International economy 4

Table 4.1 – Major developed countries

GDP components and other indicators

Anualised % rate

	2008	2009				2010		
	IV	I	II	III	IV	I	II	III
GDP								
United States	-6.8	-4.9	-0.7	1.6	5.0	3.7	1.7	2.5
Euro Area	-7.0	-9.6	-0.6	1.6	0.8	1.5	4.0	1.5
United Kingdom	-8.1	-9.0	-3.1	-1.2	1.4	1.8	4.7	3.1
Japan	-11.9	-19.9	11.3	-1.2	5.7	6.8	3.0	4.5
Household consumption								
United States	-3.3	-0.5	-1.6	2.0	0.9	1.9	2.2	2.8
Euro Area	-1.9	-2.3	0.1	-0.7	1.2	1.0	0.9	1.0
United Kingdom	-6.0	-5.4	-2.9	-0.5	3.4	-0.1	2.7	1.0
Japan	-5.6	-7.7	6.1	0.9	2.4	2.4	1.2	4.9
Non-residencial investment								
United States	-22.7	-35.2	-7.5	-1.7	-1.4	7.8	17.2	10.3
Euro Area[1/]	-14.2	-19.2	-9.3	-4.4	-4.7	-1.0	7.1	0.1
United Kingdom	-5.0	-29.4	-37.2	-10.5	-13.5	35.6	2.8	-0.9
Japan	-22.9	-23.1	-18.7	-8.3	6.3	3.5	11.1	5.3
Residencial investment								
United States	-32.6	-36.2	-19.7	10.6	-0.8	-12.3	25.6	-27.5
Euro Area[2/]	-7.3	-2.8	-6.9	-6.9	-6.6	-6.5	3.2	-2.5
United Kingdom	-20.2	-45.8	-26.3	16.7	-18.7	1.7	53.6	nd
Japan	10.0	-23.4	-31.0	-29.0	-12.9	7.5	-3.1	5.0
Exports of goods and services								
United States	-21.9	-27.8	-1.0	12.2	24.4	11.4	9.1	6.3
Euro Area	-25.4	-28.4	-5.0	9.6	8.4	11.0	18.4	7.8
United Kingdom	-15.5	-29.4	-6.0	3.7	15.5	-2.8	9.4	9.3
Japan	-47.2	-68.1	46.8	43.2	21.1	32.0	24.6	10.2
Imports of goods and services								
United States	-22.9	-35.3	-10.6	21.9	4.9	11.2	33.5	16.8
Euro Area	-16.8	-27.0	-10.4	8.6	5.1	18.2	17.7	7.0
United Kingdom	-19.9	-26.6	-9.8	4.9	19.3	8.1	9.9	3.0
Japan	9.3	-49.2	-19.3	24.5	2.8	13.5	18.0	12.5
Government expenditures								
United States	1.5	-3.0	6.2	1.6	-1.4	-1.6	3.9	4.0
Euro Area[3/]	3.1	2.6	2.4	1.9	-0.3	0.3	0.5	1.5
United Kingdom	6.8	-0.8	1.8	2.1	3.8	2.5	-0.4	nd
Japan	3.2	5.6	11.7	3.4	3.3	-1.9	1.3	0.1
Manufacturing output								
United States	-18.3	-20.9	-8.5	10.9	7.2	7.1	9.9	4.6
Euro Area	-24.6	-32.2	-6.9	11.3	5.5	9.7	9.4	3.3
United Kingdom	-16.2	-19.3	-0.9	-4.1	1.4	6.6	5.0	1.6
Japan	-38.0	-59.5	29.4	22.8	26.1	30.9	6.1	-6.7
Unemployment rate[4/]								
United States	7.4	8.6	9.5	9.8	10.0	9.7	9.5	9.6
Euro Area	8.2	9.1	9.5	9.8	9.9	9.9	10.0	10.0
United Kingdom	6.4	7.1	7.8	7.9	7.8	8.0	7.8	7.7
Japan	4.4	4.8	5.3	5.3	5.2	5.0	5.3	5.0

Sources: BEA, Cabinet Office and Eurostat

1/ Includes residencial and public investment expenditures.

2/ Total construction expediture.

3/ Consumption expenditures exclusive

4/ End of the quarter rate.

Improvements in the activity indicators of the United States of America (USA) economy and the prospects for continued dynamism in the Chinese economy may, in the coming months, lead to the continuing recovery process of world economic growth. This process tends to be show in developed economies which record significant idle production factors and high unemployment rates, distinct characteristics to those that must be measured in emerging markets, where recent high prices for agricultural commodities have, in general, have fueled inflation in the economies that are undergoing a new expansion cycle. In this scenario, the central banks of the main developed economies have opted for maintaining the accommodating nature of monetary policy, and the monetary authorities of an increasing group of emerging economies have accelerated the process of normalization of the monetary policy.

It should be further noted that uncertainties about the development of the European fiscal crisis and the beginning of a new process of monetary easing in the USA favored the depreciation of the dollar and the overall increase in commodity prices, with implications for the volatility in international financial markets.

4.1 Economic Activity

The risk of entering into a new recession in major developed economies lessened. Accordingly, showing labor market recovery and continued expansion of private consumption, the annualized growth rate of Japan's GDP reached 4.5% in the quarter ending September, following marked expansions in the UK 3.1%; USA 2.5%; and in the Euro Area, 1.5%.

In the USA, the annualized growth rate of household consumption rose for the third consecutive time, reaching 2.8% in the quarter ending September. The growth of real disposable income reached 0.9%, contributing to the fall in the rate of household savings of 0.4 p.p. In the same period, the annualized growth rate of household consumption reached 1% in the Euro Area and United Kingdom and 4.9% in Japan, this showing the impact of introducing income transfer measures and the extension of incentives for durable goods consumption.

USA business investment, whilst slowing, grew by 10.3% in the quarter ending September, in line with the changes seen in Japan, 5.3%; the Euro Area, 0.1%; and the United Kingdom, -0.9%. Residential investments measured, respectively, 5% and -27.5% in Japan and the USA, in this case reflecting the lagged effect of suppressing, in April, government incentives for first home purchase.

In the USA, the external sector contributed -1.8 p.p. in annualized GDP growth for the quarter ending September, contrasting with impacts of 1.5 p.p., 0.3 p.p. and zero registered respectively in the United Kingdom, the Euro Area and Japan. Imports of goods and services registered a 16.8% annualized increase in the USA, in line with the expansions seen in Japan, 12.5%; the Euro Area, 7%; and the United Kingdom, 3%, highlighting that exports of goods and services in these economies experienced an annualized expansion of 6.3%, 10.2%, 7.8% and 9.3% respectively in the period.

Growth of USA manufacturing production registered an annualized rise of 4.6% in the quarter ending September, compared to 9.9% for that ending June. Rates for the Euro Area, Japan and the United Kingdom fell, in order, 9.4%, 6.1% and 5% to 3.3% -6.7% and 1.6% in the period. It should be noted, conversely, that, with the exception of Japan, the PMI for manufacturing activity[6] in November suggested an acceleration of activity in the sector, reaching 56.6 points in the USA, 55.3 points in the Euro Area, 58 points in the United Kingdom and 47.3 points in Japan.

In the USA, excluding federal government contracts[7], 269,000 jobs were created in the quarter ending November, compared to 239,000 for that ending August, and the unemployment rate rose to 9.8% in November. In the Euro Area, the recovery of economic activity generated 277,000 new jobs in the quarter ending September, against 253,000 in the quarter ending June. After six months of stability, the unemployment rate in this economy rose 0.1 p.p. to 10.1% in October. In Japan and the United Kingdom unemployment

Figure 4.1 – Manufacuring PMI
Largest developed economies

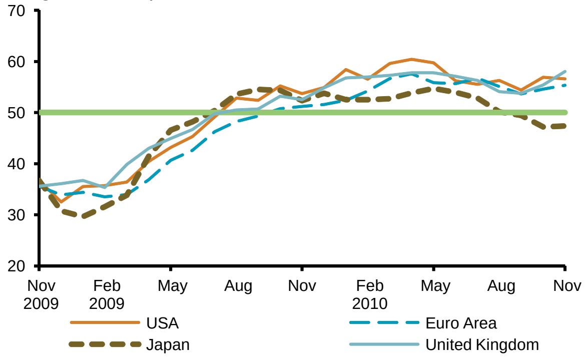
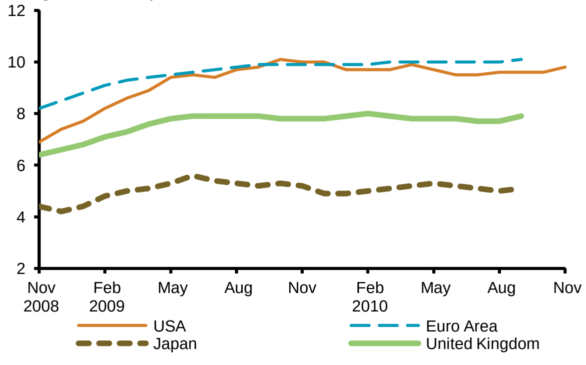


Figure 4.2 – Unemployment rate growth
Largest developed economies



6/ In the Euro Area, UK and Japan, the PMI is calculated by Markit and in the USA, by the Institute for Supply Management (ISM).

7/ A function of the effect of temporary hiring for census research conducted in 2010, the measure of the number of employed people excluding federal government is an alternative method for assessing the behavior of the labor market.

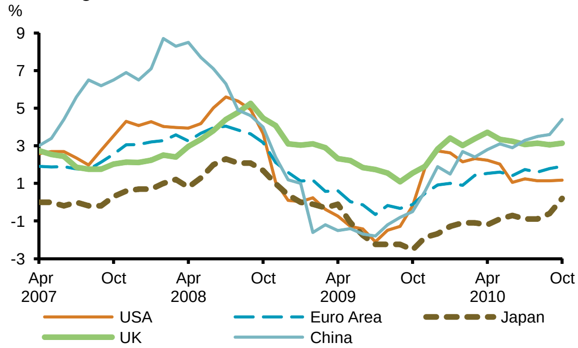
Table 4.2 – China
GDP components and other indicators

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

	2008	2009				2010		
	IV	I	II	III	IV	I	II	III
GDP	6.8	6.5	7.9	9.1	10.7	11.9	10.3	9.6
Retail sales	17.6	15.7	16.8	16.8	15.7	15.3	17.5	18.4
Vehicles sales[1/]	-8.2	3.6	31.6	73.8	85.7	72.5	29.0	15.9
Gross Fixed Capital Formation	25.3	38.8	50.2	47.4	29.8	22.8	20.1	20.6
Exports of Goods	4.4	-10.9	-9.1	-5.5	13.9	30.2	28.8	15.1
Imports of Goods	-2.4	-3.9	18.4	29.0	25.9	19.4	-1.4	-5.3
Industrial production	6.4	5.6	9.0	12.4	18.0	19.6	15.9	13.5
Unemployment rate[2/]	4.2	4.3	4.3	4.3	4.3	4.2	4.2	nd

Source: Thomson
1/ Includes sales to entepirses.
2/ Urban unemployment rate at the end of the quarter.

Figure 4.3 – Consumer inflation
Annual growth



Sources: BLS, Eurostat, Bloomberg and ONS

rates stood at 5.1% and 7.9% in October, dropping 0.2 p.p. and advancing 0.1 p.p. respectively, compared to June.

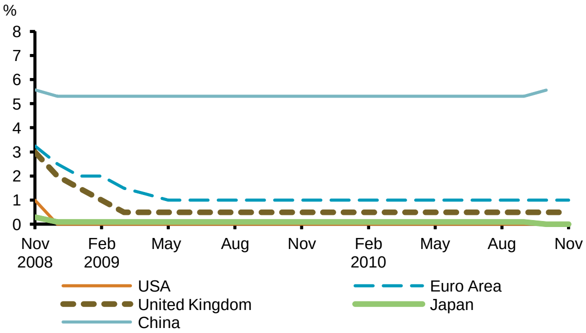
In China, GDP growth over twelve months amounted to 9.6% in the quarter ending September, against 10.3% for that ending June. Real retail sales, accelerating for the second consecutive quarter, rose 18.4% compared to 17.5% in the quarter ending June, despite the downturn from 29% to 15.9% in the rate of growth of vehicle sales. Gross fixed capital formation grew by 20.6% compared to 20.1% in the quarter ending June, whilst industrial production increased by 13.5% and 15.9% in the periods mentioned. Chinese exports grew by 15.1% in the quarter, while imports, in the same period in 2009, fell 5.3%, showing the impact of the policy of building up commodity stocks.

4.2 Monetary policy and inflation

The low capacity utilization rate and high unemployment rates favored maintaining the adjusting nature of monetary policy in developed economies. In the USA, where there are still risks of deflation, the Federal Reserve (Fed) began a new program of monetary easing (quantitative easing II), resulting in depreciation of the dollar and rising international commodity prices. In emerging economies, these high prices, together with the strengthening of domestic demand and the reduced output gap have led to price pressures. In China, the monetary authority intensified the suspension of the incentives introduced during the financial crisis of 2008/2009, and the outlook is for normalization of monetary conditions and securing of inflationary expectations.

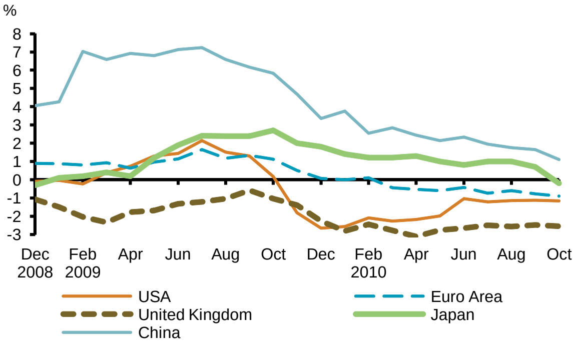
In the USA, the annual index of the IPC remained at a level of 1.2% in October, registering respective increases of 1.4% and 5.9% in food and energy prices. The annual core IPC variation, which excludes these segments, amounted to 0.6%, the lowest of the historical series which started in 1957, an inflationary trend associated with the still fragile recovery in economic activity, the shortage of credit and the high level of idleness in factors of production. Given this scenario, in November, the Fed held the limits of the fluctuation band for the Fed Funds target at 0% to 0.25%, but, recognizing that core inflation remains below the level considered ideal, and that labor and real estate markets remain depressed, the Federal Open Market Committee (FOMC), on November 3rd, decided on further expansion in the volume of assets on its balance sheet. In the new program of quantitative easing (quantitative easing II), to be completed by mid 2011, the

Figure 4.4 – Official interest rates
Annual rates



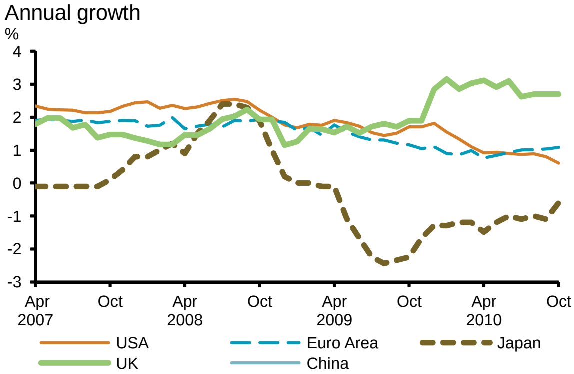
Sources: Fed, ECB, BoJ, Bank of England and The People`s Bank of China

Figure 4.5 – Real interest rates
Annual rates



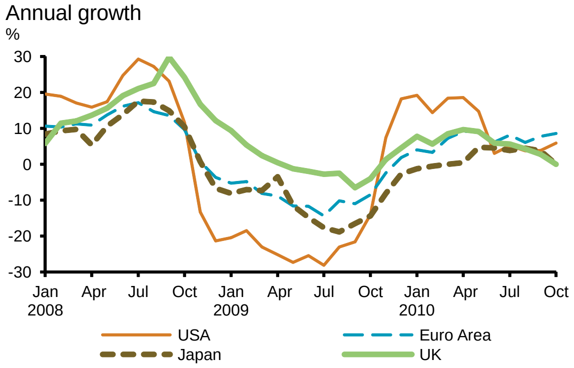
Sources: Fed, BCE, BoJ, BoE, BPC, BLS, Eurostat, ONS and Bloomberg

Figure 4.6 – Core consumer inflation
Annual growth



Sources: BLS, Eurostat, Bloomberg and ONS

Figure 4.7 – Energy inflation
Annual growth



Source: Thomson

Fed will buy another US$600 billion in long-term treasuries, thereby looking to increase inflationary expectations, reduce real interest rates and stimulate the local economy.

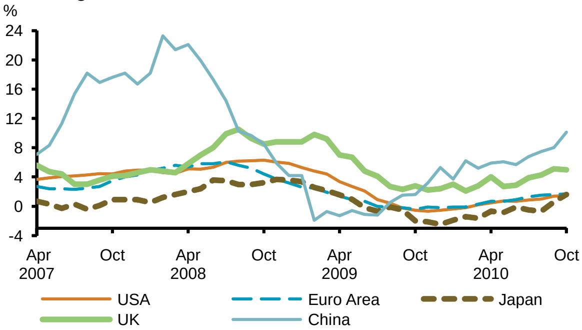
In Japan, although the annual variation of the IPC amounted to 0.2% in October, in a scenario of tax hikes and increasing perishable food prices, the development of core inflation continues to show the persistent deflationary process underway in the country. In this environment, aiming to give greater support to the economy, on October 5th the Bank of Japan (BoJ) announced a reduction in the benchmark interest rate of 0.1 % p.a. by the interval of 0.1% to 0%. Additionally, at the same time, it increased liquidity by creating an acquisition program of financial assets totaling ¥5 trillion, in addition to a ¥30 trillion program that provides funds for the banking sector, amounting to a single fund of ¥35 trillion. Among the assets eligible for purchase, within the 12-month interval, are long-term government securities, treasury bills, commercial papers and corporate bonds, including high-risk assets (high yields).

In the Euro Area, the annual IPC variation closed at 1.9% in October, driven by a rise of 8.5% in the price of energy. Although high, the IPC still falls within the comfort zone of the European Central Bank (ECB) of 1% to 2%. The annual IPC core variation hit 1.1% in October, remaining at around 1% since mid-2010. In this benign inflationary background and considering the recent recovery, albeit modest, of growth in credit and money supply, the ECB held the basic interest rate at 1% p.a. in November.

Unlike in the G3 economies, the United Kingdom inflation remains above the ceiling of the long-term inflation targeting, with the annual IPC variation coming to 3.2% in October, particularly impacted by service prices. Despite the prospects of rising short-term prices, especially due to the impact of the 2.5% rise on value-added tax, effective as of next January, the Bank of England (BoE) has kept unchanged the asset-purchasing program at £200 billion, and the basic interest rate at 0.5% p.a. This decision was based on the assumption that the IPC should drop into the target limits within a two-year horizon.

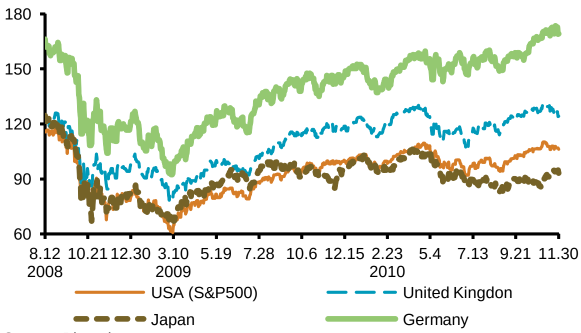
In China, the annual IPC variation, in an upward trajectory, came to 4.4% in October, with emphasis on the 10.1% increase in food prices. Pressured by the new monetary easing undertaken by the Fed, the recovery in domestic demand, the strong growth of credit and increasing prices of real estate assets and by the heightened inflationary expectations, the People's Bank of China (PBC) intensified

Figure 4.8 – Food inflation1/
Annual growth



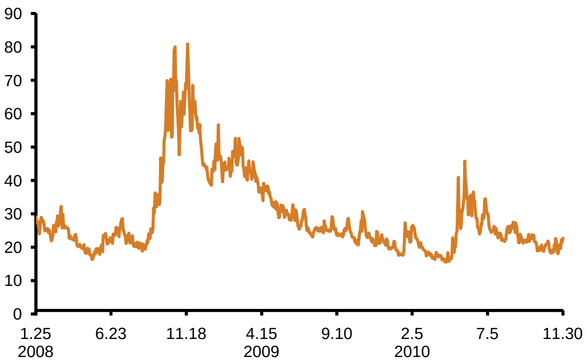
Source: Thomson
1/ For Euro Area and United Kingdom, data includes alcohol & tobacco.

Figure 4.9 – Stock exchanges: USA, Europe and Japan
12.31.2003 = 100



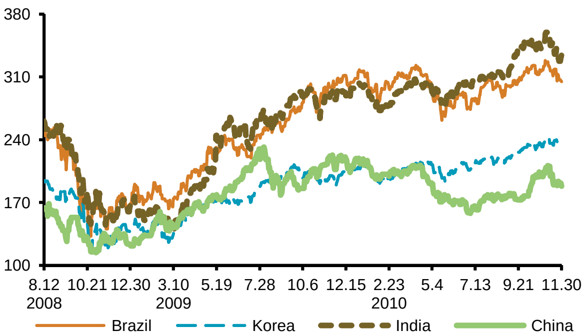
Source: Bloomberg

Figure 4.10 – VIX



Source: Thomson

Figure 4.11 – Stock exchanges: emerging markets
12.31.2003 = 100



Source: Bloomberg

its monetary policy normalization process. Thus, on October 19, the first rise in the basic interest rate since December 2007 was introduced, from 5.31% p.a. to 5.56%, and, on December 10, the sixth 0.5 p.p. increase in the year for the rate of reserve requirements.

4.3 International Financial Markets

The international financial markets, amid increased optimism about the recovery of the North American economy and the continuing dynamism of the Chinese economy, registered a reduction of volatility and recovery of asset prices in the quarter ending November. From mid-November on, however, the worsening fiscal situation in European countries started to influence the behavior of these markets and, thus, increase risk aversion and uncertainty regarding the trajectory of financial asset prices, particularly in the Euro Area.

Stock markets, still benefiting from the impact of good corporate results and the announcement of quantitative easing II in the USA, experienced significant recovery in the quarter ending November. The German Deutscher Aktienindex (DAX); Japanese Nikkei; USA's Standard and Poor's 500 (S&P 500); and the United Kingdom's Financial Times Securities Exchange Index (FTSE 100), accumulated respective gains of 13.2%, 12.6%, 12.5% and 6.5% in the period. It is worth noting that, after reaching the highest value of the year on October 5, the English, American and German indices fell respectively by 5%, 4% and 1% by the end of the quarter.

The Chicago Board Options Exchange Volatility Index (VIX) – which measures the implicit short-term volatility S&P 500 index – measured 22.7 points at the end of November, compared to 26 points at the end of August. The average value of the indicator was 21 points in the quarter ending November against 26.9 points in the quarter ending August.

The stock markets of the leading emerging economies also reported gains for the quarter ending November. The Korea Composite Stock Price Index (Kospi) of South Korea; Bombay Stock Exchange Sensitive Index (Sensex) of India; Shanghai Composite of China; and Ibovespa of Brazil accumulated respective highs of 9.3%, 8, 6%, 6.9% and 4.1% in the period, but, constrained by the factors that influenced the stock markets in the USA and Europe, fell from mid-November.

Figure 4.12 – Yield on government bonds – 10 years

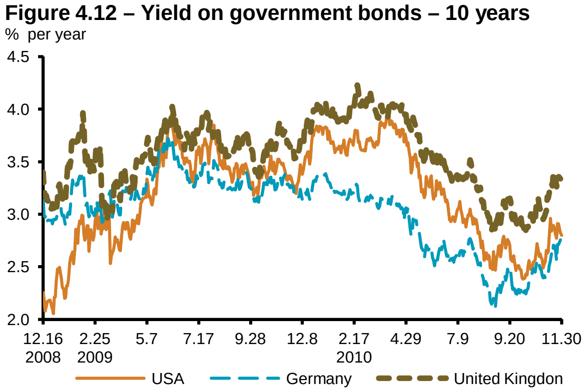
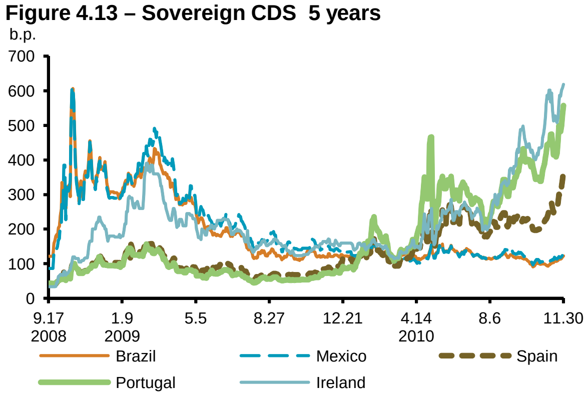
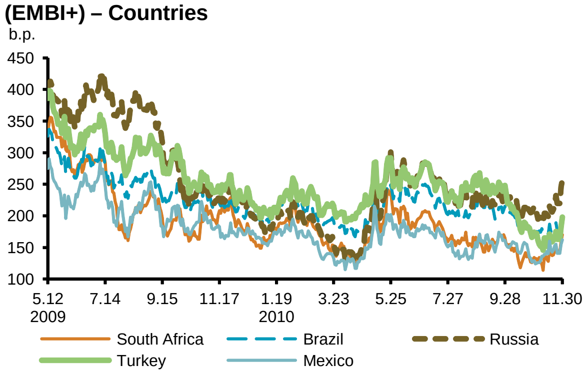


Figure 4.13 – Sovereign CDS 5 years



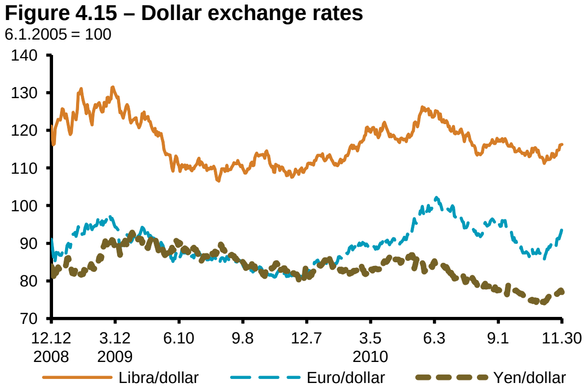
Source: Thomson

Figure 4.14 – Emerging Markets Bond Index Plus (EMBI+) – Countries



Source: Bloomberg

Figure 4.15 – Dollar exchange rates



Source: Bloomberg

Influenced by greater optimism about the US economy and the deterioration of the debt market in Europe, the annual income of ten-year securities of the developed economies rose in the quarter ending November, with securities of the USA, Germany and the United Kingdom achieving annual incomes of 2.8%, 2.7% and 3.3% respectively.

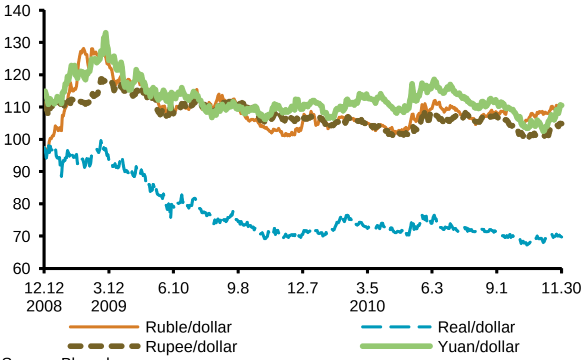
The worsening fiscal situation in some European countries once again became the focus of attention during the period. Despite the aid package from the IMF and the European Union to the Irish government, in the order of €85 billion, to capitalize the banking system and avoid the risk of sovereign default in the short-term, sovereign risk premiums, measured by the Credit Default Swaps (CDS), of Ireland, Portugal and Spain at the end of November hit 608 b.p., 532 b.p. and 343 b.p. respectively, the highest values of the historical series. In the same period, Brazil's sovereign CDS fell 13 b.p. to 119 b.p. Despite the worsening fiscal crisis of Europe, the Emerging Markets Bond Index Plus (Embi+), the sovereign risk indicator, fell 25 b.p. to 278 b.p., for the quarter ending November, emphasizing that the index concerning Brazil fell 35 b.p. to 198 b.p., despite the increase in the margin from the middle of that month.

In the quarter, the US dollar registered depreciation against the euro of 2.3%; against the pound sterling, 1.4%; and the yen, 0.6%. For the emerging economies there were decreases in the price of the US currency against the Indian Rupee, 2.5%; the Real, 2.4%; and the Turkish Lira 1.5%; compared with an appreciation of 2.2% registered against the Russian Ruble.

4.4 Commodities

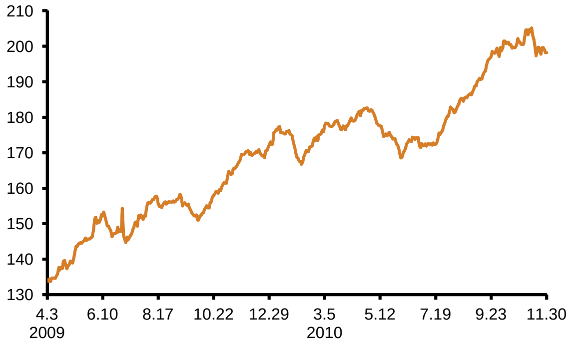
The Commodity Research Bureau Index (CRB), a measure of the behavior of commodity prices, recorded an increase of 6.4% in the quarter ending November, a result of dollar depreciation, improvement in indicators of consumption in many economies and the effects of adverse weather on agricultural product supply. It stands out that in a scenario of fears about the effects of monetary tightening in China, the fiscal sustainability of some European countries and profits in financial markets, commodity prices showed a strong correction in November. Still, taken as quarterly averages, in the quarter ending November, the CRB index registered respective increases of 12.2% and 25% compared to the quarters ending August 2010 and November 2009.

Figure 4.16 – Emerging markets currencies
6.1 2005 = 100



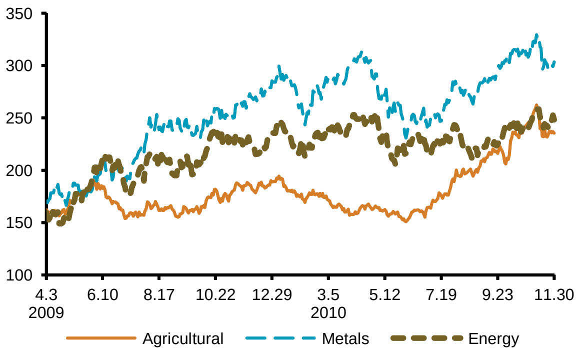
Source: Bloomberg

Figure 4.17 – CRB index
Jan/2003 = 100



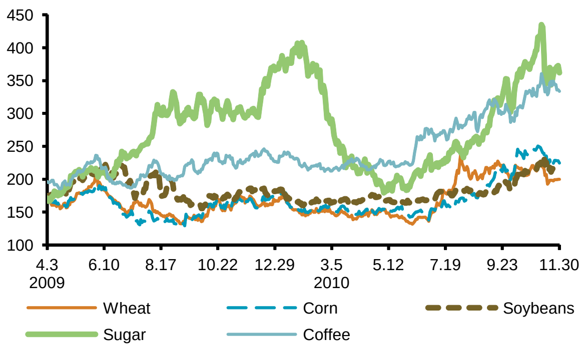
Source: Commodity Research Bureau

Figure 4.18 – Commodity price index
Jan/2003 = 100



Source: S&P GSCI

Figure 4.19 – Agricultural commodities
Jan/2003 = 100



Sources: NYB-ICE and Chicago Board of Trade

According to the index Goldman Sachs Commodity Index (GSCI), comprising Standard & Poor's together with the Goldman Sachs, commodity prices appreciated 15.4% in the quarter, reflecting respective variations of 18.9%, 10.8% and 15.8% in the segment indices of agricultural, metallic and energy commodities.

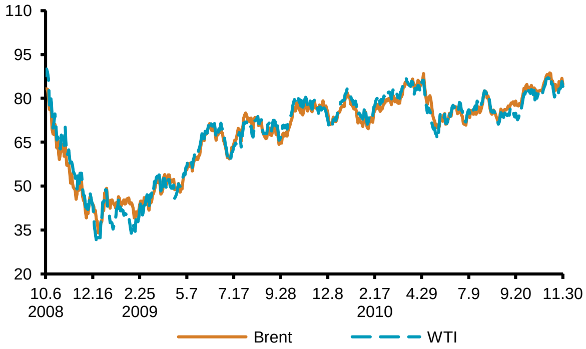
Prices of agricultural commodities maintained an upward trend that began in July, amid adverse climatic impacts on supply and the expansion of global liquidity. Concerns about damage to crops, which in July and August focused on Russia, have moved to the USA, where productivity fell to a lower than expected level, and to South America, where unfavorable weather conditions affected prospects for a successful crop outcome.

After accumulating a 40.4% rise between late June and late August, the futures contract for the first delivery of wheat traded on the Chicago Board of Trade (CBT), fell 0.3% in the quarter ending November. Also on the Chicago exchange, first delivery futures contracts of soybeans and corn showed respective rises of 23.3% and 24.9% in the quarter, reflecting in particular the low productivity of the North American harvest. The futures contracts for first delivery of sugar and coffee, traded on the New York Intercontinental Exchange (ICE), registered respective highs of 39.5% and 13.7% in the quarter. This development has been influenced by reduced world supply and the adverse weather in major exporters, especially in Brazil.

The metallic commodities segment registered, according to the London Metal Exchange (LME), increases in the prices of tin, 16.5%; copper, 13.3%; nickel 11.4%; aluminum, 10.4 %; and lead 8.3% in the quarter ending November. The price of 63.5% content iron ore increased 11.8% in the Chinese spot market in the period, according to Metal Bulletin, a development arising from problems in supply of the commodity by India and by the accumulation of stocks in Chinese steelworks, due to the low fixed price contract for the last quarter of 2010.

The average oil barrel price of Brent and WTI rose, respectively, from US$77.79 and US$75.26 in September to US$85.67 and US$84.19 in November. With a more favorable outlook concerning development of the global economy, particularly in the USA, the Department of Energy (DOE) of the US government increased its estimate for average prices of WTI barrel for the fourth quarter of 2010 and for 2011, from US$77.00 and US$82.00 respectively in September to US$82.63 and US$85.17 in November.

Figure 4.20 – Oil – Spot market
US$ per barrel



Source: Bloomberg

4.5 Conclusion

Emerging economies have shown faster growth rates than developed economies, but have needed to cope with inflationary pressures stemming from high commodity prices, the strengthening of domestic demand and the closing of the output gap. These factors altogether have influenced the withdrawal of monetary and fiscal stimulus introduced during the international financial crisis.

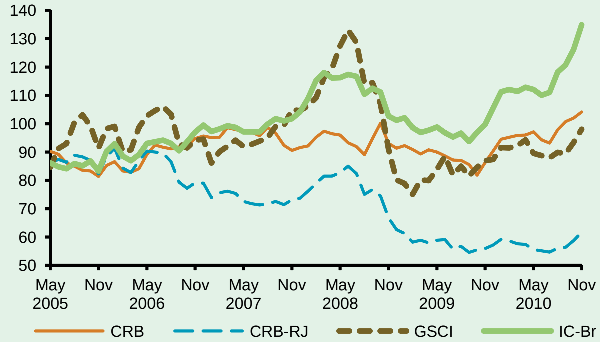
Conversely, the return to activity in the main developed economies, particularly in the USA, is taking place in an environment of idle production factors that, at least partly offsets the impact of increases in commodity prices on inflation indices and favors the maintenance of the accommodative stance of the monetary policy.

Transfer of Commodity Prices to the IPCA and Commodities Index-Brazil

Knowledge of the dynamics of commodity prices in the international markets has gained importance in recent years, given its potential impact on the dynamics of consumer prices in Brazil and, consequently, its impact on future prospects. In this context, this box presents the Commodities Index-Brazil (IC-Br)[1], which aims to identify the portion of commodity price variations in international markets that is relevant to the dynamics of domestic inflation. Furthermore, we present illustrations of how variations in the IC-Br are passed on to consumer prices.

Figure 1 shows the development of the IC-Br, as well as other commodity indices that are often referenced in macroeconomic analysis.

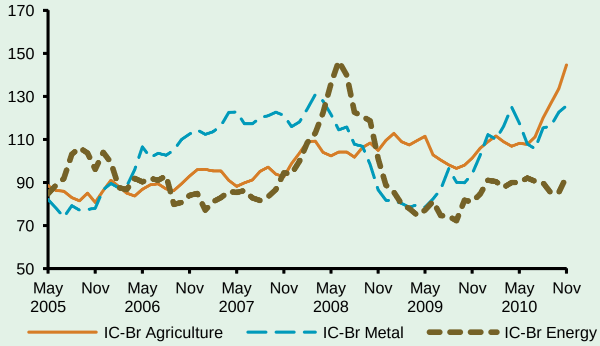
Figure 1 – IC-Br and other indices (R$)
Mar/2005 = 100



Sources: Commodity Research Bureau, Thomson Reuters, S&P GSCI and BCB.

In the basket that comprises the IC-Br, weightings were obtained from Autoregressive Vector models (VAR), constructed to estimate the transfer effect of each commodity price on inflation. Thus, it was possible to construct the IC-Br, and segment it into three sub-indices, IC-Br Agriculture, IC-Br Metal and IC-Br Energy, as seen in Figure 2.

Figure 2 – IC-Br segments (R$)
Mar/2005 = 100



Source: BCB

To estimate the transfer effect of the IC-Br on the Extended National Consumer Price Index (IPCA), VAR methodology was again looked to. Monthly data from the last five years was used, including; average monthly commodity prices in reais; the IC-Br, as a measure of economic activity; the Special System of Clearance and Custody (Selic) rate, as a monetary policy measure; the average monthly exchange rate variation; and inflation as measured by the IPCA. As such, it seeks to identify not just the direct impacts of

1/ The IC-Br aggregates the indicators regarding the segments of Crop and Livestock, Metal and Energy. The calculation of the Crop and Livestock index was based on the commodities beef, cotton, soybean oil, wheat, sugar, corn, coffee and pork. The Metal segment encompasses aluminum, iron ore, copper, tin, zinc, lead and nickel, whilst the Energy segment includes Brent oil, natural gas and coal.

Table 1 – Commodity price indexes

(changes % – measured in R$)

	2006	2007	2008	2009	2010[1/]	Δ 12m[2/]	Δ 3m[2/]	Oct/2010	Nov/2010
IC-Br	6.2	7.4	-4.4	6.4	23.7	29.2	14.7	8.0	1.5
IC-Br Agriculture	8.0	3.7	10.5	-3.5	31.3	35.7	18.5	11.1	0.4
IC-Br Metal	28.0	1.7	-29.6	30.0	17.9	25.8	8.8	4.5	0.8
IC-Br Energy	-23.5	21.9	-11.9	2.3	8.1	12.7	11.3	3.9	5.2
S&P GSCI Composite	-8.1	17.2	-25.6	13.3	7.9	9.7	12.6	4.0	3.0
S&P GSCI Agriculture	18.6	17.6	4.5	-13.5	22.4	22.1	16.1	15.1	-3.2
S&P GSCI Industrial Metals	38.6	-25.6	-33.0	44.1	4.8	12.2	8.1	2.7	-0.6
S&P GSCI Energy	-16.5	26.9	-34.3	22.4	3.6	5.8	13.1	2.0	4.5
CRB	9.4	-4.9	-0.9	0.7	12.9	14.0	3.8	1.3	-0.4
CRB – Reuters Jefferies	-15.3	-2.7	-16.8	-6.9	4.5	6.1	11.4	5.5	1.1

Sources: Commodity Research Bureau, Thomson Reuters, S&P GSCI and BCB

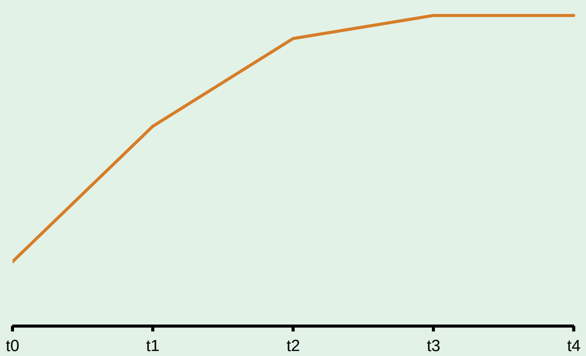
1/ November/2010 compared to Dezember/2009.

2/ Until November/2010.

Figure 3 – Pass-through from IC-Br to IPCA

Source: BCB

Figure 4 – Pass-through from IC-Br to IPCA (accumulated)



Source: BCB

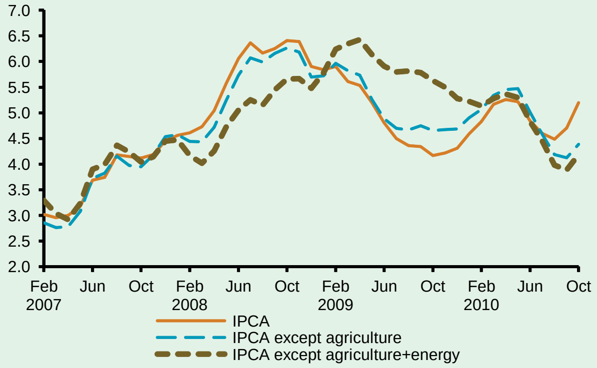
the increased production costs of finished goods, but also the secondary effects, namely the passing on of increased prices of some goods or services to others.

The estimated transfer effects of a price shock in the basket of commodities that makes up the IC-Br to the IPCA have been calculated based on responses to the impulse generated by the model. Figures 3 and 4 show the results obtained, considering the month-by-month development of the transfer effect of a price shock that occurred in t_0 (Figure 3) and the accumulated transfer effect (Figure 4).

Data indicate that the transfer effect of a IC-Br shock to the IPCA starts right in the first month in which the average price of the basket rises, reaches a peak in the following month, and levels to almost zero after the fifth month. Based on the estimated transfer effect, it was also possible to calculate the IPCA variation, excluding total or partial effects of IC-Br variation. It should be noted that this exclusion tends to identify a significant proportion of the secondary effects of shocks in commodity prices and is not simply a case of removing the components as is typically done in the calculation of measures of core inflation.

Recent developments in headline inflation, as well as the IPCA variation excluding the estimated effects of variation in the IC-Br sub-index for Crop and Livestock and the addition of this to the IC-Br Energy, are shown in Figure 5. Note that, after registering variations similar to the IPCA during 2007, the measures of exclusion showed less variation in 2008, when there was high growth

Figure 5 – IPCA ex-commodities



Sources: IBGE and BCB

in commodity prices in international markets. The decline in these prices, which followed the worsening of the global crisis, is seen in the third period, ending mid-2010, when the variation of the measures of exclusion was higher than the IPCA. A fourth period, starting in the second half of 2010, sees the IPCA variation more pronounced than that of the exclusion measures, a trend consistent with the rise in the international market of the prices of major agricultural and metallic commodities.

In summary, this box shows the IC-Br, the most useful indicator of commodity prices to understand the process of transfer effects of these prices on Brazil's inflation. The recent trajectory of the indicator confirms the view that there was a significant impact, in recent months, on the acceleration of the IPCA from rising commodity prices. Data also suggests that the transfer effect is exhausted by around the fifth month.