Step ③.



[7] We follow the notation of Krugman and Obstfeld, International Economics: Theory and Practice, (2003) .

BBVA

For more information please contact:

Servicios Generales Difusión BBVA Gran Vía 1 planta 2 48001 Bilbao P 34 944 876 231 F 34 944 876 417 www.bbva.es Register in Madrid: M-31252-2000

Economic Research Department:

Chief Economist:
José Luis Escrivá

Unit Heads:
Europe and Financial Scenarios: Mayte Ledo
Spain: Julián Cubero
Sectorial Analysis: Ana Rubio
Europe: Miguel Jiménez
Financial Scenarios: Daniel Navia

Quantitative Analysis: Giovanni Di Placido
Quantitative Research and Development: Rodolfo Méndez

Latam and Emerging Markets: Alicia García-Herrero
Macroeconomic Analysis of Emerging Markets: Sonsoles Castillo
Argentina: Ernesto Gaba
Chile: Miguel Cardoso
Colombia: Juana Patricia Téllez
Peru: Hugo Perea
Venezuela: Oscar Carvallo
Asia cross-analysis: Ya-Lan Liu
China: Li-Gang Liu

North America: Jorge Sicilia
US: Nathaniel Karp
Mexico: Adolfo Albo

Global Trends: Joaquín Vial

Previsional Systems Analysis: David Tuesta

other publications