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SUMMARY

1) WORLD PANORAMA

The *World Economic Outlook*, disclosed by the International Money Fund in September, shows the last projections made by the institution for world economic growth (Table 1.1). According to the document, economic growth in the world should decelerate to rates close to 4% per year in the next few years. The deceleration will occur in developed countries as well as in developing countries, but will be steeper in the former (to annual rates below 2%) than in the latter (to annual rates of approximately 6%). The most affected economies by the deceleration will be the Euro Zone and the United Kingdom, with annual rates between 1.1% and 1.6%. The largest economical growth, on the other hand, will continue to be China's, where rates will oscillate between 9.5% and 9.0% per year. In Brazil, it is expected that rates will be kept below 4.0% over the next few years.

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Table 1.1: World growth projections (%)

	IMF				IIF Projections	
	2009	2010	2011p	2012p	2011p	2012p
World	-0.7	5.1	4.0	4.0	3.4	3.6
Advanced Economies	-3.7	3.1	1.6	1.9	1.4	1.8
US	-3.5	3.0	1.5	1.8	1.6	1.8
Euro Zone	-4.3	1.8	1.6	1.1	1.7	1.3
Germany	-5.1	3.6	2.7	1.3	-	-
France	-2.6	1.4	1.7	1.4	-	-
United Kingdom	-4.9	1.4	1.1	1.6	-	-
Japan	-6.3	4.0	-0.5	2.3	-0.3	2.8
Developing Economies	2.8	7.3	6.4	6.1	6.3	6.0
Brazil	-0.6	7.5	3.8	3.6	3.5	3.3
Mexico	-6.2	5.4	3.8	3.6	3.9	3.6
China	9.2	10.3	9.5	9.0	9.5	9.0
India	6.8	10.1	7.8	7.5	7.8	8.2
South Africa	-1.8	2.8	3.4	3.6	3.5	3.9
Russia	-7.8	4.0	4.3	4.1	4.2	4.0

Sources: IMF (World Economic Outlook) and IIF (Global Economic Monitor)

As of the second quarter of the current year, the world's economy has gone through a deceleration period, with weaker economic activity in comparison to its development in previous quarters, reduced degrees of trust in consumers and entrepreneurs, and a more substantial risk of recession. Such deceleration is due to many factors, such as the disasters in Japan, with effects on the automotive industry sector, fiscal restrictions in mature economies, and the rise in oil and food prices. Yet, most of these factors are on a path to recovery. However, two grave problems remain in the world's macro-economic panorama: the weakening recovery of developed economies since the beginning of the year, which analysts did not foresee, and uncertainty regarding the future of fiscal policy and global financial markets.

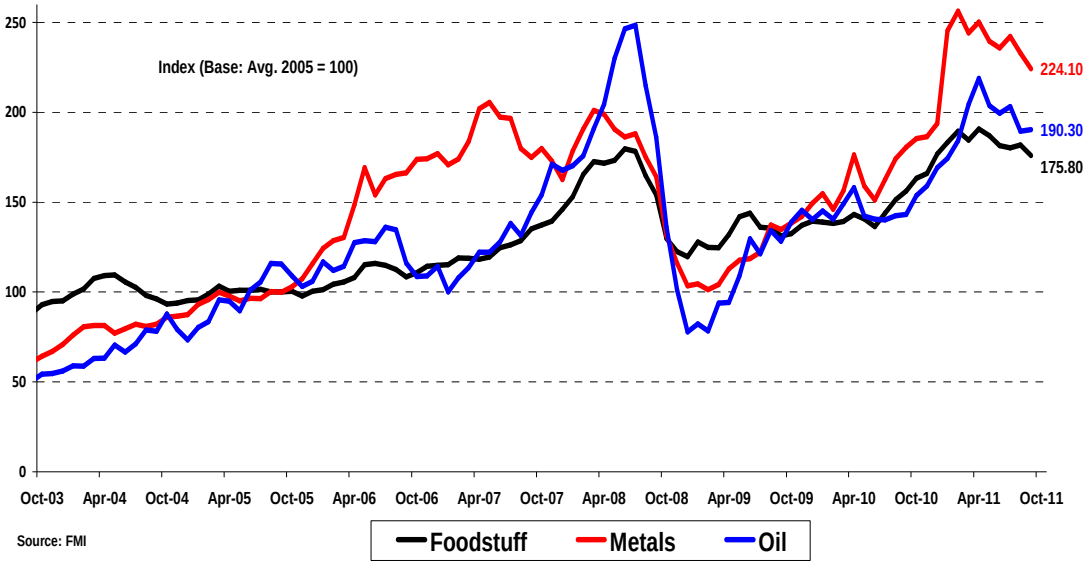
The weakening recovery of developed economies is due to the fiscal incentives adopted by countries (except for Japan) are coming to an end, and governments are making adjustments, but demand in the private sector is not taking its place. For this, these economies must turn to foreign demand, developing economies with surplus in accounts (especially China), so they will not become stagnant.

Uncertainties regarding international finance are a result of market skepticism in relation to the ability of the countries in stabilizing their public debts, especially in Europe. Consequently, the same markets are more skeptical regarding the banks that carry public bonds of countries in greater debt.

In developing economies, uncertainties are less significant than in developed economies, allowing their economic growth rates to be higher. Particularly, Latin America has been benefited by the high price in *commodities* (Chart 1.1), and in Asia the level of activity was only modestly affected by external stagnation and the impact on manufacturing networks. The most complicated challenges are the overheating of some of them, particularly in Asia and in Latin America and the volatility of the flow of

foreign capital. Besides this, the risk of a possible recession in developed countries inhibiting demand for exports and provoking a depreciation in *commodities* on an international level cannot be ignored, causing problems in the accounts of peripheral countries.

Chart 1.1: Index of commodity prices (Base: Average in 2005=100)

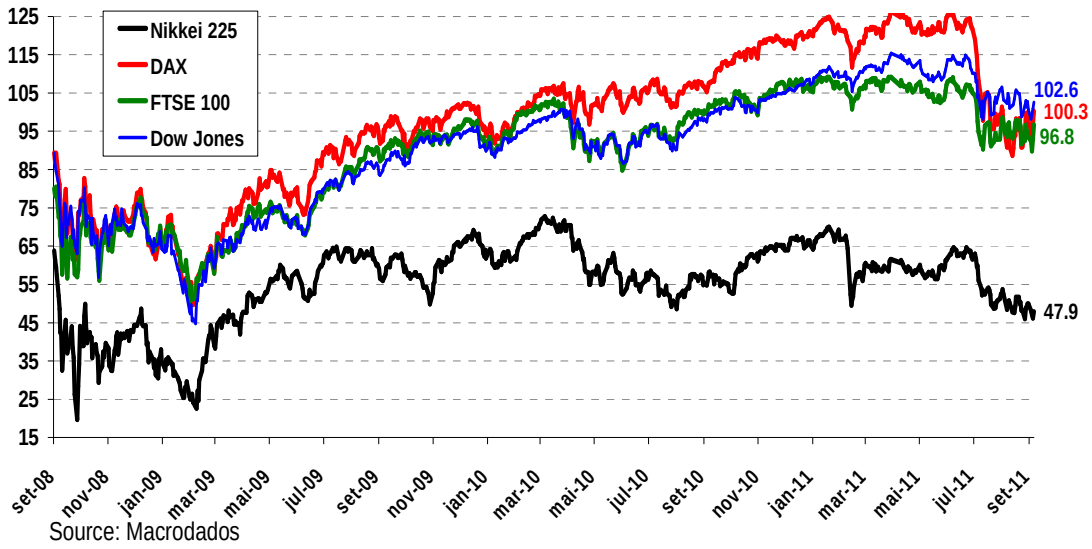


In this sense, perspectives for growth in production and consumption are distinct to advanced economies and developing countries. Regarding advanced economies, a modest return to growth is expected in years to come, and more accentuated in countries with more commercial relations with Asia, accompanied by the stagnation of private consumption, provoked by the rise in unemployment, loss of trust, and low real estate prices, and by its effect on personal wealth. Concerning developing countries, on the other hand, robust growth is expected, but with deceleration, whose main challenges are infrastructure restrictions, and the stagnation of the foreign sector. Consumption in these countries, on the other hand, will continue strong thanks to growth in employment and income.

The international exchange markets showed two tendencies over the last few years. There was a depreciation in the developed countries' currencies and of those in the countries most affected by the 2008-09 crises, such as the United States and the United Kingdom, which was seen as favorable for the external adjustment of these economies. On the other hand, there was a tendency for currencies in developing countries and those with commodity producers to appreciate, which generated concern regarding the loss of competition for their products in international markets and the risk of deindustrialization in some countries. This is why some nations have adopted political measures to detain highs in their currencies, such as direct intervention by their central banks (China).

Since this year's second quarter, the Euro and the Yen have shown a tendency to appreciate, in accordance with the economic principles observed, such as the rise in interest rates in the Euro Zone and the rise in public spending in Japan caused by reconstruction of lost infrastructure from the earthquake and the tsunami in March. In that country, the central bank started intervening in the market to correct excessive fluctuations in the exchange market. The dollar showed a tendency to depreciate in the period in keeping with the economic principles of the North American economy (such as low interest rates and the accumulation of deficits in the commercial balance). Depreciation is seen as positive for the economic recovery in the country. In developing economies, greater stability in exchange rate behavior was confirmed, at least up to the last few weeks. In China, the exchange rate is still undervalued, due to both the composition of countries' reserves and to policies adopted. In Brazil and in South Africa, on the other hand, the exchange market is overvalued. In the last few weeks, as a consequence of financial markets' greater aversion to risk brought on by the possible *default* in Greece, there was tendency for currencies in developing countries to depreciate and for a monetary appreciation in countries considered safer, such as Switzerland. The behavior of the world's stock exchange is registered in Chart 1.2.

Chart 1.2 – World Markets (Base: 01/03/2007 = 100)



Source: Macrodados

Recent Economic Performance

United States

During the last few months, the main topic in the North American economy has been the debate regarding fiscal policy to be adopted in the near future. Until recently, the concern of its managers was similar to administrating public deficit. However, currently, where the rhythm of economical growth is weakening and the private sector is more concerned about reducing its debt rather than investing, there is the perspective that a restrictive fiscal policy could put a recovery at risk. This is the reason for the country's government to be more concerned about making sure the fiscal policy supports economic recovery. In this sense, in September, President Barack Obama elabo-

rated a fiscal proposal for Congress which includes three main points. Firstly, an expenditure package of US$ 447 billion (3.3% of GDP). Secondly, the reduction of taxes on payrolls, hiring, and pay rises. Third, a prolongation of emergency measures to counter the 2008-09 crisis which would end this year, such as compensation for unemployment, reduction of taxes on social security, and accelerating the slowdown of capital expenditures. As the political atmosphere in the country, that is radicalization and extreme divides between government and opposition in Congress, will most likely prevent all measures from being approved, it is expected that fiscal policy next year will focus on reduction, but not of the magnitude it would be if there were no package.

Another important point regarding the economic perspectives in the North American economy is the risk of another recession. According to the *Global Economic Monitor*, disclosed by the *Institute of International Finance* (IIF), economic principles indicate that there is no such risk, despite the reduction of growth rate from 2.75% in the second semester of 2010 to 1% in the first semester of 2011. First, there is no sign of drastic cuts in company investments or in their stock levels. Second, real activity showed signs of improvement in July, and signs of deceleration in August and September. Expenditure on personal consumption grew 2.7% in the month, there was growth in investments in capital goods, and exports accumulated a high of 4.9%.

In other words, the path of the American economy should be a slow recovery, especially operating with considerably idle capacity and high unemployment rates. This should continue for the medium term, while the private sector carries on with its debt adjustment process, the residential real estate prices remained low – around 32% below 2006 values – and consumer and investor trust continues to plummet.

GDP data for the second quarter of this year registered growth of 1.3%, in an seasonally-adjusted annual rate. The highlight was the 3.1% increase in exports, while consumer spending grew 0.7%. The account balance registered a deficit of US$ 118 billion in the second quarter, against US$ 119 billion in the previous. Analysts expected the deficit to grow. Industrial production had growth of 0.2% in August comparing to the previous month, highlighting the performance of the automotive sector.

In retail, the sales volume was stagnant in August, caused by the mistrust of the consumers provoked by disputes in budget matters in Congress and doubts regarding the country's capability to make payment on its debt. Consumer spending grew 0.2% in August in comparison to July, registering a tendency to decelerate (growth in July compared to June was 0.7%). Part of the behavior of this indicator is due to a fall of 0.1% in consumer income in the same month, the first negative result since October 2009.

The unemployment rate in August remained at 9.1%, even with the creation of 103,000 new jobs, above the forecast 60,000 new jobs.

Regarding inflation, the consumer price index (IPC) registered a high of 0.4% in August, 0.1 p.p. below the July rate, but above that expected by the market, with highlights in the foodstuff sector. The nucleus of the index, which excludes foodstuff and

energy, had a high of 0.2%. On an annual base, the IPC accumulated a high of 3.8%. The producer price index remained stable in August in comparison to July. However, in comparison with August 2010, the indicator reached 6.5%. In relation to monetary policy, the FED maintained a basic interest rate between 0% and 0.25%, highlighting the commitment to maintaining the interest rate low until mid 2013, with sights set on a perspective of slow economic growth and stable inflation.

Europe

In the Euro zone, the GDP estimate for the second quarter disclosed by Eurostat was for growth of 0.2% in the second quarter of this year compared to the previous year, and 1.6% compared to the second quarter of 2010. In the quarterly comparison, among the GDP components, the most significant growth was in exports. Company investments rose 0.2%, while household and government consumption dropped 0.2% each. Industrial production grew 1% in July compared to June and 4.2% in comparison to July 2010. In comparison, highlights were German industry (+4.1%) and the French (+1.6%). The unemployment rate in July and August remained at a 10.0%. In spite of tension in the financial market and the economic slowdown, the European Central Bank (BCE) maintained its interest rate at 1.5%, in a meeting in the first week of October.

In Europe, during the second quarter of the year, the engine behind the economy was exports. Domestic demand remained low. Household consumption was falling, with the decline in asset prices, the credit crunch, and the deterioration of consumer trust. Public spending was also low thanks to the fiscal adjustment programs adopted by countries, with a drop of 0.7% in relation to the previous quarter. There was a slowdown in investments as well (up 0.6% against 7.5% in the previous quarter), and in industrial production (up 0.9% against 6.8%).

Among the causes of the economic deceleration in this years' second quarter are the high prices of *commodities* in relation to the real income available, as well as the fiscal adjustment adopted by many countries, and the deterioration of consumer and investor trust. The countries most affected by the slowdown are on the European outskirts, many of them with high debt levels, such as Greece, Ireland, Portugal, Iceland, and Lithuania. On the other hand, countries in the center and the north of the continent are in better financial condition, and their manufacturing activities are expanding, such as Germany, Denmark, Holland, Poland, Sweden, and Switzerland.

In other words, the recent pattern of economic growth has been varied among countries in the region. While countries in the center of the continent show more accelerated growth and a more heated internal market, peripheral countries are stagnant. On the one hand, if deceleration hits the central region, two opposing factors could occur in the outskirts. First, the European center is the main consumer market of export from peripheral countries, which means that the tendency to stagnate would be reinforced. On the other hand, it would give room for the European Central Bank to

reduce interest rates, causing the Euro to weaken in relation to other world currencies, which would stimulate exports to other consumer markets.

In other words, Europe as a whole is vulnerable to risks coming from the financial market, both in public bonds and in the asset market. Such risks are brought about by the uncertainty stemming from the deterioration of stock prices and the declining belief that the more indebted peripheral countries will be able to make payment, especially Greece.

However, given the current circumstances, the European Central Bank indicated that it will end its monetary retraction policy. It is expected that inflation will remain controlled with the stabilization of *commodity* prices.

Japan

In Japan, the Statistic Department informed that GDP dropped 0.5% in this years' second quarter in relation to the first, and 2.1% in relation to the second quarter of 2010. For analysts, this indicates that the effect on company investment from the earthquake and the tsunami in March was greater than expected. Industrial production grew 0.8% in August comparing to July, below the 1.5% expected by the market. Regarding July 2010, however, the indicator registered a drop of 3.0%. The trade balance registered a deficit of 775.3 billion Yen (US$ 10.14 billion) in August. In relation to the same month in the previous year, exports grew 2.8%, and imports, 9.9%. The monetary authorities maintained the interest rate between 0% and 0.1%, with aims of propelling the economy and fighting the appreciating Yen.

The Japanese economy in past months has been determined by recovery after the catastrophes that occurred in March, which especially affected the automotive and electronic industries, including its production chains throughout the world. However, recovery is slowing down as industrial production grew only 0.4% in July in relation to June, and there is noticeable weakening in the orders for machines and of retail sales in past months. Part of this effect is due to the financial volatility of the United States and Europe contaminating markets in the country, inhibiting private investment. Besides this, the country has attracted an excessive flow of capital over the past few months due to fear of risk in international markets. This is pressuring the appreciation of the national currency (Yen), and harming exports despite interventions made by the Central Bank.

Inflation in Japan remains at a very low level, almost zero. In some periods, even deflation has been registered. For this reason, the monetary policy is expected to remain focused on expansion with low interest in the near future, as a way to eliminate the risk of further deflation.

Emerging Countries

According to IMF estimates, disclosed in the *World Economic Outlook* in September 2011, emerging economies grew 7.3% in 2010 in total, of which 6.1% is the

estimated growth for Latin America and the Caribbean, and 9.5% for Asia (see Graph 1.1). Part of the economic performance of developing countries is due to the high level at which the *commodity* prices have been established, benefiting their exporters, to the growing dynamics in their internal markets and to direct foreign investment.

In Asia, the perspective of economic slowdown in the United States and Europe has already affected financial markets in emerging countries, causing exchange depreciation of 3% to 7% in almost all countries. Such depreciation occurred due to the flight of capital to economies considered safer, given the current atmosphere of fear of risk. The most intense oscillation was in countries with the largest account deficits, especially India (7%), while in China there was practically no variation. In this country, the Central Bank's efforts also played a determining role, not allowing the depreciation of the *Yuan* in order not to increase the risks of accelerating inflation.

Many analysts question whether a possible recession in the United States and in Europe could weaken the economic growth of emerging Asian countries with reduced demand for imports. The IIF report shows that it will not – even if the external crisis decelerates the rhythm of economic activity in Asia, the region should keep growing above the world average – and this is justified by several factors. First, the diversity of the export range means countries in the region are less dependent on the United States and Europe than previously thought, and exports can continue growing regardless of the stagnation of these economies. Second, a recession in developed economies is not expected, but rather the continuity of low growth rates. Third, the central banks in the region (except India and China) are signaling the closure of the current cycle of monetary restriction. Fourth, commodity prices have stopped rising, and, in the cases of metals and oil, there has been a slight fall over past months. Fifth, internal demand is capable of leading growth in these economies, especially in China.

China's economic growth in the next few years should decelerate from 10.5% per year to around 9%, driven mainly by domestic investment. On the other hand, the monetary policy should continue restrictive in order to control inflation, by imposing limits on credit growth, increasing interest rates, and stepping up requirements for banking reserves.

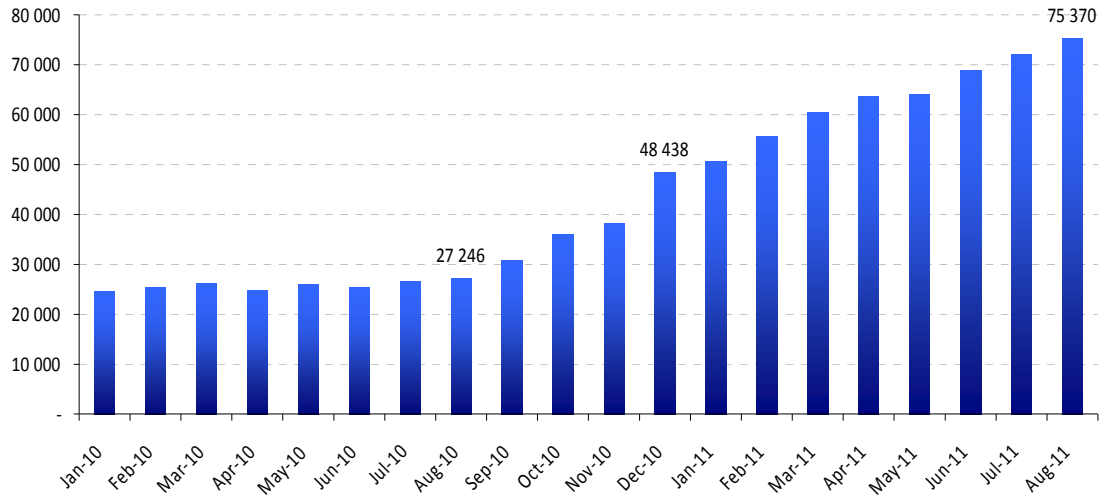
In India, the country's economic growth has been registering annual rates close to 7.5% and is lead by private domestic consumption. The investment rate is low, mostly affected by uncertainties in the international finance market. Inflation has reached two digits, caused by low real interest rates and the growth in credit, which could cause interest and credit adjustment reactions via monetary policy.

In general, accelerating inflation continues pressuring emerging Asian economies, especially those with more recent growth in their credit volume, more heated products, and more flexible policies. Such acceleration has a simultaneous effect of reducing the cost of capital for investors and progressively increasing the public's expectations regarding inflation.

In Latin America, despite the stagnation of developed countries and the growing aversion to risk in international financial markets, direct foreign investment (FDI) grew 30% in 2011, to around US$ 120 billion, of which approximately half was directed toward Brazil. The IIF shows a series of factors that make Latin America an excellent region for investment despite the current external macro-economic circumstances. First, the higher economic growth rates in comparison to other regions in the world. Second is the abundance and diversity of *commodities* for export. Third is the credibility of macro-economic policies adopted in many countries in the region. Fourth is the lower political risk. And finally, the growth of the middle class as a consumer market. FDIs in Brazil went from US$ 27.2 billion in August 2010 (1.32% of GDP) to US$ 75.3 billion in August 2011 (3.22% of GDP) in the accumulated result for 12 months, according to Graph 1.3 (also see "Direct Foreign Investment in the World and in Brazil" section).

Economic growth in Latin America has been above the world average over the past few years, and was high in 2010 and in the beginning of 2011, thanks to the heating of domestic demand for foreign investment and favorable trade terms due to the price of *commodities* in international markets. However, as of the second quarter, economies in the region have gone through a deceleration process, reinforced by stagnation of the foreign economy and commodity prices. Besides this, countries started adopting more restrictive policies to fight economic overheating, which surfaced in many nations in the form of accumulated inflation rates above those targeted, account deficits, accelerated growth in the credit volume, and appreciation of assets and exchange rates. For the next few years, there is an expectation for economic growth to be higher in commodity exporting economies (Argentina, Chile, Paraguay, Peru, and Uruguay) than in those more dependent on developed economies (Mexico, Central America, and the Caribbean).

Chart 1.3 – Direct Foreign Investment in Brazil, accumulated balance in 12 months (US$ million)



Source: Brazilian Central Bank

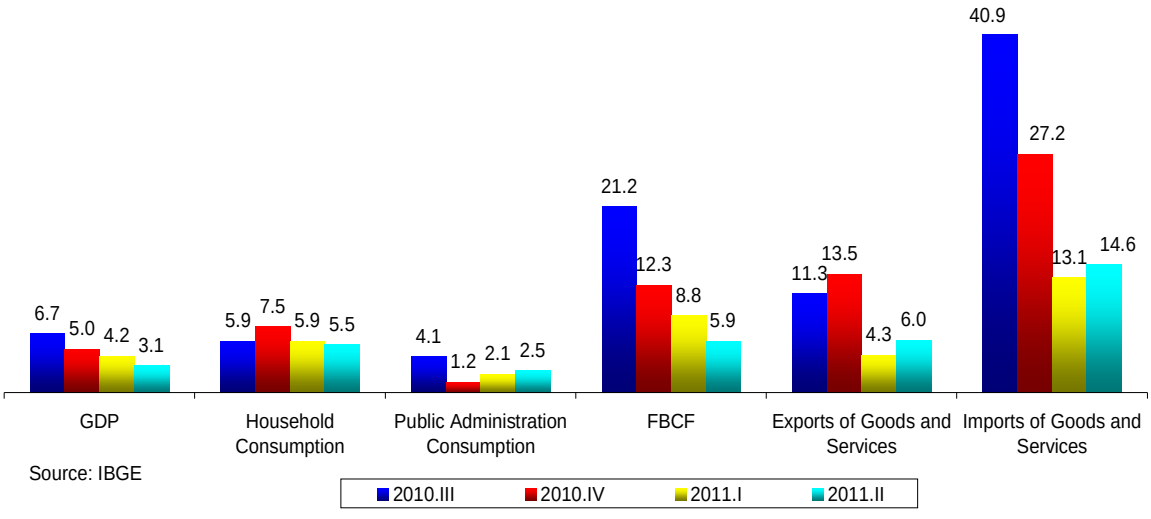
Inflation should decelerate in the following periods and meet the inflation targets of the countries that adopt this policy regime, thanks to the stabilization of commodity prices and the economic slowdown. The foreign scenario is expected to reduce inflationary pressure and reverse the tendency of central banks adopting cutback policies. In Brazil, last month, the Central Bank reduced the interest rate by 0.5 percent points aiming precisely at the foreign slowdown.

In Brazil, according to data disclosed by the IBGE, the gross domestic product at market prices and with seasonal adjustments posted an increase of 0.8% in this year's second quarter in relation to the previous quarter, reaching R$ 1.021,8 billion in current values. In relation to the second quarter of 2010, GDP at market prices registered growth of 3.1% against 4.2% in the first quarter of 2011 (in comparison to the same quarter in 2010). The slowing growth rate was across most economic sectors: services rose 3.4% (against 4.0% in the previous quarter), industry inched up 1.7% (against 3.5%), and agriculture and cattle-raising remained stagnant (against growth of 3.1%). In industry, highlights were electricity and gas, water, sewerage, and urban cleaning (3.4%). In services, the highlight was information services (5.5%). Among the components of aggregate demand (Chart 1.3), the gross fixed capital formation (GFCF) stood apart with growth of 5.9% in this period. Even though there was a slowdown in FBCF in relation to the first quarter of 2011, growth was considerably above the average GDP expansion rate in the period. Household consumption had a high of 5.5% which may be due to the increase in the real salaries and to the increase in the balance of credit operations in the financial system with resources available to individuals.

In the accumulated result for the last 4 quarters, GDP at market prices grew 4.7% in relation to the same period in the previous year (Chart 1.4). Industry increased 4.4%, influenced especially by the mining sector (9.3%). Services rose 4.2%, driven by the financial and insurance intermediation sector (8.4%). In the aggregate demand analysis, the highlight was the 11.9% growth in the gross fixed capital formation.

Chart 1.4: Components of Demand

Variation Rate in relation to the previous years (%)



Source: IBGE

Box 1.1: Economic Stagnation, Deindustrialization and the Work Market

Developed economies faced a significant rise in unemployment rates during the 2008-09 recessions, as shown in Table 1.2. After the worst of the crisis, it is noticeable that the economic recovery is much slower than expected. However, even if recovery picks up, structural problems in the job market are expected to continue, according to studies conducted by specialists. The effects of globalization on production sectors and the technological changes in the last few decades have reorganized the world's distribution of work, transferring Jobs in the manufacturing sector and with average income to developing countries, especially in eastern Asia.

Table 1.2: Evolution of the Unemployment Rate in Different Countries (%)

Country	2005	2006	2007	2008	2009	2010	2011*
South Africa	26.7	25.5	22.2	22.9	23.9	24.9	24.5
Spain	9.2	8.5	8.3	11.3	18.0	20.1	20.7
Turkey	10.6	10.2	10.2	10.9	14.0	11.9	10.5
France	9.3	9.2	8.4	7.8	9.5	9.8	9.5
United States	5.1	4.6	4.6	5.8	9.3	9.6	9.1
Italy	7.7	6.8	6.1	6.8	7.8	8.4	8.2
United Kingdom	4.8	5.4	5.4	5.6	7.5	7.9	7.8
Canada	6.8	6.3	6.1	6.2	8.3	8.0	7.6
Russia	7.6	7.2	6.1	6.4	8.4	7.5	7.3
Argentina	11.6	10.2	8.5	7.9	8.7	7.8	7.3
Indonesia	11.2	10.3	9.1	8.4	7.9	7.1	6.8
Brazil	9.8	10.0	9.3	7.9	8.1	6.7	6.7
Germany	11.2	10.2	8.8	7.6	7.7	7.1	6.0
Australia	5.1	4.8	4.4	4.3	5.6	5.2	5.0
Japan	4.4	4.1	3.8	4.0	5.1	5.1	4.9
Mexico	3.6	3.6	3.7	4.0	5.5	5.4	4.5
China	4.2	4.1	4.0	4.2	4.3	4.1	4.0
South Korea	3.7	3.5	3.3	3.2	3.7	3.7	3.3

Source: IMF, WEO September 2011. *forecast

Since the 1980s, technological changes related to production processes have favored more qualified workers from developed countries, in detriment of average income workers. Advancements in the communications and data processing sectors have enabled a transfer of production lines to developing countries, which have inexpensive labor available, while the research and administration centers of big companies remain in more advanced countries.

The result of this is that, on one hand, the new international distribution of labor contributed in economic growth and generated jobs and income in some developing countries, just as it reduced prices of manufactured goods for consumers on a worldwide level. On the other hand, however, it caused a concentration of income in the job market in other economies, especially those in more developed nations. This is due to deindustrialization, that is, the loss of jobs in the more productive industries,

which are transferred to other countries, and the consequent migration of workers to less productive sectors, such as personal services. The result is hysteresis (when the effect lags behind the cause) in unemployment – an increase in its structural rate – and the loss of real income for many middleclass workers.

To mitigate the social effects of deindustrialization, the creation of policies aimed at better training and education of the work force is indispensable, as are investments to increase productivity in non-manufacturing sectors. Moreover, in the short term, income redistribution policies are welcome to counterbalance social concentration.

To combat the risks of deindustrialization, the use of an industrial policy to maintain manufacturing internationally competitive and create jobs and income is primordial.

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2) DIRECT FOREIGN INVESTMENTS IN THE WORLD AND IN BRAZIL

Tendencies: increase risked of a new recession may interrupt the recovery of foreign investments

Investments of transnational companies in markets other than in their country of origin (direct foreign investments – FDI) is slowly recovering after the 2007-2008 crises. The final report of the UN Conference on Trade and Development (UNCTAD), UN agency specialized in monitoring these statistics, registered investments of US$ 1.244 trillion in 2010, measured by the inflow. The amount represents a 5% increase compared to 2009, but it is still approximately 37% lower than the peak of almost US$ 2 trillion registered in 2007 (Graph 2.1). The end results for 2010 per region are shown in the chart below (Chart 2.1).

Chart 2.1: Evolution of the IED flow in the world
Entry flow in US$ billion

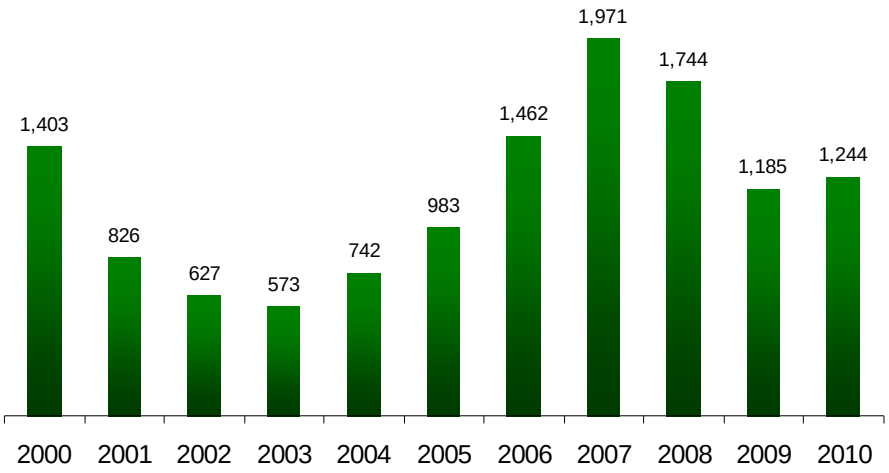


Chart 2.1: FDI Flow per Region 2009-2010*
US$ billion and variation %**

Region	2009	2010	Var. %
World	1,185.03	1,243.67	4.95
Developed Economies	602.83	601.91	(0.15)
Developing Economies	510.58	573.57	12.34
Africa	60.17	55.04	(8.52)
Central America and Caribbean	85.71	72.69	(15.19)
South America	55.29	86.48	56.42
East and Southeast Asia	199.08	267.70	34.47
South and West Asia	108.45	90.15	(16.88)
Others	1.89	1.51	(19.92)
Transition Economies	71.62	68.20	(4.78)

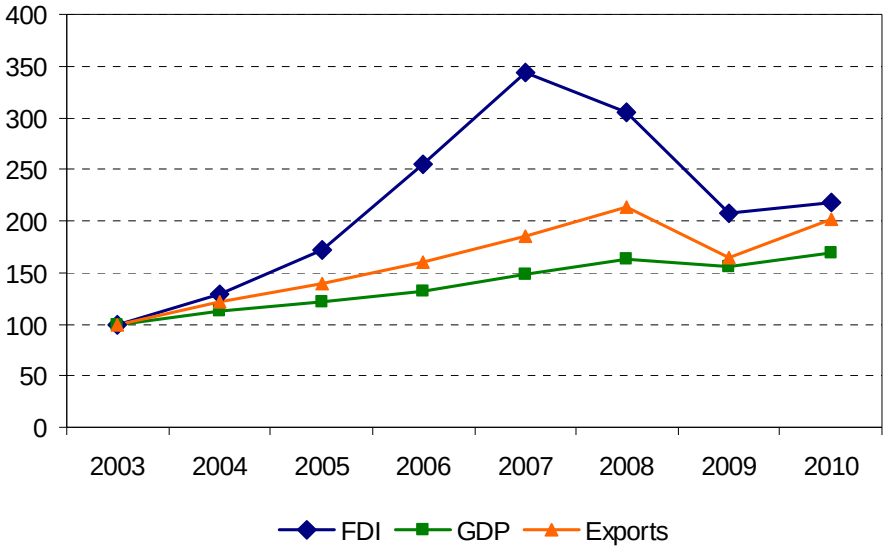
Source: UNCTAD

* Final values for inflow

** Negative variation in parenthesis

The behavior of direct foreign investment contrasts with those of GDP and world trade. The latter have already recovered to pre-crisis levels. It should be noted, however, that direct investments grew more intensively than the other two variables in the years that preceded the 2007-2008 financial crisis (Chart 2.2), which reflects its higher sensitivity to change in the perception of risk in the economic environment.

Chart 2.2: Evolution compared FDI, GDP and Exports
Index (base: 2003=100)



Source: UNCTAD; own elaboration

Growth of FDIs in 2010, while modest, proved higher than anticipated by UNCTAD's preliminary studies, which indicated a virtual stagnation in relation to 2009. This suggests that the recovery has gained ground in recent times. In fact, UNCTAD's quarterly index on foreign global investment, on which the agency bases its tendency estimates, showed a growth of 19% for the first quarter of 2011 in relation to the same period last year.

Based on this tendency and on an econometric model using data from 15 years for over 90 countries, UNCTAD, last July, estimated that the FDI flows in 2011 would be in the US$ 1.4 trillion to US$ 1.6 trillion range (US$ 1.5 trillion in the base scenario), and with this, would return to pre-crisis levels. In 2012, this amount was to rise to US$ 1.7 trillion, and finally, in 2013 return to record levels of 2007.

However, the recent and acute deterioration of the world's economic perspectives casts considerable uncertainty over these estimates, especially in the short term, and even the bottom limit of UNCTAD's projection rate may prove be optimistic. The impacts of deteriorating expectation for direct foreign investment, however, is not expected to be consistent; they tend to be more substantial in developed countries, which were the center of the 2007-2008 crisis and the main victims of its secondary effects, such as the rise in public debt and the trust crisis associated to this increase.

The tendency for most investment flows to head to developing economies, especially Asia and South America, as seen in 2010, should be reinforced in short and medium terms. First, the greater dynamics of these economies should offer better investment opportunities for transnational companies from developed countries. The 2011 edition of Research on the Perspectives of World Investment from UNCTAD, carried out by consulting of a sample of transnational companies, revealed that, among the 20 investment destinations most mentioned by companies for the 2011-2013 period, some 14 were developing countries. The five main destinations mentioned, in decreasing order, were China, the US, India, Brazil, and Russia.

Another reason for expecting that the tendency to direct investments to developing countries will reinforced is the fact that these countries have become an important source of direct investments and that transnational companies from these countries more frequently direct their investments to other developing countries.

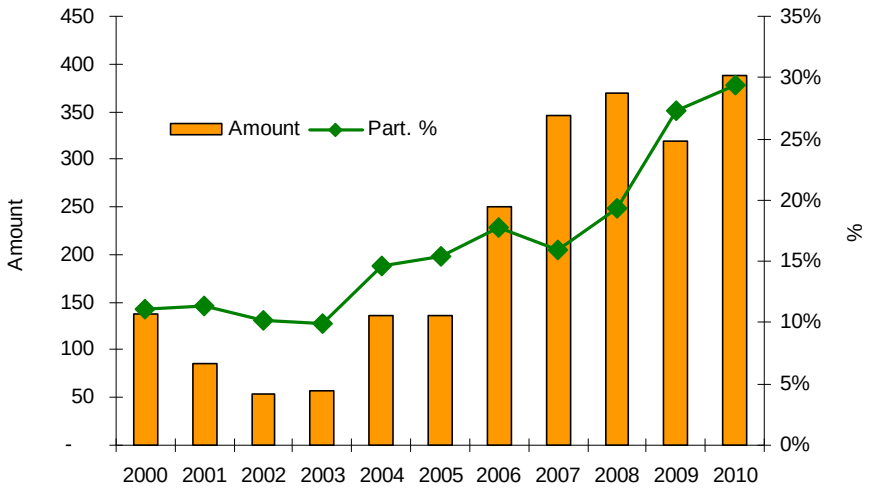
General results for 2010: Developing countries are also highlighted as the source of FDIs

A highlight in FDI behavior in 2010, when measured by inflow, was the fact that, for the first time, more than half of the total (55%) was earmarked for developing countries and in transition (International synopsis Nº 15, April 2011). When measured by outflow, detailed recently by UNCTAD, direct investments in 2010 consolidated the increasing importance of developing countries as the origin of direct foreign investments as well. Among the 20 countries with the highest investments last year are China, in 5th place, Russia, in 8th, and India, in 20th (of the BRIC countries, Brazil is the only one that does not appear among the 20 largest investors, but is in 25th place).

As a whole, investments from developing and transitioning countries totaled US$ 388 billion in 2010 and represented 29% of the total, compared to 16% in 2007. The amount invested grew 21% in relation to the previous year (Chart 2.3). However, as observed in the destination analysis, the performance of countries varies significantly.

China, including Hong Kong, is mostly responsible for the growing importance of developing countries, according to investors. In 2010, flows from there hit record levels of US$ 144 billion, corresponding to 37% of the total coming from developing countries. With this result, according to the UNCTAD Report (World Investment Report 2011), Chinese companies have surpassed the Japanese in foreign investment.

Chart 2.3: FDI outflow from developing and transitioning countries
Value and participation in the world flow – US$ billion and %



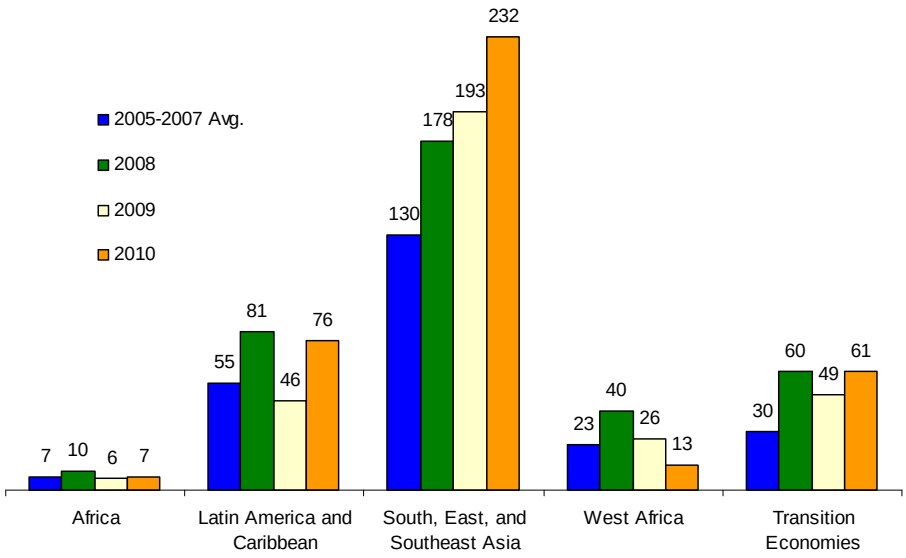
Source: UNCTAD

Investors from the South, East, and West Asian regions are the only ones that, together, surpassed pre-crisis levels. In fact, for these investors, the crisis seems to have worked as an opportunity to expand investments: the region was the only one where foreign investment did not drop in 2009 (Chart 2.4).

The second most important region in terms of the origin of investments, even though on a much smaller scale than Asia, was Latin America and the Caribbean, led by the performance of Brazil, Chile, Colombia, and Mexico. Investments originating in these four countries totaled US$ 41.1 billion and represented 53.9% of the total of all investments originating in Latin America.

Regarding the destination of investments, the UNCTAD Report shows that, in 2010, some 70% of the FDI projects originating in developing countries were invested in the same region. Seven large deals were registered (above US$ 3 billion) involving developing and transitioning economies, compared to only two in 2009. Still, the highlight was the fact that Asian companies expanded their acquisitions beyond their own region: Chinese investments in Latin America, for example, grew substantially.

Chart 2.4: FDI outflow from developing and transitioning countries per region
Amounts in US$ billion



Source: UNCTAD

Brazil: the country continues to attract a record level of of FDIs

Brazil was highlighted in the UNCTAD Report on World Investment as both a destination country and as an origin of direct investments in Latin America and Caribbean regions. In 2010, when the net inflow of FDIs to Brazil totaled a record volume of US$ 48.5 billion, the country was the destination of 30% of the total FDIs that entered the region; when considering only South America, Brazil's participation rises to 56%.

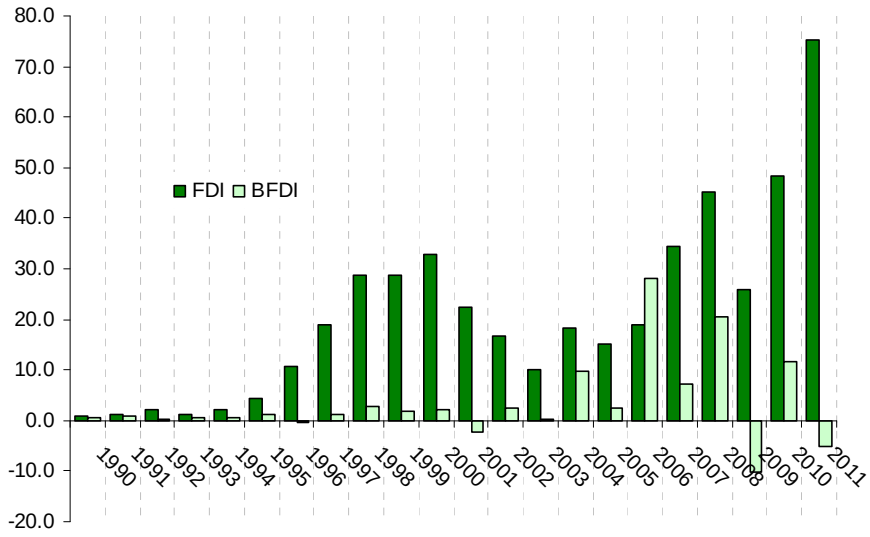
Furthermore, concerning investment origin, Brazil's performance is of influential importance, even if less than in the case of destination. In 2010, Brazil's direct investment totaled US$ 11.5 billion and represented 15% of all direct investment originating in Latin America and the Caribbean. Driven by strong domestic economic growth, Latin American transnational companies increased foreign investment in new projects as well as in mergers and acquisitions. In Brazil's case, UNCTAD highlights the acquisitions that Vale, Gerdau, Camargo Correa, Votorantim, Petrobras, and Braskem have carried out in developed countries.

The 2011 results up to August showed that direct foreign investments earmarked for Brazil continue expanding: the accumulated result of US$ 44.0 billion in the first eight months of the year is 157% higher than last year's corresponding value. Yet, investments originating in Brazil have begun to show negative results, US$ 10.8 billion. This is due to the sharp growth (48%) in revenue with inter-company loans, as seen in 2009 (Chart 2.5).

The most recent projections of Brazil's Central Bank for 2011, according to the Inflation Report disclosed in September, are for direct foreign investments in Brazil of

US$ 60.0 billion, which represents an increase of 24.0% in comparison to last year. In the case of Brazil's direct foreign investments abroad, Central Bank projects a negative result of US$ 10.0 billion. If confirmed, these totals will affect the results for the region as a whole in a significant way.

Chart 2.5: Direct investments to Brazil (FDI) and from Brazil (BFDI)
Net values in US$ billion



Source: UNCTAD

3) BRAZIL'S FOREIGN TRADE

At the end of September 2011, the World Trade Organization's estimates for growth in the world's trade volume in the year were reviewed down to 5.8%. The forecast originally carried out on April 22nd was for 6.5% and the institution's economists accredited the review to unraveling world economy since then, such as the effects of the earthquake in Japan, the uncertainty regarding the budget in the US and the worsening perception of risk associated to the debt in the Euro Zone.

Economic growth rates are expected to be higher in developing countries, according to WTO estimates, similar to the expected results for exports. The real expansion of GDP in developing countries is projected at 5.9% and exports, at 8.5%. In developed countries, estimates are for 1.5% and 3.7%, respectively.

In Brazil, the estimate for total exports in 2011 was set at US$ 257 billion in the beginning of September by the Ministry of Development, Industry and Trade (MDIC). The growth rate (27%) in the exported value in relation to the previous year resulting from this estimate is higher than the projected world average (18%). Therefore, accomplishing such a result will imply another increase in Brazil's *market share* in world trade. In 2010, Brazil's participation in the total exported around the world was of

1.3% and had already presented growth in past years due to expanding *commodity* exports.

An important factor for exports is the evolution in the prices of the main *commodities*. With the intensification of European crises in past weeks, the prices of some *commodities* have shown a more significant slump since 2008. One of the main affected sectors was mining, but there was a drop in food prices as well. The depreciation of most currencies in relation to the dollar also aggravated the scenario due to the consequent price adjustment of products when facing the new exchange rate reality. With abrupt variations in exchange rates, buyers pressured exporters to reduce their price in dollar, as they would already be receiving a higher amount in local currency.

In Brazil's case, the evolution in the prices of its main exported *commodities* has shown positive results. The three main Brazilian products, in September, presented an increase in relation to the same month last year: 12.3% for iron ore, 27.0% for soy grain, and 37.1% for raw sugar. Even when comparing August to September 2011, internationally considered one of the worst periods in the last few years for the *commodity* market, many Brazilian products were able to maintain their price and extreme variation was rare. The most significant exception referred to the sales of orange juice, whose price declined 16.6% in relation to the previous month. The average price of exported iron ore fell only -1.3%, while soy grain and raw sugar achieved better prices – 1.0% and 1.9%, respectively – in relation to August.

In total exports, last month was the best September registered in Brazilian history, reaching the value of US$ 23.3 billion (Table 3.1). In the accumulated result for twelve months, exports registered a record amount (US$ 190 billion, up 30.4% in relation to the same period last year), as did imports (US$ 167 billion, up 25.6%).

The accumulated surplus (US$ 23 billion) was double that of the same period last year. The three product categories presented growth: basic (US$ 91 billion, up 39.8%), semi manufactured (US$ 27 billion, up 34.6%), and manufactured goods (US$ 68 billion, up 18.4%).

Table 3.1: Exports, imports, and balance of Brazil per bloc - January to September 2011 and 2010

US$ million FOB

	Exports		Var. %	Imports		Var. %	Balance	
	2011	2010	2011/10	2011	2010	2011/10	2011	2010
Asia	57,014	40,768	39.8%	52,376	40,625	28.9%	4,638	143
– China	33,571	23,192	44.8%	24,126	18,214	32.5%	9,445	4,978
Latin America and Caribbean	41,795	34,164	22.3%	27,710	22,230	24.7%	14,085	11,934
– Argentina	16,891	13,033	29.6%	12,388	10,605	16.8%	4,503	2,428
European Union	39,741	30,785	29.1%	34,100	28,688	18.9%	5,641	2,097
US (1)	18,652	14,155	31.8%	24,970	19,953	25.1%	-6,318	-5,798
Middle East	9,267	7,455	24.3%	4,336	3,247	33.5%	4,931	4,208
Africa	8,733	6,555	33.2%	11,614	8,686	33.7%	-2,881	-2,131
Eastern Europe	4,423	3,560	24.2%	3,654	2,063	77.1%	769	1,497
Others	10,375	7,487	38.6%	8,206	6,741	21.7%	2,169	746
Total	**190,000**	**144,929**	**31.1%**	**166,966**	**132,234**	**26.3%**	**23,034**	**12,695**

Source: SECEX/MDIC

(1) includes Puerto Rico

In the world *ranking* of largest exporters, monitored by the WTO, Brazil occupied 22nd place last year (Table 3.2). In general, highlights were (1) the consolidation of China as the world's main exporter, with an expressive distance in relation to second place; and (2) the fact that the United States was able to surpass Germany, by presenting a better recovery in foreign sales after a drastic offal in world trade previously. Two other countries that called attention in the WTO's statistics were India and Australia: both achieved growth in exports over 70% in the accumulated result for the last five years, surpassing Brazil.

Table 3.2: World exports per country: 2006 to 2010
US$ billion

	Countries	2006	2007	2008	2009	2010	2010/ 2009	2010/ 2006
1	China	969	1,220	1,431	1,202	1,578	31%	63%
2	United State	1,026	1,148	1,287	1,056	1,278	21%	25%
3	Germany	1,108	1,321	1,446	1,120	1,269	13%	15%
4	Japan	647	714	781	581	770	33%	19%
5	Holland	464	551	638	498	572	15%	23%
6	France	496	560	616	485	521	7%	5%
7	Korea	325	371	422	364	466	28%	43%
8	Italy	417	500	543	407	448	10%	7%
9	Belgium	367	431	472	370	411	11%	12%
10	United King	449	439	460	353	405	15%	-10%
11	Hong Kong	323	349	370	329	401	22%	24%
12	Russia	304	354	472	303	400	32%	32%
13	Canada	388	421	456	317	387	22%	0%
14	Singapore	272	299	338	270	352	30%	29%
15	Mexico	250	272	291	230	298	30%	19%
16	Taiwan	224	247	256	204	275	35%	23%
17	Saudi Arabi	211	233	313	192	254	32%	20%
18	Spain	214	253	281	227	245	8%	14%
19	United Arab	146	179	239	185	235	27%	61%
20	India	122	150	195	165	216	31%	77%
21	Australia	123	141	187	154	212	38%	72%
22	Brazil	138	161	198	153	202	32%	47%
23	Malaysia	161	176	200	157	199	26%	24%
24	Switzerland	148	172	201	172	195	13%	32%
25	Thailand	130	154	178	152	195	28%	51%
26	Sweden	148	169	183	131	158	21%	7%
27	Indonesia	104	118	140	120	158	32%	53%
28	Poland	111	140	170	137	156	14%	41%
29	Austria	137	164	181	137	152	11%	11%
30	Norway	122	136	173	121	132	9%	8%
	Others	2,073	2,455	2,997	2,231	2,698	21%	30%
	World	**12,113**	**14,000**	**16,116**	**12,522**	**15,238**	**22%**	**26%**

Source: Based on WTO data

The lists of the largest exporters disclosed by institutions that monitor world trade, including the WTO, do not, however, weigh the aggregate value in each country, that is, how much of the final registered exports in a country's trade balance is actually local content of that country. The fact that, currently, companies are more and more based on world production sectors heightens the possibility of statistical distortion when this factor is disregarded.

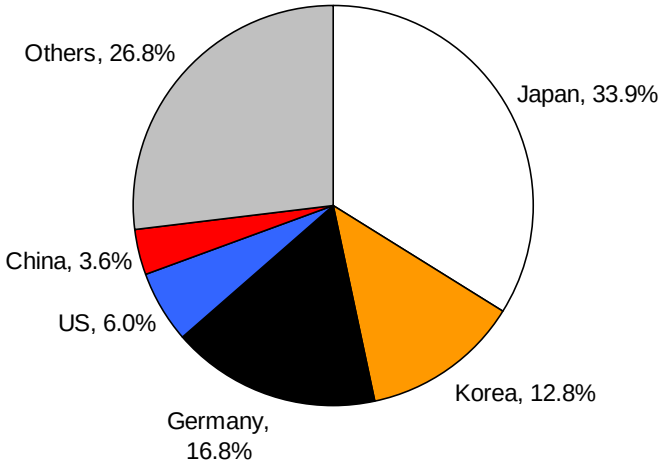
Recently the WTO released an initiative to broaden existing information on commercial flows according to the aggregate value per country, named *Made in the World*. The main concern expressed by the institution is the fact that the tendency brought about by attributing the entire sale amount solely to the final country in the chain may cause distortions in the debate on the imbalance in world trade and lead to regretful decisions. For example, for a country to present increased participation in goods classified as high-tech intensive in its final export portfolio may not necessarily mean that its production structure reflects such a degree of industrial sophistication, but that it is concentrated solely on the final stage of manufacturing (assembly) of the production chain. The value added by the country would be, in this way, associated to labor and not to the development of components.

One of the most widely-known examples refers to the manufacturing of iPhones, the result of assembling components from a large group of manufacturers in several countries.

Imports of the product from China to the US are higher than US$ 2 billion per year, which, according to official statistics, would be a negative contribution of the same magnitude to the North American trade balance in relation to that in China. However, the final exporter, China, is responsible for only 3.6% of the total production cost of the device[1]. Each sample was exported to the US for US$ 179, of which the value added through Chinese labor in the assembly was only US$ 6.50 in the accounted costs for 2009. Chart 3.1 shows the costs of materials used in its production by countries, and Japan represents the main parts supplier, including memory modules, image exhibition modules, and touch screens. The apparent contribution to the North American commercial deficit, which originated solely in China, actually occurs in a much larger amount in relation to Japan, Korea, and Germany, besides the North American share in components having to be deducted.

[1] Xing, Yuqing, and Detert, Neal. How the iPhone widens the United States Trade Deficit with the People's Republic of China. **Asian Development Bank Institute Working Paper Series**, n.257, 2010

Chart 3.1: Input origin (components and labor) used to manufacture an iPhone
Participation % of the total



Source: Based on Xing and Detert information (2010)

The cost of components for the iPhone 4 had grown in relation to the previous generation, but was reduced in this version to return to CDMA standard networks, released in the beginning of 2011. While the originally announced cost of this generation for GSM networks was US$ 187.50, the materials employed in the CDMA version represented US$ 171.35. Besides material costs, assembly currently increases US$ 7.10 to the final cost of the product to be sent from China to the US. The final sale price of the device in the US is US$ 649 for devices with no adhesion contract to a carrier. The difference between this value and the market cost consequently covers, in addition to Apple's profit margin, the cost of development, administration, shipping, distribution, and taxes etc.

Despite illustrating the distortions that may occur when not considering the effective value added by the final exporting country, the iPhone case is particularly extreme. Attempts to measure how much value countries actually add to their total exports reveal, on average, more balanced results. One of the pioneering government initiatives to monitor an entire economy was carried out in Sweden, with the disclosure in the report *Made in Sweden*, in March this year.

For the calculation, product input frameworks were used from 1995 and 2005, as were foreign trade statistics classified per category of use for the years between 1995 and 2009. The result was that the national Swedish content in exports was reduced by 70% to 66.5 % in the beginning of the period in question. The main origin of

imported inputs is developed countries in the European Union, the United States, and Norway. Participation of products coming from countries with low-cost production was, however, on the rise in this period. Imports originating there reached 5% in 1995 and 15% in 2009. China was responsible for 3%.

Significant differences were also found between sectors, even though almost all have shown growing participation in imported inputs, except the textile and data processing sectors. The participation of imports reached 90% in the oil segment as a result of increased imports of Norwegian crude oil. In other sectors that are more relevant to Swedish exports, participation in automotive vehicles was 50%, machinery 39%, and timber and paper 29%.

The topic was also highlighted in this year's *WTO Public Forum*, which was held between the September 19 and 21. There was a specific session on the real aggregate value in world trade, in which the case of Costa Rica was highlighted by its Foreign Trade Minister, Anabel Gonzalez. In the last fifteen years, the export portfolio of the country has undergone a significant transformation, leaving behind a concentration of basic products (fruit, coffee, and cotton) to high participation in manufactured goods, with highlights on computer components, medical material, and pharmaceutical goods. Currently, the participation of goods in industries classified as high tech in that country is one of the highest in the world, reaching 45%. At the same time, the statistics on added value in such sectors is relevant: 22% in electronics, 59% in medical materials, and 75% in automotive parts. The main destination of the country's electronic components is China, and medical materials and automotive parts are mainly shipped to the US.

In the case of world production sectors, expected participation of each country is in fact lower in the total value added for each country. When considering total exports, the world average for the aggregate value per countries in their exports is 69%; that is, of the total exported by a country, more than 2/3 would be components or processing originating in its own territory. yet, there is a vast difference depending on the production structure in different countries.

Measuring the participation of the value added to exports by each country is generally carried out through the so-called vertical specialization indicator (VS), proposed by Hummels, Ishii, and Yi[2]. For a country *k* and a product or sector *i*, the indicator is defined by:

VS_{ki} = (imported intermediary goods/ total production) * exports

For a country *k* as a whole, the vertical specialization indicator comes from the sum of results per sector and, therefore, the participation deemed vertical specialization in total exports (Xk) is calculated using the following coefficient:

[2] Hummels, David, Ishii, Jun, and Yi, Kei-Mu "The nature and growth of vertical specialization in world trade" **Journal of International Economics**, 54, pp.75-96, 2001

$VSC_k = VS_k / X_k = \Sigma_i VS_{ki} / \Sigma_i X_{ki}$

The indicator means the imported content in exports: the more a country is specialized in a determined step of its production chains for its exports, the bigger the proportion of imported inputs in them will be. Large countries with large production of basic goods tend to show a smaller vertical specialization coefficient, and, on the other extreme, small countries with a significant level of openness in their economy reveal a bigger coefficient. Such calculation was used in the Swedish report previously mentioned and also in an essay published as a *working paper* by OECD on a group of 40 countries[3]. The authors found an average value of 31% for imported inputs among the sample countries. The smallest coefficients were present in Russia, India, Brazil, the United States, and Argentina (all approximately 10%); while the bigger coefficients were in Estonia, Ireland, Hungry, and Luxemburg (from 50% to 60%).

The calculation is limited as it considers that the export structure of a country is similar to production for the domestic market. Participation coefficients for imported inputs are calculated for the economy as a whole and then applied to exports. One of the necessary premises to validate the formula above is that the intensity of imported inputs used is the same for both export production and domestic sales. The result is particularly distorted when the method is applied to economies with high export participation in zones that encourage processing. The difficulty in considering this factor is, however, in obtaining disaggregated statistic to separately assess domestic production and the different types of export companies.

In China's case, despite being a large country and, as such, expecting smaller import participation in the economy as a whole, and taking into consideration the previous method, the country already presented a high coefficient (28%), but that could be even bigger if the mentioned distortions were eased.

Keeping these limitations in mind, Koopman, Wang, and Wei[4] developed a method to calculate added foreign and domestic value for economies in which exports coming from processing plants represent a significant share of the total, which, according to the authors, would be the general case in Hummels, Ishii, and Yi's formula. Due to the fact that some coefficients needed for the calculation were not available in product input equations, a way to estimate is also developed by combining statistical information on foreign trade (which separates the different types of exported products) with the standard product input equations already available. The method applied to the Chinese economy would render a value of approximately 50% of imported inputs in manufactured exports by that country, a value almost twice as big as that reached using the previous method. In segments such as data processing, telecommunication equipment, and electronics, the indicators would reach 80%.

[3] Miroudot, Sébastien and Ragoussis, Alexandros. "Vertical Trade, Trade Costs and FDI", **OECD Trade Policy Working Paper**, n.89, 2009

[4] Koopman, Robert; Wang, Zhi and Wei, Shang-Jin "How much of Chinese exports is really made in China? Assessing domestic value-added when processing trade is pervasive. NBER Working Paper , n. 4109, 2008

Using more detailed micro data, Upward, Wang, and Zheng[5] arrived at an even smaller participation for the aggregate value in Chinese plants in their exports, with an import participation of 70%. For the first time analysis of this issue, the authors used detailed statistics on company and transaction levels, with information sources including *Chinese Annual Survey of Industrial Firms* and the database of the *Chinese Customs Trade Statistics*. The paper covers the period that Chinese exports grew most, from 2000 to 2007, and results show that imported content was associated mainly to foreign and recently-arrived companies.

SPECIAL ARTICLE

The course of international reserves in South America during the crisis

Alexandre Lautenschlager
Fabricio Catermol[6]

Introduction

With the support of persistent commercial surpluses and/or receipt of foreign investments over the last decade, most emerging economies accumulated never-before-seen volumes of assets in foreign currency in their central banks and sovereign funds. The true motivation behind such a strategy is the focus of frequent debate among international economy analysts. On one hand, substantial reserves could represent efficient protection against external shocks and sudden flight of capital, ensuring stability for the main macro economic variables even in especially turbulent scenarios.[7] However, authors such as Dooley, Folkerts-Landau, and Garber (2003) attribute the export success of some Asian countries to undervalued exchange rates, made possible by the accumulation of reserves beyond what is needed to provide security for the domestic economy. The controversy, however, is centered on what the "ideal" value for reserves would be in a strictly precautionary point of view, but its calculation is as challenging as or even more challenging than determining a "balanced exchange rate".[8]

In practical terms, the recent international crisis represents an experience with a particularly illustrative potential regarding each country's attitude towards its international reserves. Different from previous events centered on underdeveloped markets, whose epidemic nature was smaller and more distributed over time, the stagnation in demand in high-income countries represents a simultaneous shock for global

[5] Upward, Richard; Wang , Zheng e Zheng, Jinghai "Weighing China's Export Basket: An Account of the Chinese Export Boom, 2000-2007" The University of Nottingham Research Paper Series, n.10/14, 2010

[6] Respectively, economist and manager of the Foreign Trade Field.

[7] Such protection is not acquired without the opportunity cost incidence, as reserves are normally applied to more reduced interest rates than the present in underdeveloped countries (Rodrik, 2006).

[8] In an attempt to assess the influence of "precautionary" or "mercantile" factors in the accumulation of reserves of a group of countries between 1980 and 2000, see Aizeman and Lee (2005).

reach. Its effects are not expected to be homogeneous, but given that practically no country was left unharmed by the collapse of the *subprime* credit market in the United States, identifying reaction patterns of economic policy formers after 2008 is a valuable clue for factors that cannot be directly analyzed.

In a recent article, Aizenman and Sun (2009) take the above mentioned path by documenting reserve variations in a sample of 21 emerging countries from January 2008 to February 2009. Their main hypothesis is that there is a "fear of losing reserves", which affects countries that depend on foreign capital and is contrary to the more known "fear of floating" the exchange rate, originally proposed by Calvo and Reinhart (2002). Seeking to contribute to such an effort, this article presents information on the course of international reserves in countries in South America for a longer period and with more desegregation than in existing papers.

The text is organized as follows: after this introductory section, a brief summary is made of Aizenman and Sun's (2009) study. Then, data on the variation of international reserves and exchange rates for South American countries are presented, exclusively Guiana and Suriname, identifying characteristics that appeared in groups with distinct behavior. In the conclusion, there is an assessment on how close the regional reality is to previous proposals.

The loss of reserves among emerging countries during the crisis

With information on the course of the international reserves in emerging countries during the international crisis, Aizenman and Sun observed that, in approximately half of the considered sample, there were substantial losses in 2008, which were not recovered until the beginning of 2009. In an attempt to find an explanation for why the drops were bigger in some cases than in others, the authors specified and used an econometric model with the data and the depending variable was the variation of reserves as a proportion of GDP. As explaining variables, a group of factors connected to the integration profile of a country with foreign trade was considered: the degree of commercial opening (ratio between the import and export amounts, and GDP in the year preceding the crisis), net oil exports normalized by GDP, the participation of primary products (fuels or not) in the export portfolio, and the export volatility, expressed by the standard rerouting of monthly foreign sales in 2007. Additionally, financial aspects were considered in terms of the degree of financial opening, the volatility of the exchange rate, and the participation of short term foreign debt in GDP. Control variables include the nominal GDP and per capita, as well as interactions among some of the other variables.

The results indicate that the volatility of both exports and exchange rates as well are not determining factors in the fall of reserve levels. To start, the degree of opening and the participation of oil in exported products prove to be significant, but the former is considered further ahead. In the financial sphere, short-term foreign debt negatively affects variations in reserves, and the financial opening presents a non linear relation, in as much as its effects intensify for countries outside the extremes of the scale, in other words, those that are "half open".

An important development for these first conclusions is the addition of the initial reserve levels as an independent variable in the estimated equation. The new statistics show that countries with a higher reserves/GDP ratio were also those that tended to register proportionally larger losses during the crisis. With such specification, the degree of openness loses any significance, leading the authors to affirm that "*one interpretation of these differences is that trade openness can affect the initial IR level, and thus affect the magnitude of the changes in IR/GDP ratio, but it does not have a direct impact on relative IR changes*" (Aizenman and Sun, 2009, p. 6).

In fact, the following exercise, which focuses on the reason there is an reserve accumulation in countries whose losses of such assets were greater than 10% during the crisis, confirms that factors connected to trade are statistically significant to a high reserve/GDP ratio.[9] Contrariwise, wherever reserve stability was identified, variables of a financial nature revealed higher values, such as influence on the pre-crisis reserve level.[10] The result is interpreted as:

> "*[...] countries that internalized their large exposure to trade shock before the crisis opted to deplete greater share of their initial IR during the first phase of the crisis. In contrast, countries that mostly ignored trade factors in hoarding IR before the crisis, refrained from using their IR, possibly due to fear that depleting their IR may signal greater vulnerability down the road, inducing a deeper run on its IRs.*" (*ibid*., p.8).

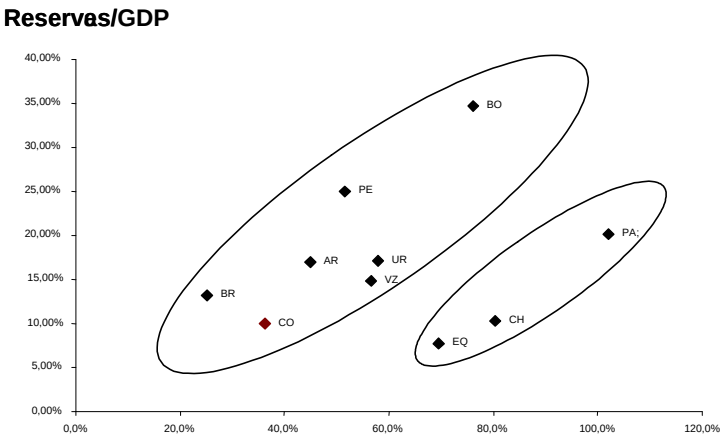
Finally, the authors dedicated themselves to a better detailing of the speed with which reserves were reduced in those countries with more significant losses during the crisis. Their first impression, that the deterioration followed an inverted logistical curve, with a initial rate of decrease gradually allowing room for stabilization, a statistical correlation was found. Within this context, the reserves of oil exporters entered this descending path later, when fuel prices suffered the impact of the new international arrangement. Similarly, countries with more exchange rate flexibility also started to reduce their reserves relatively late. As for the duration of the reserve deterioration, the fact that more financial openness accompany longer periods of reduction is relevant.

Recent path of reserves and exchange rates in South America

The first point to assess in the adjustment to Aizenman and Sun's (2009) conclusions on South America is the prognosis that high degrees of commercial openness are associated to higher levels of international reserves. For this, chart 1 shows the proportion between the foreign trade of goods and services with the nominal GDP in dollars against the measure of reserves over GDP in the ten countries analyzed, for 2007, previous to the more acute stages of the international crisis. With the exception of Chile, Ecuador, and to a smaller extent, Paraguay, most South American countries show a clearly positive correlation between the two variables, suggesting a possible conformity with the hypothesis presented.

[9] The sample of countries with losses higher than 10% of the peak level during the crisis included nine countries, of which two of them are South American: Brazil and Peru.
[10] This characterization is kept as an estimate of the model from data for the longer period from 2000 to 2007.

Chart 1: Commercial openness and international reserves/GDP, 2007



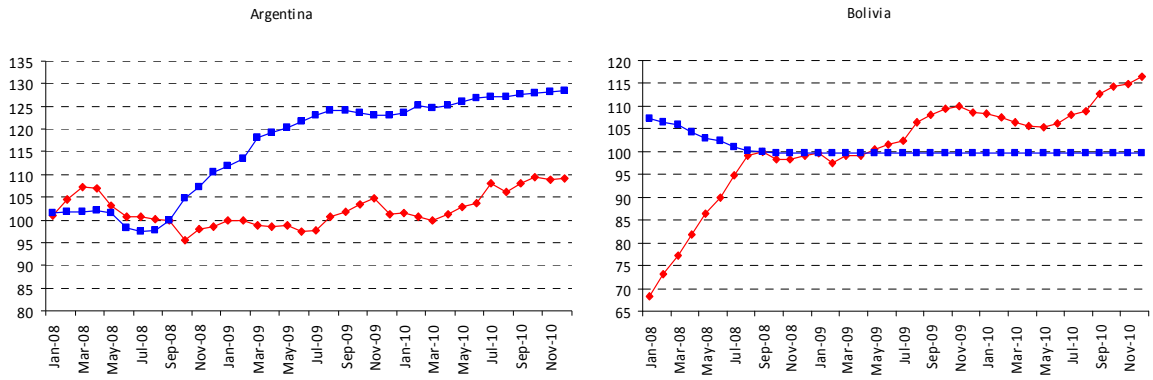
Source: Based on EIU data

The second data charts (from charts 2a to 2j), once again inspired by the mentioned authors, makes an attempt to simultaneously map the path of international reserves, and the nominal exchange rate between January 2008 and December 2010, centering the series at 100 in the month of September 2008, when the bankruptcy of the American bank *Lehman Brothers* suddenly increased the fear of risk among international investors.[11] Within such a context, drops in the accumulated value of reserves were registered in all countries, but the magnitude and variations in the exchange rate show some significant differences.

Chart 2: International reserves and exchange rates, January 2008 to December 2010

(September, 2008 = 100)

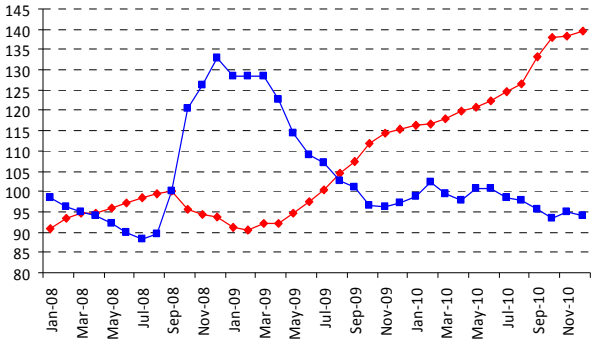
(a) (b)



[11] The series for Venezuela is centered on the month of December, due to the lagged effect of the risk aversion increase over oil prices, main export of the country and one of the determining of its external balance.

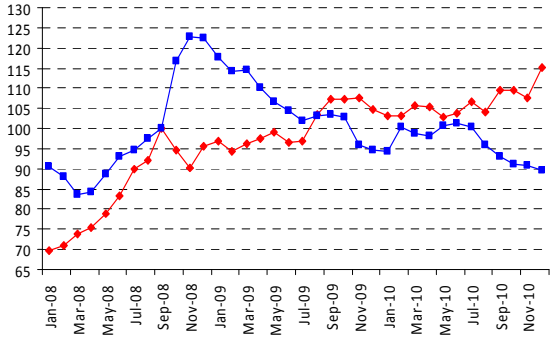
(c)

Brazil



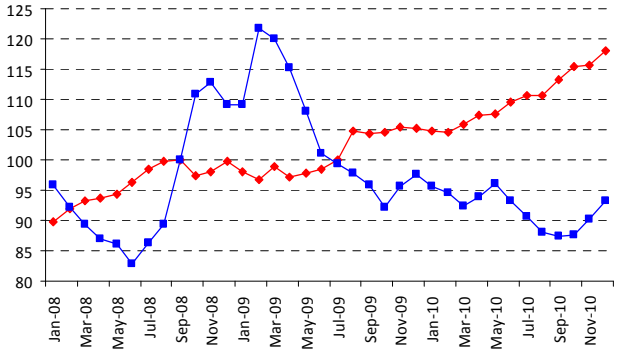
(d)

Chile



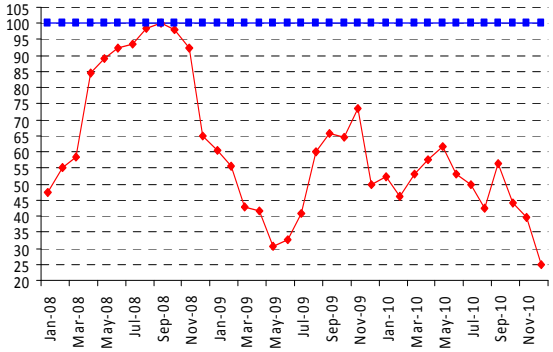
(e)

Colombia



(f)

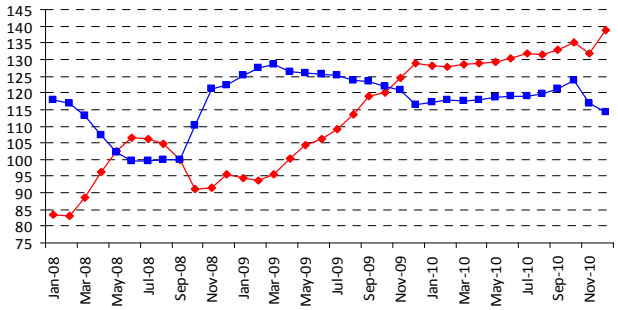
Ecuador



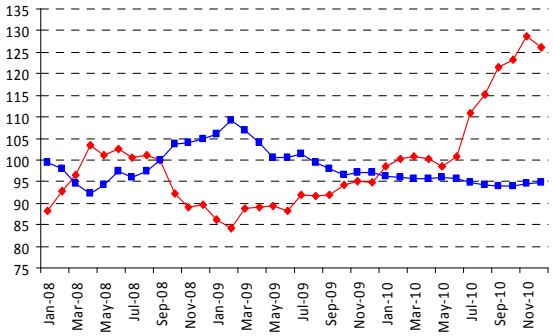
(g)

(h)

Paraguay

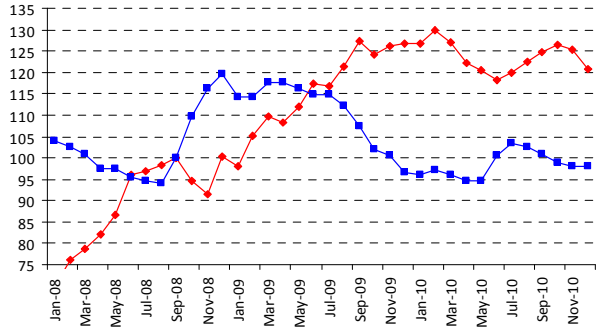


Peru



(i)

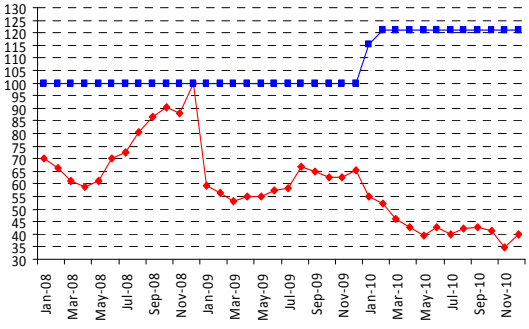
Uruguay



Source: self elaboration from EIU data.

(j)

Venezuela



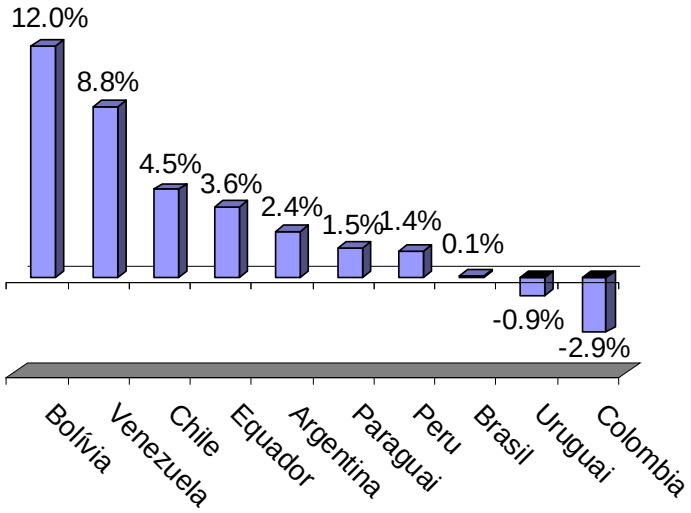
Of the ten countries in the group, Bolivia, Ecuador, and Venezuela (Graphs 2b, f, and j) distinguished themselves from the rest, for most of the three years in question, by operating a system of fixed exchange rates. Therefore, they are extreme cases of the "fear of floating", since the negatives results for the payment balance will have a counterpart in reserve loss, which maintains the exchange parity. Of the three, only Bolivia, which benefited from the continued high demand for its exports (mostly natural gas) and foreign capital inflows, could end 2010 with its reserve value above the level at the start of 2008. Ecuador and Venezuela, on the other hand, between the peaks reached three years ago and the following eight months, registered falls of 69.3% and 47%, respectively.

Argentina (Chart 2a) could also be characterized as a country that prioritizes exchange rate management over the maintenance of reserves on a specific level. Particularly, it is clear that the local authorities' objective, with the exchange rate depreciation, is to offset domestic inflationary pressures, where the price rise surpasses 10% p.a. As a result, after the fall of approximately 5% from September to October 2009, a gradual accumulation of reserves in the same proportion was seen over the following year. The movement would have been more severe were it not for the policy of using reserves to honor government commitments with the payment of interest on public debt.

Brazil, Chile, Paraguay, Peru, and Uruguay (Charts 2c, d, g, h, and i) form the group with behavior closest to that expected when the aim is to maintain the least amount of volatility for both variables: both the exchange rate and the reserves registered expressive and opposing variations throughout the crisis, but returned to their previous path as the external shock subsided. Among the five countries, reserves fell from 10% and 15% after September and the exchange rate increased from 10% to 35%. In three of the countries, at the end of 2010, reserves showed a historical record. Only the Paraguay exchange rate was more depreciated at last years' end than 15 months ago.

Colombia is the only South American country where it can be argued that there really was an authentic "fear of losing reserves", in the sense that international reserves were kept relatively stable during 2008, while the currency exchange suffered a strong variation which raised its relation to the dollar by more than 30%. Coincidentally, in 2007, the Colombian current account registered the largest deficit in proportion to GDP in South America, which makes the importance of capital and financial accounting clear in order to sustain the payment balance of the country (Chart 3). In this way, it is possible to trace a parallel with Aizenman and Sun's (2009) hypothesis that the countries that refused to use their reserves are depend more on exterior financial flows.

Chart 3: Account balance/GDP, 2007



Source: Based on IMF/WEO data.

Conclusion

This article, based on existing arguments in recent research conducted by Aizenman and Sun (2009), presented information on the course of international reserves in South American countries. In this sense, it was verified that, of the ten South American countries considered, only in Colombia is there indication of a "fear of losing reserves", and its international reserves deteriorated less than those of its neighbors, with the external shock causing larger oscillations in the exchange rate. Apparently, the majority of economic policy makers prioritized a mix between depreciation and loss of reserves. Bolivia, Venezuela, and Ecuador presented a particularly distinct pattern given their rigid exchange rate policies.

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