VI

The International Economy

In early 2008, the evolution of the activity level of the world economy followed the trajectory outlined as of the second half of last year, when the performance of key emerging and mature economies began to be more severely impacted by developments of the subprime crisis in the United States.

Throughout 2008, the reversal of the expansionist economic cycle began in 2002 – considered one of the longest periods of growth and greater diffusion since the Second World War – intensified in the final months of the year, highlighting the impact on the credit market consequent upon ther bankruptcy of the investment bank Lehman Brothers in the USA.

In view of the signs of a systemic crisis and its potential implications regarding the persistent obstruction of the domestic and international credit channels on the evolution of the real sector of the economy, the U.S. and European governments and central banks expanded, in a coordinated manner, the scope and intensity of actions aimed at combating the instability in their financial systems and mitigating the effects on the level of economic activity.

Even though only Japan, Italy and Sweden registered contractions in GDP in 2008, the cyclical change in world economic activity has led to a significant and widespread slowdown in annual GDP growth in most countries, thus increasing the rates of unemployment, especially in developed economies.

Economic activity

As of the second quarter of 2008, sluggish economic activity that was observed since the second half of the previous year led to the contraction of important GDP components. Thus, the performance of household consumption and private investment contributed to the negative quarterly GDP growth rates observed in the Euro Area and United Kingdom.

In Japan, the deterioration of business expectations in terms of export expansion has contributed to the consolidation of the downward trajectory in the level of private

Table 6.1 – Major developed countries

GDP components and other indicators

% rate anualised

	2007			2008			
	II	III	IV	I	II	III	IV
GDP							
United States	4.8	4.8	-0.2	0.9	2.8	-0.5	-6.2
Euro Area	1.8	2.4	1.7	2.8	-1.0	-1.0	-5.8
United Kingdon	3.5	3.2	2.2	1.6	-0.1	-2.8	-6.0
Japan	-0.5	0.9	4.5	0.6	-3.6	-2.3	-12.7
Household consumption							
United States	2.0	2.0	1.0	0.9	1.2	-3.8	-4.3
Euro Area	2.6	2.0	1.1	0.7	-0.5	0.6	-3.4
United Kingdon	4.3	5.6	0.9	3.8	-1.0	-0.8	-2.8
Japan	1.6	-0.4	1.2	2.8	-2.8	1.2	-1.6
Non-residencial investment							
United States	10.3	8.7	3.4	2.4	2.5	-1.7	-21.1
Euro Area[1/]	0.7	3.8	4.0	5.0	-4.5	-2.4	-10.4
United Kingdon[1/]	-2.1	7.8	5.6	-11.0	-5.0	-13.8	-8.9
Japan	-13.6	5.7	9.1	-2.4	-8.9	-12.9	-19.6
Residencial investment							
United States	-11.5	-20.6	-27.0	-25.1	-13.3	-16.0	-22.2
Euro Area[2/]	-3.9	-0.4	3.6	10.8	-7.3	-5.4	-6.9
United Kingdon	4.6	1.9	4.1	4.1	-2.5	-1.4	-4.3
Japan	-11.1	-29.3	-36.4	19.7	-7.4	17.0	24.8
Exports							
United States	8.8	23.0	4.4	5.1	12.3	3.0	-23.6
Euro Area	4.3	8.1	3.0	7.6	-0.2	0.1	-26.0
United Kingdon	3.4	9.5	-1.0	2.9	-4.2	2.1	-20.2
Japan	8.7	10.0	12.6	12.6	-8.9	2.4	-45.0
Imports							
United States	-3.7	3.0	-2.3	-0.8	-7.3	-3.5	-16.0
Euro Area	3.2	8.6	0.5	5.7	-1.3	5.6	-20.3
United Kingdon	-1.9	20.9	-0.7	-1.5	-4.4	1.1	-21.6
Japan	4.5	-1.2	1.6	6.1	-11.8	7.0	12.1
Unemployment rate[3/]							
United States	4.6	4.7	4.9	5.1	5.6	6.2	7.2
Euro Area	7.5	7.4	7.3	7.3	7.5	7.6	8.1
United Kingdon	5.4	5.3	5.2	5.2	5.4	5.8	6.3
Japan	3.7	4.0	3.7	3.8	4.1	4.0	4.3

Sources: BEA, Cabinet Office, Eurostat

1/ Includes residencial and public investment expenditures.

2/ Total construction expediture.

3/ End of the quarter rate.

investments started in the first quarter of 2008. This movement, together with the slowdown registered by exports as of the second quarter of the year, resulted in successive falloffs in quarterly GDP rates.

In the U.S, the worsening of the crisis led, in the first quarter of 2008, to the approval of the Economic Stimulus Act, a tax package aimed at encouraging consumption and private investment equivalent to 1% of GDP, with transitional effects concentrated on the second quarter of 2008. It should be highlighted that, although the National Bureau of Economic Research has recognized that the economy entered into recession in December 2007, only from the third quarter of 2008 the evolution of U.S. GDP turned negative.

It is worth mentioning that the deceleration of activity in major economies favored the deterioration of prices of major commodities, which had increased rapidly over recent years, reaching a historically high level that persisted over time. This movement, observed in particular from the beginning of July, was an important factor that affected negatively the terms of trade and the conditions underpinning the economic expansion of those countries that are net exporters of these products, at the same time that it acted as a relevant vector for the dispersion of inflationary pressures and the recovery of real income in those countries tha are net importers of commodities.

In this environment of continuous slowdown of exports to major developed economies, particularly to the U.S. and the Euro Area, emerging economies with greater openness to foreign trade, like China, Taiwan and South Korea, started to present, throughout 2008, a more pronounced slowdown in GDP growth rates.

In China, although the emergence of the effects of tight monetary policies, adopted in the period from 2007 until mid-2008, further contributed to the slowdown in the growth rate of gross fixed capital formation accumulated until the third quarter of 2008, the reversal of the aforementioned restrictive monetary policy and the implementation of a plan to anticipate and increase public investments made it easier to accelerate the expansion of bank credit in the fourth quarter of the year.

The segment of durable goods, more dependent on the credit conditions and the economic cycle, were in general more severely hit by the worsening of the financial crisis in the last quarter of 2008. In this scenario, those countries that had benefited by the significant expansion in the production of those goods, supported either by domestic or foreign demand, were the most affected by the new environment of global economy.

The U.S. economy grew 1.1% in the year, compared to 2% in 2007, while the unemployment rate in the country increased 2.3 p.p., to 7.2%. In the Euro Area and in the UK, GDP growth fell to to 0.7%, from, respectively, 2.6% and 3% in 2007. As for unemployment, rates dreceased by 0.8 p.p. and 1.1 p.p., closing 2008 at, respectively,

Table 6.2 – Emerging economies

GDP components and other indicators

% rate [(Q)/(Q-4)]

	2007			2008			
	II	III	IV	I	II	III	IV
GDP							
South Koreia[1/]	7.1	6.0	6.4	3.3	3.4	2.1	-20.8
China	14.0	13.0	12.0	10.6	10.1	9.0	6.8
India	9.1	8.9	9.1	8.8	8.1	7.7	4.5
Taiwan	5.5	7.0	6.4	6.2	4.6	-1.0	-8.4
Household consumption							
South Koreia[1/]	3.7	5.1	3.2	1.8	-0.6	0.2	-21.3
China[2/]	24.3	19.1	16.8	14.7	16.6	22.1	23.8
India	8.4	7.5	8.9	8.3	7.7	6.9	5.4
Taiwan	2.2	3.1	1.6	2.1	0.5	-2.1	-1.7
Gross Fixed Capital Formation							
South Koreia[1/]	0.2	-1.8	6.5	-3.5	0.2	3.0	-40.0
China	26.6	31.8	25.8	19.5	16.3	16.7	22.5
India	12.9	16.2	13.7	11.2	10.1	15.1	5.3
Taiwan	4.7	3.8	-0.8	3.7	-8.0	-11.8	-23.2
Exports							
South Koreia[1/]	16.2	5.2	30.9	-2.8	17.6	-4.7	-42.0
China	23.8	24.8	18.3	17.2	17.1	18.3	4.4
India	-4.0	-4.8	6.1	10.1	23.2	10.6	11.4
Taiwan	5.2	11.6	12.9	12.7	9.9	-0.6	-19.8
Imports							
South Koreia[1/]	19.7	-7.5	40.4	-9.3	18.2	-7.0	-61.9
China	11.8	21.2	22.1	15.6	17.1	10.6	-2.1
India	-0.7	-3.6	6.7	9.6	30.3	26.0	20.6
Taiwan	2.6	7.3	5.8	9.6	0.2	-2.6	-22.6
Unemployment rate[3/]							
South Koreia[1/]	3.3	3.2	3.1	3.1	3.2	3.2	3.3
China[4/]	4.1	4.0	4.0	4.0	4.0	4.0	n.d.
India	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Taiwan	3.9	4.0	3.9	3.9	3.9	4.3	5.0

Source: Thomson Financial

1/ QoQ annual rate.

2/ Retail sales growth rate.

3/ End of the quarter rate.

4/ Urban unemployment

8.1% and 6.3%. In Japan, GDP contracted 0.7% in 2008, as opposed to the 2.4% growth observed in 2007, and the unemployment rate rose by 0.6 p.p., closing the year at 4.3%.

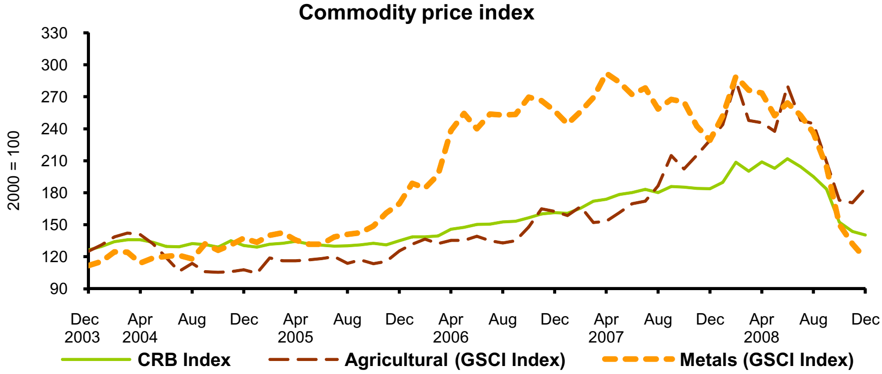
Among the major emerging economies, China's economic growth dropped from 13% in 2007 to 9% in 2008, while Russia and India grew by 5.6% and 7.1% in 2008, respectively, compared to 8.1% and 9% in 2007.

Commodities

In a scenario of continued expansion of world demand and persistent supply constraints, the international prices of major commodities kept, in the first half of 2008, the upward movement started in mid 2004, as evinced by the Commodity Research Bureau Index (CRB), which grew 16.4% in the year up to July 2. In the second half of 2008, due to the slowdown in world demand and, subsequently, to the effects of the international financial turmoil, commodity prices started to follow a downward trajectory, expressed in the 34.5% reduction registered by the CRB at the end of the year.

By analyzing the S&P GSCI commodity index measured by the Standard & Poor's and Goldman Sachs, the average prices of commodities declined by 42.8% during 2008, reflecting respective reductions of 48.5% and 19.7% for the segments of metal and farm commodities.

Graph 6.1
Commodity price index



Source: Bloomberg

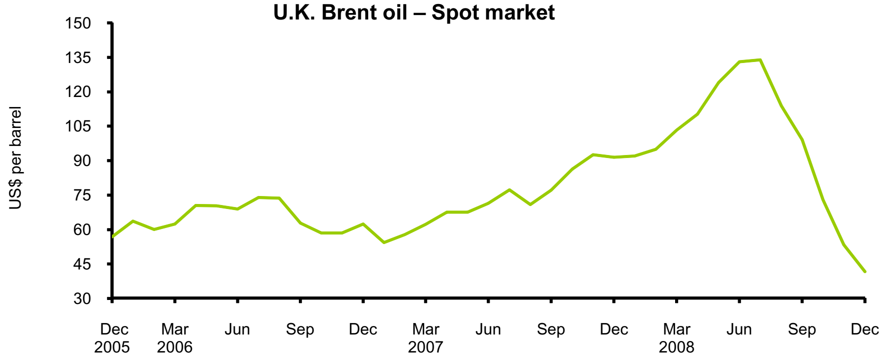
It should be highlighted the influence of large international investors in the recent trajectory of commodity prices. Until the first half of 2008, speculation and search for protection, both against inflation and dollar deppreciation, pushed prices upward, thus putting additional pressure on the growth trajectory. As of July, with decreased leverage of financial institutions and contracted credit channels in developed economies, the downward trend of commodity prices was further accentuated, thus pressing large investors to liquidate their positions in the futures markets. The improvement, albeit moderate, of financial markets' liquidity, observed as of the second half of November, favored the reduction of this pressure, contributing to stabilize prices as of December.

Petroleum

Oil prices showed a sharp volatility in 2008, expressed in the trajectory of the average price of the Brent-type oil, which price per barrel fell by 55.5% in the year, to US$41.76, after hitting a historic peak of US$145.66 in July 3, representing a 55% growth over the final price registered in 2007.

Throughout the first half of the year, several factors contributed to pressure the commodity prices upward, highlighting the geopolitical conflicts in the Middle East, the limited expansion of production outside the Organization of Petroleum Exporting Countries (Opec), the reluctance of Opec itself to raise the production of its participants, the pressure of speculative investment funds on the futures market of petroleum, the weakening of the U.S. dollar against the major currencies, and the reduction of American stocks, which average level has risen from 321 million barrels per day (mbd) in the second half of 2007 to 310 mbd in the first half of 2008.

Graph 6.2
U.K. Brent oil – Spot market



Source: Bloomberg

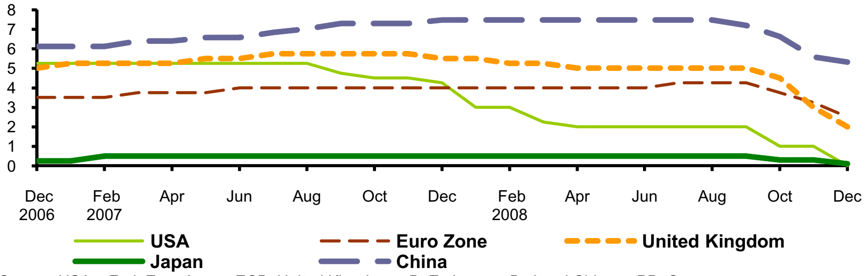
The downward price trajectory observed throughout the second half of the year reflected the impact of the slowdown in world economy on the demand of the product, which was not accompanied by corresponding cuts in production. In addition, speculation that had pushed these prices upward in the first half of the year started to act in the opposite direction, encouraging investors to reverse their long positions in the futures markets.

Monetary policy and inflation

Inflationary risks observed in the first half of 2008, when the evolution of commodity prices, particularly oil, exerted significant pressure on the behavior of prices in the global economy, were replaced, in September, by the financial markets crisis. In response to the crisis, which affected the credit channels, the global economic dynamism, and the vigour of international trade and investments, the price of commodities began to follow a downward trajectory.

In this new environment, where the risks associated with the recession became more relevant than those related to inflationary pressures, central banks of major economies reversed the monetary tightening cycle that was utilized by combating inflation until the middle of the third quarter of 2008 by means of voluminous injections of liquidity and cutbacks in basic interest rates.

Graph 6.3
Official interest rates[1/]
Annual rate (%)

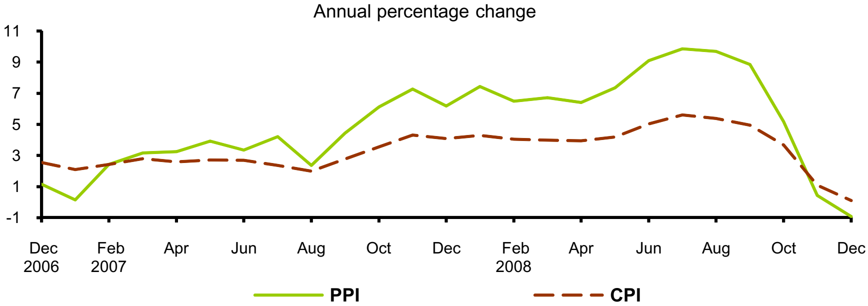


Source: USA – Fed, Euro Area – ECB, United Kingdom – BoE, Japan – BoJ and China – PBoC
1/ USA – Fed funds, Euro Area – minimum bid rate, United Kingdom – Securities repurchase, Japan – Overnight call rate and China – 1-year working capital.

Similarly, reflecting the shortage of external financing, the depreciation of their currencies and the increasing cooling of foreign trade, central banks in emerging economies, primarily in Eastern Europe and Asia and more recently in South American economies, the region in which pressures inflationary persisted longer, began to relax their monetary policies.

In the U.S.A., the 12-month accumulated Consumer Price Index (CPI), after remaining stable at 4% in the first months of the year, reached 5.6% in July, and began to decline, in line with the recessive process experienced by the country, reaching 0.1% in December.

Graph 6.4
USA: Inflation[1/]
Annual percentage change



Source: Bureau of Labor Statistics
1/ Producer and consumer prices.

In this scenario of downward inflation rates and transmission of the effets of the financial market crisis to the real sector of the economy, the Fed, in addition to promote cutbacks in the basic interest rate – the Fed funds rate was reduced from 3% in January to a fluctuation band of between 0% and 0.25% per year in December – extended the aggressive character of its monetary policy by adopting the so-called monetary easing actions.

Accordingly, in March, the Fed established two new liquidity assistance programs, the Term Securities Lending Facility (TSLF), through which public securities are lent to primary dealers in exchange of mortgage papers classified as AAA but rendered illiquid by the crisis, and the Primary Dealer Credit Facility (PDCF), an instrument through which the program of money loans to primary dealers was set up, a sort of discount for institutions that do not necessarily hold commercial portfolios and thus are prevented from access to Term Auction Facility (TAF).

Moreover, the Fed expanded, in May, the volume, terms and the list of collaterals accepted (including mortgage-backed securities) in forward repurchase operations. With the aim of increasing the supply of dollars, the Fed extended the terms for each TAF auction and increased its volume to US$150 billion. In order to reduce pressure on the U.S. dollar, the Fed, in coordination with 14 other central banks, expanded the supply of dollars offshore. Since October, the central banks of Europe (ECB), England (BoE), Switzerland (SNB) and Japan (BoJ) may count on an unlimited supply of dollars. Besides these central banks, Sweden, Norway, Denmark, Canada, Australia, New Zealand, Brazil, Mexico, South Korea and Singapore also benefited from swap lines, albeit at limited values.

In September, in a scenario of growing credit shortage, the Fed announced the repurchase of short-term bonds issued by the agencies Freddie Mac and Fannie Mae to primary dealers; established a mortgage refinancing program; introduced facilities for the purchase of high quality assets backed by commercial papers (ABCP) held by monetary market mutual funds, announced the introduction of a credit line for the purchase of commercial papers (CPFF); and started to offer guarantees for financing monetary market investors through acquisition of deposit certificates and commercial papers issued by institutions with high risk rating (MMIFF).

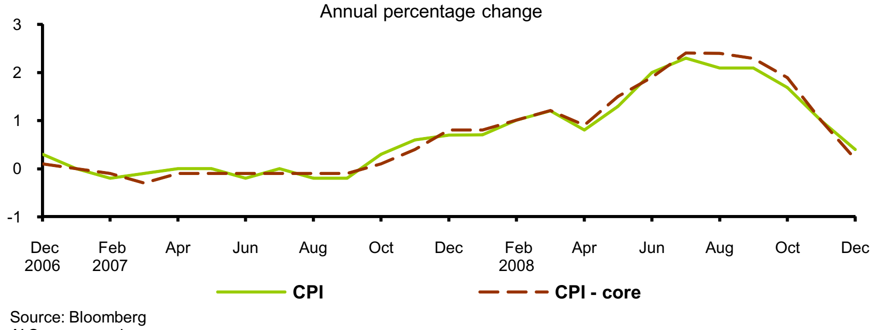
It is also worth mentioning that the U.S. Congress approved, in October, the Troubled Asset Relief Program (TARP), a program of US$700 billion allowing the Treasury to purchase rotten assets in order to recapitalize the banking system. At first, the program contemplated institutions such as Goldman Sachs Group, Morgan Stanley, JPMorgan Chase and Bank of America.

With the aim of stimulating consumption, the Fed introduced, in November, the Term Asset-Backed Securities Loan Facility (TALF), initially worth US$200 billion. For this program, the monetary authority is allowed to carry out non-recourse loans (in case of default, the creditor responsibility is limited to the receipt of the guarantee) for banks holding AAA-ABS (Mortgage-Backed Securities) backed by student loans, auto loans, loans channeled for small entrepreneurs, and loans granted by credit cards.

In Japan, despite the yen appreciation, consumer prices kept on an upward trajectory until July, when the 12-month accumulated CPI reached 2.3%, the highest rate since the mid-1990s, reflecting the pressure of food prices and petroleum. The cutback of commodity prices observed since the beginning of the second half of 2008 led to the reversal of inflation in Japan, which accumulated annual growth of 0.4% in December. This cutback, together with the negative prospects related to the evolution of economic activity, in view of reduced exports and domestic absorption, led the BoJ to revert the recently initiated policy of monetary standardization, reducing the overnight call rate to 0.30% p.y. in October and 0.1% p.y. in December, resuming the practice of quantitative easing, observed from 2001 to 2006.

BoJ and the government's fiscal area tried to respond more energically when they realized that the financial crisis was also affecting the local economy. Still in March, with the aim of reducing the spread between the effective overnight call rate and the target established by the BoJ, the monetary authority injected ¥400 billion into the financial system. This action would be employed again several times in the year, for example, in September, when the total funds injected exceeded ¥6 trillion. Also in September, in coordination with the Fed, the BoJ introduced a currency swap line worth US$60 billion, value that was doubled still in September and became unlimited in October. In addition, in December, in order to unblock the market for corporate financing and increase the stability of the financial market, the BoJ lowered from A to BBB- the minimum requirement for the acceptance of corporate bonds as collateral, announced the increase in monthly direct purchase of government bonus (JGB) from ¥1.2 trillion to ¥1.4 trillion, including securities 30-year securities, and from the perspective of quantitative easing, announced the direct purchase of commercial papers. It should be also highlighted that, on October 30, the government launched a new package for

Graph 6.5
Japan: Inflation[1/]
Annual percentage change



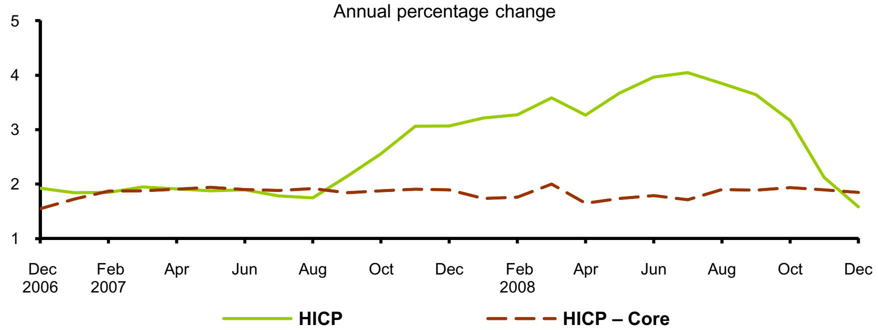
Source: Bloomberg
1/ Consumer prices.

stimulating the economy, worth about ¥27 trillion, which includes tax cuts, support to small businesses, and recapitalization of the banking system.

In the Euro Area, the annual Harmonized Consumer Price Index (HCPI), influenced by the prices of food and energy, kept above 3% until October, after reaching the threshold of 4% in June and July, the highest rates of the historical series. The ECB, aiming at anchoring inflation expectations over the medium and long-term, maintained the basic interest rate unchanged throughout the first half of the year and increased it from 4% to 4.25% p.y. in July. However, in view of signs of a slowdown in economic activity in the first half of the year, the ECB, besides expanding the value of currency swap line with the Fed in the period, also increased the frequency of repo operations in order to inject more resources into the local financial system.

Throughout the second half of the year, in view of sluggish economic activity and more restrictive conditions in credit markets, the ECB rendered unlimited the aforementioned swap lines with the Fed, expanded the list of guarantees accepted in refinancing operations, and began to carry out forward auctions with terms of 28 and 84 days. In addition, it extended the easy access to fine tuning liquidity operations to small banks and, as of the disinflation process occurred in August, changed the trajectory of interest policy that, after three reductions, was set in 5% p.y. in December. During this period, the 12-month accumulated HCPI decrease to 1.6%. It should be also observed that, in a troublesome environment in the banking system as of September, the EU member countries increased the level of security for deposits of individuals and established basic rules to harmonize the fiscal stimulus packages that began to be announced

Graph 6.6
Euro Area: Inflation[1/]
Annual percentage change



Source: Bloomberg
1/ Consumer prices.

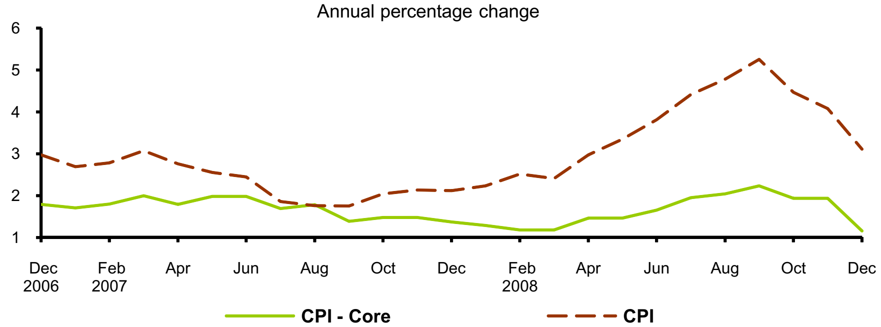
In the UK, the 12-month accumulated CPI registered an upward trend until September, when it reached 5.2%, falling to 3.1% at the end of the year. The BoE, which have reduced the repo rate by 50 b.p. in the first half of the year in view of the slowdown in the country's economic activity, intensified the monetary easing process, cutting by an additional 300 b.p. the interest rate to 2% p.y., the lowest level since the institution's foundation. It should be highlighted that the flexibility introduced by the BoE in the monetary policy was based on the perspective that the intensity of the economic activity slowdown would contribute to the convergence of inflation to the 2% target in the horizon of two years.

In order to neutralize the persistent credit shortage and the growing instability in the real estate market, the BoE increased, still in the first half o the year, the 3-month credit supply, intensifying the repo transactions. Moreover, the BoE introduced the Special Liquidity Scheme (SLS), a line of credit worth £50 billion to allow the banking system to exchange AAA mortgage assets, then illiquid, for British government bonds issued for this purpose. In order to reduce the effective overnight rate and expand market liquidity, throughout the year, the BoE injected a significant volume of funds into the financial system and expanded the list of acceptable collaterals in repo operations. In October, aiming to increase the supply of dollars, the Fed and the BoE rendered unlimited the dollar/pound swap line.

Graph 6.7

United Kingdom: Inflation[1/]

Annual percentage change



Source: Bloomberg

1/ Consumer prices.

In addition, aiming to enhance the credibility of the banking system, the Financial Services Authority (FSA) increased, also in October, the value of the guarantee on bank deposits from £35,000 to £50,000, and the Treasury launched a system recapitalization program which incorporated £50 billion for the purchase of preferential shares of those institutions that adhered to the program. The program also plans to use £250 billion to guarantee bonds issued by the banking industry to refinance debt, and £200 billion to extend the SLS. At the end of the year, the government announced a new fiscal stimulus package of nearçu £30 billion, about 1% of GDP, which, through tax cuts, aimed at boosting consumer spending.

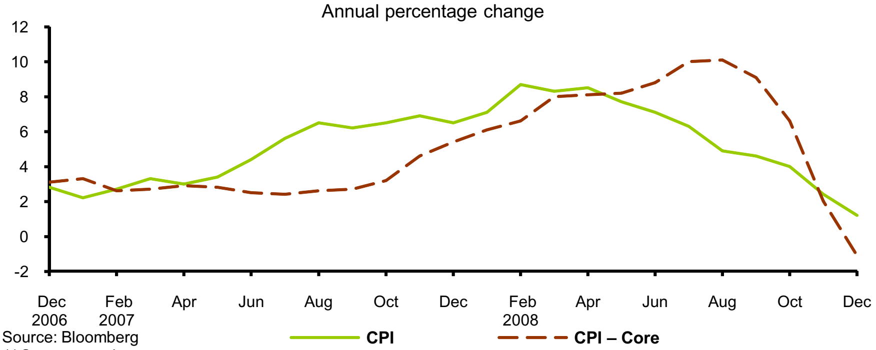
In China, the 12-month accumulated CPI kept on an upward trajectory until April, when the index, in response to pressures exerted by energy and food prices, reached 8.5%, a record for the last twelve years. In line with the downwar trajectory of commodity prices, this variation started to fall in the following eight months, reaching 1.2% in December, the lowest value since August 2006.

The People's Bank of China (PBC) had distinct moments of action in 2008. During the first half of the year, still under the scenario of overheated economic activity and seeking to contain the excessive domestic liquidity, the PBC, while maintaining the benchmark interest rate at 7.47% p.y., gradually increased the rate of compulsory reserves to 17.5% and increased the issuance of bonds to promote the monetary sterilization. In parallel to this, the government allowed the acceleration of the process of Renminbi appreciation. From mid-year, in response to reversal of the inflation trend and the world economic scenario, which impacted progressively the local activity, in particular through the foreign trade channel, the PBC focused on the need to contain the pace of regional economic downturn. Thus, the BPC cut by 216 b.p. the benchmark interest rate, setting it at 5.31% p.y. in December, and reduced to 3 p.p. the compulsory rate, setting it at 14.5% in December 2008. In addition, the government introduced tax incentives of nearly US$586 billion, particularly addressed to the improvement in the airport and railway infrastructure and the general conditions in the agricultural sector.

Graph 6.8

China: Inflation[1/]

Annual percentage change



Source: Bloomberg

1/ Consumer prices.

International financial markets

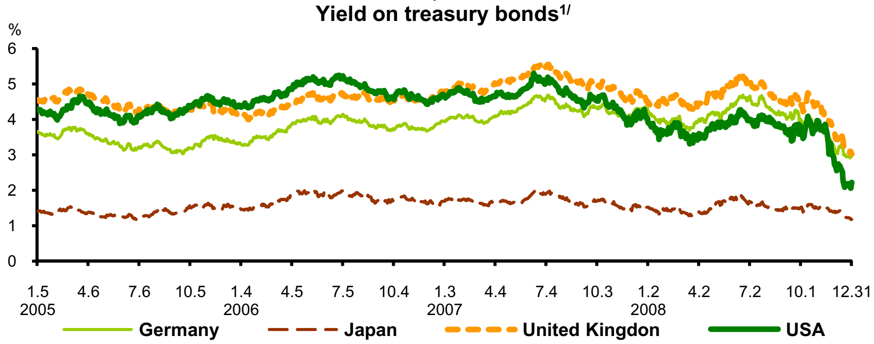
The worsening and spreading of the international financial crisis in the end of 2008 led to the rapid deterioration of global credit and capital markets. The scenario of credit shrinking and liquidity trap in the first half of 2008 turned into, as of September, a scenario of insolvency risk for major financial institutions, in particular in North America and Europe. Throughout the year, banks, stock brokers and insurance companies headquartered in the American, European and Asian continents as well as government-sponsored enterprises in the United States – Fannie Mae and Freddie Mac – announced losses and write downs of US$974 billion, while US$824 billion were raised in new capital[3].

The set of measures adopted by major central banks and government interventions strengthening the capital structure of many institutions in order to face liquidity and

3/ According to a Bloomberg survey carried out on March 18, 2009.

credit constraints was not sufficient to provide the reversal of the scenario of risk aversion. Investors began to reduce positions in the markets of greater risk, increasing the demand for long-term government papers, which, in an environment of less restrictive monetary policies, favored the maintenance of the downward trend of annual yields of government bonds registered in the period for major economies, which started in mid 2007. The annual yield of 10-year papers of the U.S. government dropped from 4.02%, at the end of 2007, to 2.21% in December 2008, a trend that was repeated for similar papers of Germany, from 4.30% to 2.95%; United Kingdom, from 4.50% to 3.02%; and in Japan, from 1.51% to 1.17%, always on the same basis of comparison.

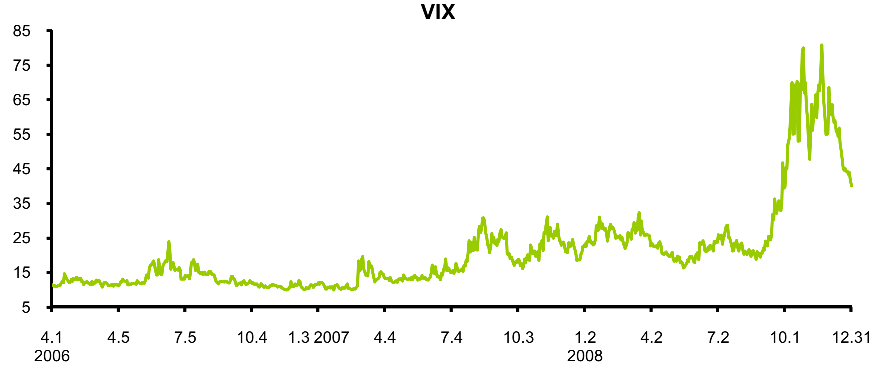
Graph 6.9
Yield on treasury bonds[1/]



Source: Bloomberg
1/ 10 year treasury nominal yields.

The Chicago Board Options Exchange's Volatility Index (VIX) which measures the implied volatility of short-term Standard and Poor's (S&P 500) and is seen as an important tool for measuring risk aversion, rose from 22.5 to 40 points between late 2007 and 2008, registering intense volatility over the last quarter of 2008. On November 20, the VIX reached 80.9 points, the highest value of the series started in 1990, while the maximum value recorded earlier, in October 1998, following the crisis consequent upon the Russian default and the collapse of Long-Term Capital Management (LTCM), was 45.7 points. The average of the VIX hit 32.6 points in 2008, compared to 17.5 points in the previous year, contrasting with an average of 14.2 points registered between July 2003 and June 2007, a period characterized by high liquidity and low risk aversion.

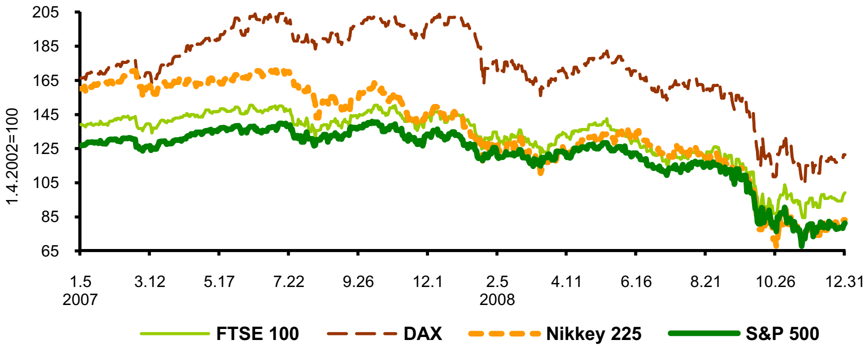
Graph 6.10
VIX



Source: Bloomberg

Stock market indicators reflected the increased aversion to risk and recent unfavorable results obtained by major emerging and mature economies financial and real sectors. The Nikkei index of Japan, Deutscher Aktienindex (DAX) of Germany, S&P 500 of the U.S.A. and the Financial Times Securities Exchange Index (FTSE 100) of the United Kingdom registered respective annual losses of 42%, 40%, 38%, 31%, results impacted fundamentally by the negative performances observed in the last quarter of the year, when the indicators declined, respectively, by 21%, 18%, 23%, and 10%.

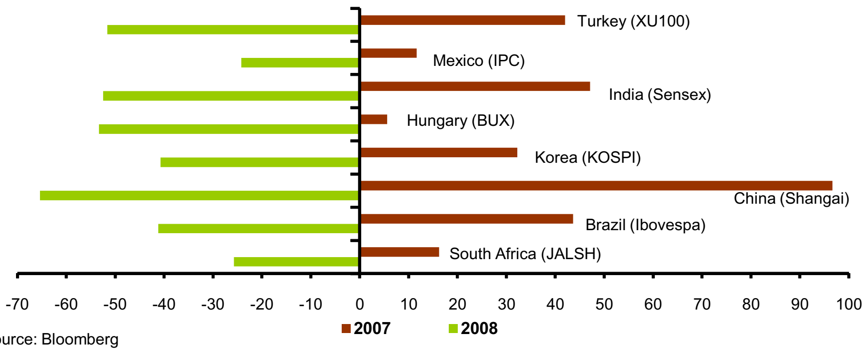
Graph 6.11
Stock exchanges – USA, Europe and Japan



Source: Bloomberg

Stock markets of emerging economies also faced significant losses in 2008, reflecting both the slowdown of economic activity and the downward trajectory of commodity prices, in addition to the process of liquidation of positions by foreign investors in emerging markets in order to cover losses in financial operations. The performance in the emerging markets was also negatively affected by additional losses attributed to foreign investors with the depreciation of local currencies against the U.S. dollar. It should be noted, in the year, the losses registered by the stock markets of China, 65%; Hungary, 53%; India and Turkey, both 52%; Brazil and South Korea, both 41%; and Mexico, 24%.

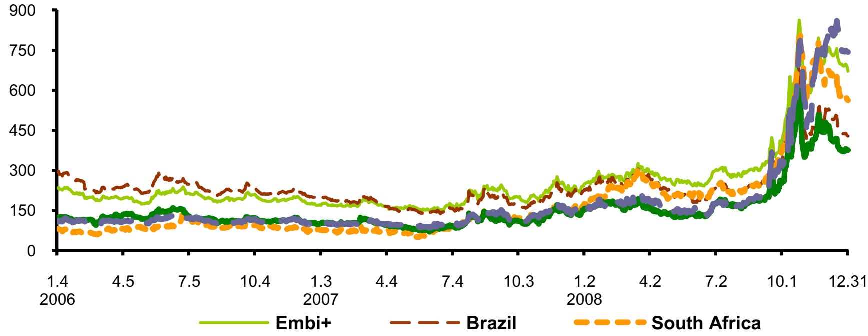
Graph 6.12
Stock exchanges – Emerging markets
Percentual change in 2007 and 2008 in local currency



Source: Bloomberg

Throughout 2008 and especially since the intensification of the crisis in the international financial markets, the Embi+ maintained the upward trend started in mid-2007. As a result of the improvement in macroeconomic fundamentals in most of emerging economies, the Embi+, notwithstanding the significant growth observed as of the worsening of the crisis, increased at relatively slower rates in comparison to those observed in response to the crises that occurred between 1997 and 1999, closing at 671 b.p. at the end of 2008, compared to 240 b.p. at the end of 2007. It should be noted that, since October 24, the spread associated to Brazil kept on a level lower than the average risk level assigned to emerging countries with investment grade. At the end of 2008, the corresponding indicators for Mexico, Brazil, South Africa and Russia reached, in the order, 376, 428, 562, and 743 b.p., compared to 164, 221, 149, and 147 b.p. at the end of the previous year.

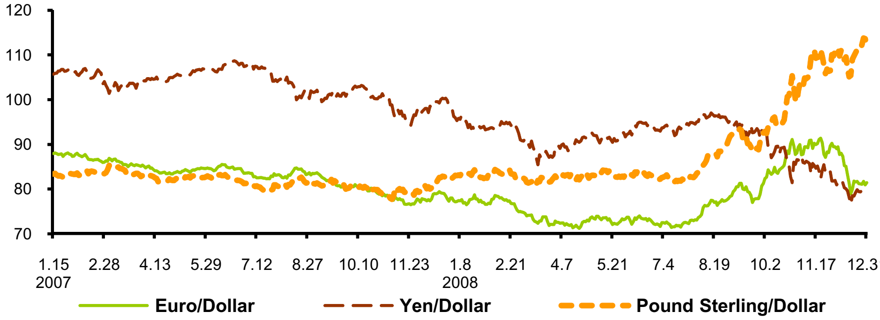
Graph 6.13
Emerging Markets Bond Index Plus (Embi+)



Source: Bloomberg

In 2008, the parity of the dollar *vis-a-vis* the currencies of major developed economies was also affected by the developments of the world financial crisis. In this sense, the increase in the risk aversion observed throughout the year has led to the flight to quality movement, expressed in an increased demand for U.S. government bonds and the consequent dollar appreciation against the euro and the pound sterling. On the opposite direction, the increase in risk aversion led to the dismantling of carry trade operations, financed to a great extent by Japanese currency, thus increasing the demand for the yen

Graph 6.14
Developed countries
Dollar exchange rates

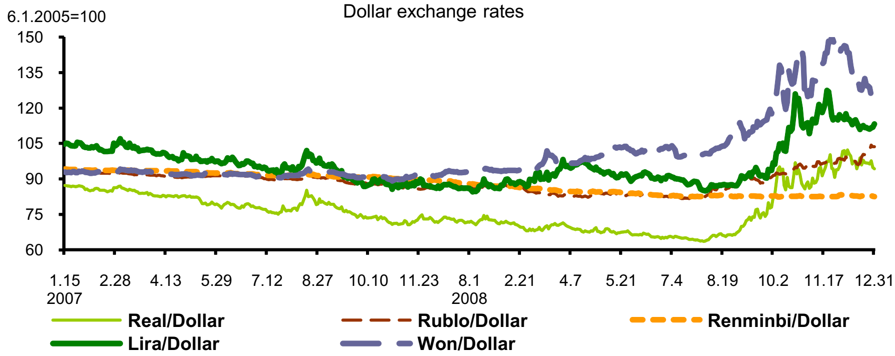


Source: Bloomberg

and reinforcing its appreciation against the U.S. dollar. In the year, the dollar appreciated against the pound sterling, 36%, and the euro, 4.4%, contrasting with the depreciation of 18.9% registered against the yen.

The evolution of the U.S. currency in relation to emerging countries, especially from mid-June, was influenced by the significant reduction of prices and exports of commodities, in a scenario of recession in mature economies and decline in world trade. In addition, financing conditions in those countries with current account deficits increased in the environment of the international credit crunch. In 2008, the dollar appreciated against the South Korean won, 34.7%; the Turkish lira, 31.6%; and the Russian ruble, 19.5%, as opposed to a depreciation of 6.5% against the China renmimbi, which, until July, registered a trajectory of gradual appreciation against the dollar.

Graph 6.15
Emerging markets currencies
Dollar exchange rates



Source: Bloomberg