Moreover, since the international accounts may be considered as the concentrated reflection of all the existing problems of individual economies in general or their domestic sectors economic development, as evidenced by the System of National Accounts [8] and the Balance of Payments [1] general identities, the presented paper is supposed to have an important theoretical significance, as well as practical implications.

All conclusions drawn from the undertaken analysis are intuitive and narrative, and therefore require further verification and justification, based on extensive use of statistical material and conduct of econometric research.

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## GLOBAL IMBALANCES BEFORE AND AFTER THE GLOBAL CRISES

В цій статті розглядається визначення, довгострокова динаміка та основні причини виникнення глобальних дисбалансів. Визначається роль глобальних дисбалансів у розгортанні Глобальної кризи, а також основні напрями зменшення глобальних дисбалансів.

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В статье рассматриваются определение, долгосрочная динамика и основные причины возникновения глобальных дисбалансов. Определяется роль глобальных дисбалансов при прохождении Глобального кризиса, а также основные направления уменьшения глобальных дисбалансов.

This article examines definition, long-run trends and key factors behind global imbalances. It defines the impact of global imbalances on the Global crises and optimal ways of rebalancing.

External imbalances are a central theme in international economics and a powerful driver of change in economic history. Under the gold standard, trade balance adjustment was typically very slow and costly for deficit countries, which triggered a search for a better international monetary system. During the interwar period, growing imbalances ended in a dismantling of international free trade and monetary arrangements, adding to geopolitical tensions in the runup to the Second World War. In the early 1970s, tensions over external imbalances caused of a fundamental overhaul of the international monetary system, marking the end of the Bretton Woods system. In the 1980s, widening current account positions led to intensive international coordination with concrete policy commitments under the G5/G7 Plaza (1985) and Louvre (1987) agreements focusing on exchange rates.

In the 1990s, external imbalances in emerging economies were a key source of concern, with a series of financial crises sweeping across nearly all large emerging economies. Today, the world again faces large external imbalances. Aggregate current account positions as a share of global output are twice as large as in the mid-1980s. Gross foreign asset positions have increased fourfold since this period, while net foreign asset positions have increased threefold. Reserve accumulation has reached a never-seen pace in the past decade, a seeming paradox in a world of increasingly freely floating exchange rates. The fundamental operation of the international monetary system is again under discussion, and the strategic role of the IMF within that system is being debated.

Current external imbalances have appeared in a fundamentally new economic landscape with three key features. First, the global economy includes new players that were once at the periphery of global trade and financial flows. Ten years ago, the global economic sphere was not truly global. It was limited largely to a tripolar world consisting of the United States, Europe and Japan. Emerging markets were largely peripheral areas of production and in some cases exotic niches for financial investors. Economic liberalization and post-cold war political transformation have removed borders between the centre and the periphery. Falling transportation costs, the growing use of information technology and deepening financial markets have reduced spatial and temporal distances. The slicing up of production chains has allowed emerging economies to specialize in specific parts of the value-added ladder.

Second, intensifying financial links have altered the character of globalization. Ten years ago, international financial flows, at least in the emerging world, were largely the counterpart of trade flows. Today, financial globalization has prompted a strong increase in gross financial flows. Gross international asset positions rose above global GDP in the early 2000s and are now around 1.3 times as large. This surge in international portfolios was made possible by a strong rise in overall financial wealth, coupled with a secular decline in investors' home bias and accelerated by financial innovation.

Third, the growing imbalances occurred in a phase of improving macroeconomic and financial conditions, with record high economic growth and record low financial market volatil-

ity. Ten years ago, the global macroeconomic environment was still surrounded by considerable uncertainty. High business cycle volatility, financial crises in emerging markets (Asia, Russia, Brazil, Turkey), instability in pockets of the developed industrial financial markets (Long-Term Capital Management) and concerns about inflation still plagued the global economy. From 2004 to at least until early 2007 the global macroeconomic environment looked very stable, with global economic growth around 5% per annum over the period 2004-07. Business cycle volatility decreased, at least among the industrial countries. Inflation was tame in spite of the strong growth environment. Financial market volatility and risk aversion were at record lows. Having said that, a number of market corrections (for example in May 2006 and February 2007) as well as the financial market turmoil that started in August 2007 signaled that markets considered some repricing of risk necessary. Still, emerging markets appear to have been more resilient to financial turmoil in the mid-2000s than a decade earlier.

The emergence of new players, the deepening financial globalization and the stable macroeconomic environment complicate the assessment of imbalances. Large imbalances could be seen as an equilibrium, market-driven outcome in a world operating under a new paradigm.

A good understanding and close monitoring of global imbalances are important for two reasons. First, large and protracted external imbalances can be linked to distortions in economic decision-making, especially to the extent that such imbalances deviate from the levels at which they would be in a world with full price flexibility and perfect competition. Such deviations may be caused by public policies or private sector decisions. One example could be the unprecedented pace of reserve accumulation — an anachronism in an era with a never-seen share of currencies with floating exchange rate and central banks targeting inflation — which may create distortions in asset prices. Excessively easy global liquidity conditions may fuel unwarranted risk taking and lead to bubbles in global asset markets. Exchange rate pegging on the part of some emerging economies with large imbalances may lead to sustained deviations from equilibrium. These policy choices may have an impact on private sector decisions and on financial market prices, including on the returns on assets held by reserve accumulators.

Second, external imbalances entail risks, both under a scenario of unwinding (disruptive macroeconomic developments) and under a scenario of further increasing imbalances (protectionist pressures). An unwinding is likely to affect all areas of the global economy, given the unprecedented scale and unique geographical reach of the imbalances. The large stock of international financial portfolios increases the potential fall-out from large asset price changes. Financial transmission channels have become very important, as illustrated in February 2007, when a shock in a "remote" segment of the global financial markets (Shanghai's stock market) propagated to the entire spectrum of global financial markets, or in July-August 2007, when tensions in a specific sub-segment of the US financial markets (mortgage loans) triggered a generalized re-pricing of risk across nearly all asset classes.

But risks may also appear if the external imbalances continue at present levels. For instance, the persistence of imbalances may have induced markets to take a complacent view of these imbalances and to take excessively risky investment positions. Also, the existence of imbalanced trade flows intensifies calls for protectionist responses.

At the outset, it would seem that one can define global imbalances simply as "widening current account deficits or surpluses". This notion seemed to underpin the early work on global imbalances, in particular in the late 1990s and early 2000s, when the academic and policy community focused mainly on understanding the drivers and sustainability of the US current account deficit. While such a definition would be convenient, the focus on current account deficits or surpluses does not do full justice to the phenomenon of global imbalances. In particular, it

misses out the important financial dimension of imbalances, as captured for instance by gross and net international capital flows and the build-up of international investment positions. Also, a focus on widening deficits or surpluses is not helpful in assessing whether trends are "unbalanced" or "balanced". The concept of imbalances suggests that positions are not in line with their long run equilibrium value. Therefore, a definition of imbalances should arguably contain some element to assess the "unbalanced" versus "balanced" nature of the external positions.

With these considerations in mind, we define global imbalances as: External positions of systemically important economies that reflect distortions or entail risks for the global economy.

The definition includes several elements:

- "External positions": this refers not only to current account balances but also to financial positions. This is crucial in view of financial globalization, which implies that the financial dimension is more than the current account dimension with an inverted sign.
- "Systemically important economies": these are economies whose macroeconomic and financial developments may have a significant impact on the global economy. While the concept of systemic importance is not fully unambiguous, it is useful because it contains the notion that economies participate in global goods and financial markets, and that may have a global impact either because of their size or because of other factors (e.g. important financial centers, key regional players).
- "Reflect distortions": the build-up of external positions may (partly) reflect distortions, i.e. deviations from the equilibria that would prevail in an environment of full price flexibility and perfect competition. The distortions can be introduced by economic policies, for instance fixed exchange rate policies, structural policies (e.g. lack of economic flexibility), or macroeconomic policies (e.g. public saving policy-induced distortions in private saving decisions or the influence of cartels on oil prices).
- "Entail risks for the global economy": the existence of external positions may pose risks for the global economy, both under a scenario of unwinding (risk of disorderly unfolding with

	1980		1990		1995		2000		2008	
	Billion US dollars	% world GDP								
Deficit	173.2	1.48	296.2	1.30	342.4	1.16	681.7	2.12	1641.0	2.69
Surplus	115.0	0.98	188.1	0.82	285.5	0.96	504.9	1.57	1832.5	3.00

disruptions to macroeconomic and financial stability) and a scenario of further increasing imbalances (risk of a protectionist backlash). The reference to distortions and risks captures the extent to which external positions are unbalanced, as opposed to balanced. These two notions are particularly helpful from a policy viewpoint [9].

Since the outbreak of the world financial crisis, the phenomenon of global imbalances (the coexistence of large current account deficits and surpluses in the global economy) has taken center stage in the debate on the international economic outlook. Academic and policy scholars have pondered the nature of the imbalances and have offered contrasting views about their role in the inception of the crisis, their potential threat to future global economic stability, and the policy measures that should be taken towards what has been termed the "rebalancing" of the global economy.

Global imbalances are not a new phenomenon. In fact, the 1980s witnessed a situation qualitatively similar to that observed in recent years, characterized by large U.S. current account deficits that were persistently funded by other countries. There are two important differences, however. One is the magnitude: the U.S. deficits of the 1980s did not reach the scale of those observed more recently, and the episode was also briefer. The other is the geographic distribution: in recent years, the U.S. external deficits, as well as those of other advanced countries, have been funded primarily by emerging economies, unlike in the 1980s, when such funding came mostly from other rich countries (with Japan as the primary lender) [10; 18].

The global imbalances phenomenon has become the object of special attention since the middle of the current decade, because it reflects a whole set of problems which could not be explained by means of the standard economic theory. The problems we refer to appear as a structural break in the international economic relationships at the beginning of the new millennium and can be described as follows: a) big and increasing deficits in the US current account balance; b) big surpluses in the current account balances of China, Southern Asia and oil exporting countries; c) a massive accumulation of reserves in the surplus countries, accompanied with resistance to appreciate their currencies; and d) massive capital inflows in the US economy and low world interest rates (table 1).

## Table 1 Disequilibria of the current account balances [3, p.27]

Table 1 shows the evolution of the world trade balance since 1980. In 1980 the total sum of world current account deficits rose to 173,200 million dollars, less than 1.5% of the world GDP, whereas the addition of surpluses reached 115,000 million dollars, 0.98% of the world GDP. Although during the nineties, absolute values of disequilibria increased, their relative values decreased. However, from the mid-nineties, the absolute and relative value of these disequilibria increased rapidly. In 2008, accumulated deficits rose to 1.6 billion dollars (2.7% the world GDP) and accumulated surpluses exceeded 1.8 billion dollars (3% the world GDP).

Global imbalances are commonly presented as a generalized phenomenon on a global scale, where a large number of (developed) countries with deficits in their current account balances (surpluses in their financial account balances) have to confront with a large number of (developing) countries with current account surpluses (financial account deficits) [3].

In other words, recent global imbalances involve a flow of capital from poor countries to rich countries, against the prediction of conventional economic theory that developing countries should be net capital importers. These distinguishing features of the global imbalances of recent years raise the presumption that the factors behind them are likely different than those at play in the 1980s. Understanding such factors is important to assess how global imbalances may evolve after the world crisis.

In spite of their recent rise to prominence in the debate on the roots of the crisis, global imbalances are hardly a new feature of the world economy. The U.S. current account deficit grew virtually without interruption since the mid 1990s, to exceed 1% of world GDP after 1999. It peaked in 2005 and 2006 at over 1.5 % of world GDP. Thereafter, the U.S. external deficit declined, to about 1.2% of world GDP in 2008, and preliminary estimates suggest that it fell under 1% in 2009. The world economy is obviously a closed system, and the deficits of some countries have to be matched by the surpluses of others. During the late 1990s, the counterparts to the U.S. deficits were the large surpluses of Japan and emerging Asian countries, excluding China, as well as the surplus of the EU during the years of the Asian crisis (1996-1997). After 2000, however, the situation changed radically. While the U.S. remained the country with the biggest current account deficit relative to world GDP, the biggest surpluses were now those of

China and oil-exporting countries. In fact, since 2005 China's surplus has exceeded the combined surpluses of Japan and the rest of emerging Asia, and during 2007-2008 the bilateral deficit with China accounted for an increasing fraction (around 40%) of the U.S. overall current account deficit [1; 2;18; 19].

The main issue with large current account deficits is obviously their sustainability, that is, whether they will be met by sufficient, timely and affordable inflows of foreign capital. In the case of the US for instance, it bears on the questions of (i) the size of the financial obligations that the deficit reflects, (ii) the availability of income payments and receipts that will eventually be paid out of the economy's production—with the risk of reducing current consumption and investment, and (iii) the confidence in creditor nations or in the low probability of sudden swings in the mood of foreign investors. Macroeconomists usually come to one of the following two opposite conclusions:

+ Global imbalances represent an anomaly and a major threat to the stability of the world economy. First, they may reflect domestic problems or distortions (lack of social insurance, poor firm governance or financial repression in surplus countries and excessive public borrowing in deficit countries); or problems with the international monetary system and exchange rate regimes (large accumulation of reserves for self-insurance purposes). Second, they may lead themselves to significant domestic problems such as capital flows volatility, especially when the exchange rate is fixed. Action should therefore be taken to cut the US external deficit and China's external surplus. Both countries should adjust their saving rates (an increase in the US and a decrease in China). If one assumes that there is an upper limit to growth in China, an increase in the growth of domestic demand must be associated with a decrease in the growth of foreign demand, even not in the exact same proportion. This would require a change in relative prices.

+ Global imbalances may not be as threatening as they appear because they reflect a general trend in world economic history and the structural changes associated with globalization. In a way, they are just the logical outcome of a world that is increasingly characterized by the increased integration of real and financial markets. The low U.S. saving hypothesis should be seen therefore as unconvincing, not least because the national account data underestimates savings by excluding purchases of consumer durables and expenditure on education and research and development from the definition, and because the U.S. current account deficit started in the 1990s—precisely when the external account balance swung into surplus [15].

Since the current account surplus is identically equal to the difference between saving and investment, the trends in these two variables in different countries and regions provide some information about the sources of changes in their respective external imbalances. In the case of the United States, the most remarkable factor is the uninterrupted fall in saving after 1997, at an accelerating pace since 2006. As a result, in 2008 the saving rate reached its lowest level in two decades, a full seven percentage points below its value in 1990. This reflected both declining public saving – owing to expansionary fiscal policy and falling private saving facilitated by financial innovation and improved access to consumer credit. In turn, investment followed a cyclical pattern, with peaks in 1999 and 2006. Comparison of the trends in saving and investment reveals that from the end of the 1990s to 2003 falling saving was the principal cause of the increasing external deficits of the U.S., while after that year the trends in the current account were dominated by those of investment rates – increasing until 2006 and decreasing later. The low saving of the United States stands in sharp contrast with the extremely high levels observed in China, where saving currently accounts for over half of GDP. Since 2000 both saving and investment rates rose in China, but the former did so more quickly. The result has been a major increase of China's current account surplus, which peaked at 10 % of GDP in 2007. Aside from the U.S., in other industrial countries saving and investment rates have undergone only relatively modest changes. In the EU, the slightly decreasing trend in saving over the last decade led to a gradual reduction, and eventually a reversal, of the area's current account surplus. In Japan, both saving and investment rates followed a downward trend over the 1990s, but they remained fairly stable in the last decade, during which the current account continued to show a modest surplus.

The trends in saving and investment in industrial countries stand in contrasts with those observed in Asian and oil-exporting countries. In both groups, saving followed an upward trend. In Asia this reflected rising saving in the region's emerging markets, while in oil-exporting countries the reason was the persistent rise in world oil prices. Rising saving led to widening current account surpluses in both groups of countries especially among oil exporters, whose combined surplus exceeded 15 % of GDP in 2008 [7; 18].

The roots of global imbalances have attracted massive interest from academics and policy analysts. We can distinguish two basic views:

1. The disequilibrium approach. It considers global imbalances an unsustainable phenomenon, whose impending correction must entail U.S. current account adjustment and a major depreciation of the dollar. These could come in the form of a sudden stop of capital flows into the U.S. and collapse of the exchange rate.

Excluding the possibility of default and abstracting from capital gains and losses on external assets and liabilities, the intertemporal budget constraint of a country dictates that its net liability position against the rest of the world at any given time cannot exceed the present value of its future current account surpluses.

Whether the deficits reflect intertemporally-optimizing behavior or, as argued by many observers, excessive private and public spending, the fact is that the U.S.'s net foreign asset position has undergone a steep decline. From a creditor position amounting to 10% of its GDP at the beginning of the 1980s, it has turned into a debtor position that was approaching 25% of GDP in 2009. In absolute terms, this is the biggest debtor position in the world. According to the disequilibrium approach, this is an unsustainable trend, and the country at some point needs to change the sign of its trade balance. This in turn entails a depreciation of the dollar to increase U.S. net exports.

The disequilibrium view dictates that the correction of the external imbalances demands a real adjustment – a reversal of the trade balance. But recent literature has underscored a potentially important role that financial adjustment can play. Such role arises because the change in the net foreign asset position of a country consists of (1) the trade balance and (2) the total return on net foreign assets, inclusive of changes in the prices of assets and liabilities. This means that the depreciation of the dollar has a double effect on the external asset position of the United States. On the one hand, it generates a real adjustment, through an improving trade account balance. On the other hand, it generates a financial adjustment through capital gains (losses for the rest of the world) [11; 18].

2. The equilibrium approach. It takes a diametrically opposed perspective, according to which global imbalances represent an equilibrium situation that, absent changes in its deep determinants, can be self-sustaining. The equilibrium approach explains global imbalances as the result of structural factors and/or policies adopted by economic authorities in other countries that have led to a steady accumulation of assets on the U.S. by the rest of world. Absent changes in such structural factors and policy choices, global imbalances could persist. Although details vary in different versions of the equilibrium approach, one feature common to all of them is the emphasis on the capital account, in contrast with the emphasis placed on the current account by the disequilibrium approach.

Within this general perspective, it is necessary to distinguish two main versions. The first one underscores international asymmetries in the supply of and/or demand for financial assets. Its key ingredient is the financial underdevelopment of emerging countries, which prevents them from generating financial instruments attractive for their savers – because the yields on local assets are too volatile, or because of the expropriation risks that they bear, as made clear by the recurring financial crises of the 1990s. The result is that international savers tilt their portfolios towards assets of countries with more advanced financial markets – the United States in particular. A growth acceleration in emerging countries (or an oil price boom) that increases their wealth and saving the ultimate causes of the so called 'global saving glut' – leads them to expand their holdings of U.S. assets. The only way this can be achieved is through U.S. current account deficits that raise the volume of U.S. assets available to international investors. This process can persist as long as its driving force the underdevelopment of financial markets in emerging countries – remains unchanged. As a result, capital flows 'uphill', from poor to rich countries.

An analogous line of reasoning stresses international asymmetries in the demand for assets, rather than their supply. These may arise from the limited appropriability of the returns on emerging-market assets or, alternatively, from the shortcomings of the social protection system of these countries, which force individuals to save more for retirement or to protect themselves from the risk of unemployment. In either case, the result is that savers in emerging countries tend to save more than those in industrialized countries. In a context of international financial integration, this leads to a global equilibrium in which emerging countries acquire a creditor position, whereas advanced countries are net debtors. If the ultimate determinants of this equilibrium—the underdevelopment of financial markets, or the weakness of the social protection system, respectively—remain unaltered, global imbalances and uphill capital flows can persist indefinitely [4; 5; 12;18].

The second version of the equilibrium approach emphasizes policy makers' choices as the main cause of the accumulation of external assets by emerging markets. Again there are two variants of this argument. One attributes foreign asset hoarding to the so-called "new mercantilist" development strategy: the attempt of a number of emerging markets—particularly in East Asia, with China among them—to pursue export-led growth. Such objective calls for an undervalued real exchange rate to preserve export competitiveness. The best way is to achieve this is by compressing domestic spending, particularly consumption, which inevitably leads to persistent current account surpluses and foreign reserve accumulation. This strategy defines the so-called 'Bretton Woods II' system, in which emerging Asian countries play the role of producers of last resort, and advanced countries—led by the United States— are the consumers of last resort whose current deficits are financed by capital inflows from Asia.

Another variant of this argument justifies the accumulation of external assets as a precautionary policy. In the absence of mechanisms for international diversification of aggregate risk, emerging countries integrated in the global financial system need to resort to self-insurance against external shocks such as disruptions of international capital flows— of the kind observed in the crises of Asia and Russia in the 1990s. They accumulate external assets, preferably short-term instruments, from which they can draw in the event of a 'sudden stop'. Unless the global financial system generates new international diversification mechanisms, this precautionary for-eign asset accumulation is unlikely to stop. The massive accumulation of international reserves of emerging economies during the last decade seems to confirm that the policy of deliberate hoarding has played an important role. Between 1998 and 2008, reserve holdings of the latter, measured at constant prices, increased fourfold, while those of industrial countries rose only 50

percent. As a result, the volume of international reserves held by emerging markets at present greatly exceeds that of industrial countries. For example, at the end of 2008, China's foreign reserve stock was almost as large as that of all industrial countries combined. The rest of emerging Asia has also increased dramatically its reserve holdings. But the phenomenon is not confined to Asia; Latin American economies (with Chile at the top) and oil exporting countries have also accumulated large volumes of international reserves over the last decade.

Net purchases of U.S. assets by official entities (central banks and other government bodies) from emerging markets in Latin America, Asia and the Middle East have grown increasingly large in the 2000s. After the onset of the crisis in 2007, they became the sole source of inflows from these countries. However, over the decade as a whole the total volume of emerging-market official inflows to the U.S. was roughly on par with that of private inflows.

Thus, the big role played by private capital in the total flows from emerging markets in the run up to the crisis seems to lend some support also to the first version of the equilibrium approach summarized earlier, which explains global imbalances primarily on the basis of asymmetries in the supply and/or investors' demand for international assets.

The role of global imbalances in the inception of the world crisis has been hotly debated. Some observers view the imbalances as one of the key causes of the crisis, and make their elimination an urgent priority to safeguard the stability of the world economy. Others think that the imbalances have played, if anything, a secondary role, and that the roots of the crisis have to be found instead in the shortcomings of financial regulation, and possibly also in misguided macroeconomic policies in rich countries, both of which may have caused, in turn, a widening of global imbalances [18].

The literature has identified a number of channels through which monetary policy might have contributed to the build-up in financial imbalances. Most of these are thought to have worked through policy rates that were kept low for too long. Loose monetary policy (a low short-term rate) may have (i) reduced the cost of wholesale funding for intermediaries, leading those intermediaries to build-up leverage; (ii) may more generally have caused banks to take more risks, including credit and liquidity risks; and (iii) may have increased the supply of and demand for credit (mortgages), causing asset (house) prices to rise.

Rising global imbalances are associated with a greater dispersion of current account positions across countries and larger net flows of capital between countries. At the level of an individual country, a current account deficit is matched by net capital inflows, as foreign investors build up claims on the domestic economy. High capital inflows in turn (i) can reduce the cost of wholesale funding for domestic banks in international markets; (ii) may reduce long—term interest rates (and thus compress spreads), causing financial institutions to lever up and investors to "search for yield"; and (iii) may increase the total supply of credit to the domestic economy, causing local asset (house) prices to rise.

Supervision and regulation of the financial system is a key means to prevent crises, by controlling moral hazard and discouraging excessive risk-taking on the part of financial institutions. Inadequate supervision and regulation are therefore prime candidates to have caused the global financial crisis [14].

According to the first view, global imbalances helped trigger the financial crisis because they put international financial intermediation under stress. On the one hand, the financing of large international imbalances forced financial institutions to intermediate huge masses of resources. On the other, the imbalances caused a decline in world interest rates, which encouraged credit growth and investors' 'search for yield'.

Under weak financial regulation, these two forces fueled excessive risk-taking by financial

upon closer scrutiny, however, these arguments seem questionable. It is not obvious why the stresses on the financial intermediation system should relate to net capital flows, which are the counterpart of current account deficits. It seems more logical to think that such pressures depend, if anything, on the volume of gross resources intermediated, which bears no systematic relation with net flows. In this regard, it is important to note that the order of magnitude of the U.S. current account deficit (around of 5-6 % of GDP at its peak) is very modest in relation to the size of its financial system, so that changes in the deficit of a few percentage points of GDP are very unlikely to have any material effect the pressures that the financial system has to withstand.

The geography of the financial crisis is not supportive of this view either. Banks in surplus countries, such as Switzerland or Germany, were as involved as U.S. banks in the creation of supposedly risk-free assets through concentration of risks. A more plausible story is that banks that engaged in such strategies with the help of weak regulation got into serious trouble, whatever the sign of the current account of the countries in which they were based. It is also unclear how global imbalances would have caused the decline in world interest rates. The persistent decline in real interest rates is very likely related to the 'global saving glut' underscored by Bernanke. But it is not obvious how it should relate to the increased dispersion of current account deficits across the world, which is what global imbalances are about. Thus, while low real interest rates offer a fertile ground for the formation of bubbles, it is not obvious that they would necessarily rise if global imbalances were somehow eliminated.

Some observers have also argued that the ability of deficit countries, notably the U.S., to finance large imbalances through foreign borrowing at low cost allowed them to postpone the correction of expansionary macroeconomic policies that likely helped fuel asset price bubbles. More importantly, the boom in asset prices contributed to widening the external gap in deficit countries, by encouraging consumption as well as residential investment – with the help of financial innovations that allowed households to increase spending in the face of rising net worth.

In theory, large current account imbalances are not themselves a problem. Current account imbalances can reflect the optimal responses of economic agents to changes in, e.g., the anticipated profitability of investment. In reality, however, the experience of past crises has shown that large external imbalances often represent a major source of aggregate fragility. Economies with large current account deficits may be left at the mercy of swings in capital flows. Also, large external imbalances facilitate international contagion when their funding takes the form of volatile short-term capital.

On a global scale, the crisis led initially to an abrupt fall of international capital flows, and to the collapse of world trade and oil and commodity prices. The latter in turn caused a large reduction in the surplus of oil-exporting countries, which is estimated to have fallen from over 2% of world GDP in 2008 to about 0.5% in 2009. But in some important ways the impact of the crisis was very different than expected. Instead of the depreciation that many had predicted, the dollar experienced an initial appreciation, as a result of international investors' 'flight to safety' that led them to shelter in low-risk U.S. Treasury debt, at the expense of all risky assets – from corporate debt to emerging-market assets. The dollar became the reserve currency of last resort, and the government of the United States the borrower of last resort. Paradoxically, the United States, undeniably the source of the crisis, turned out to be also investors' last refuge.

Global imbalances may well be restored after the crisis. To the extent that the deep determinants of the imbalances remain largely unchanged, the post-crisis configuration of current account deficits might not be very different from the pre-crisis situation. Several ingredients contribute to make this a likely scenario. First, from a global perspective, the crisis has under-

scored the effectiveness of the self-insurance strategy pursued by emerging markets, as countries that had amassed big volumes of external assets managed to weather the global storm better than the rest. In fact, this may encourage these and other countries to intensify their accumulation of foreign assets, especially given the fact that even at the height of the turmoil – some emerging economies were reluctant to use up their vast reserves because they feared weakening the confidence of international investors. This in turn may prompt them to hold even bigger stocks of liquid foreign assets in the future.

Second, in the same vein, barring deep – and, to date, unforeseen – reforms to speed up the development of emerging countries' financial markets, savers from those countries will very likely continue to demand large volumes of financial assets from more developed markets. Moreover, while international savers may increase their degree of diversification away from U.S. assets, a massive sell-off of dollar assets by large investors (such as China) is unlikely, as they would incur big capital losses on their asset holdings. These global factors imply that the "uphill" pattern of capital flows is likely to persist. In turn, from the U.S. perspective, a quick rebound of the economy from the crisis could lead the way to the recovery of world trade and commodity prices, and firm up the comeback of capital flows from emerging countries. Further, the record-high U.S. public deficits could well prevail over the rise in private saving prompted by the fall in asset prices and household net worth, halting (although perhaps not reversing) the decline of the current account deficit.

For small developing countries, this scenario would come close to 'business as usual', at least for some time. In a context of rapid recovery, Asian emerging countries could continue to pursue their export-led growth strategy based on currency undervaluation, fueling further the return of global imbalances. However, one potentially important difference is that, in the post-crisis world, improved financial regulation, as well as enhanced investor awareness, will likely bring to an end the underpricing of risk that characterized the run up to the global financial crisis. This means that the cost of capital, especially for developing countries, is likely to be higher than it was in the pre-crisis world, so that the efficiency of investment will become a more pressing concern from the perspective of developing-country growth.

Though less likely, other forces might push to significantly narrow global imbalances. From an international perspective, the new mechanisms of international risk diversification (such as the contingent credit facility recently established by the IMF) might begin to reduce the incentives for self-insurance and stop the buildup of foreign reserve stocks in emerging economies. This in turn would bring a double benefit. It would relieve these economies from the need to hold low-yield short-term foreign assets and allow them to diversify their portfolio into more profitable investment opportunities. Moreover, for the global economy a reduction in developing-country reserve holdings would help limit the excess demand for safe assets that many observers place at the core of the crisis. It would also contain the buildup of global systemic risk arising from the 'fire sale' externality that liquidation of major-currency assets by countries in distress would impose on other countries.

A shift in portfolio diversification by international savers away from U.S. assets would also contribute to a narrowing of global imbalances. While such trend has been at play since the late 1990s, it could accelerate in the face of investors' renewed doubts about the future performance of the U.S. economy and the dollar, or if the recent turmoil in the U.S. financial system – which rendered worthless a great volume of assets – were to weaken the perceived appeal of U.S. assets. However, there is little indication that such accelerated shift is taking place. An early withdrawal of the fiscal stimuli by the economic authorities in the U.S. and other advanced countries would have similar consequences. Such course of action, however, could also delay the world

recovery, and put in jeopardy the export-led growth strategy pursued by a number of emerging markets. Although China and other major emerging countries have so far weathered the crisis reasonably well, they did so in the context of aggressive fiscal stimuli in advanced countries. A reversal of the fiscal expansions in rich countries, and a longer-lasting global slump, would imply a further slowdown in global demand for developing country exports.

From the perspective of low-income countries, the increase in import demand from middle income economies could pick up some of the slack, and help them offset, at least in part, the slowdown in advanced economies' export demand. However, the export-led growth strategy pursued by a number of middle-income emerging countries, notably in East Asia, would come under stress in a context of reduced global demand [13; 16; 18].

One way out of this impasse would be for surplus emerging markets to rebalance their economies through an increased reliance on inward-looking growth. Such shift may have already started, as shown by the massive fiscal stimulus implemented by China in 2009, one of whose stated objectives was to ease the economy's dependence on world export market growth. In the short run, the stimulus has helped China maintain its high growth rate, but mounting concerns have arisen recently regarding the (in)efficiency of the expenditures involved, as well as their possible contribution to the emergence of asset bubbles. In general, an orderly rebalancing of emerging economies with strong external positions and sound macroeconomic frameworks would likely involve an exchange rate appreciation upfront to reduce the accumulation of foreign assets and encourage domestic demand. Policy measures attacking entrenched distortions, such as those causing excessively high saving rates in both the household and corporate sectors, and those hampering financial development would help in this regard. The high saving rates of China and other emerging Asian countries do not just reflect frugality and hard-to-change cultural values – although these factors surely play a role. They are also partly attributable to the weak social protection system. In this respect, the strengthening of social safety nets under way in China and other emerging countries will likely reduce their astronomical household's saving rates and increase their consumption. The process may take a considerable time, but it should eventually allow a substantial increase in domestic demand [6, 18].

Although global imbalances have diminished to some extent during the ongoing financial crisis, the phenomenon of high and persistent current account imbalances will stay with us since the structural reasons behind them have mostly not been resolved. In East-Asian countries like China financial markets will remain underdeveloped and precautionary saving will continue to play an important role in the medium term and may reinforce the 'saving glut'.

Oil exporting countries are likely to be net savers in the foreseeable future as well. Conversely, in countries that have run large current account deficits so far, structural reasons such as relatively favorable demographic trends or a particularly flexible and dynamic economy may remain relevant. In addition, unsustainably high levels of domestic absorption in some countries may be supported to some extend by governments running large fiscal deficits for an extended period of time [8].

In general, government policy should probably not try to focus on the external balance of a country or on global imbalances in general as net exports and associated changes in net foreign assets can be seen as the natural outcome of individual agents' economic decisions governments should only carefully interfere with. However, high and persistent current account imbalances may indicate structural problems in an economy which should be approached in the interest of the economy. For example, in the case of China the extremely high level of the household savings ratio which is behind the high current account surplus suggests that there may be policy options available which increase the welfare in the Chinese economy and at the same time work in the direction of more balanced external accounts. In particular, an improvement of social se-

curity systems could decrease the need for private savings and provide a rather quick alignment of current accounts. However generally, emerging market economies need investments to build up a suitable capital stock.

Thus, a more important step is the improvement of financial institutions in emerging markets. The inability of financial systems in emerging markets to provide suitable assets and thereby to intermediate savings and investments on a national level increased the demand for assets denominated in Dollars contributing to the phenomenon that we became used to call "savings glut". Building a more developed and integrated financial system in emerging economies could change the situation.

Probably even more importantly, the regulation of financial markets on a global scale and in particular in countries with highly developed financial markets is necessary to reduce the probability of re-occurrence of asset price bubbles. Apparently financial institutions took on too much risk. Some of the underlying faults that led to financial crises also supported global imbalances to rise. Therefore an institutional framework that stabilizes financial markets at a global level could be one cornerstone in preventing unsustainable global imbalances as well as global financial crises in the future. Reasonable steps towards a better regulation of financial markets are a ban of off-balance-sheet liabilities, implementation of a new structure in the field of rating agencies in order to prevent moral hazard, or introduction of a compensation scheme for bank managers orientated at sustainable developments, among others.

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# INTERNATIONAL LABOR MIGRATION IN A PERIOD OF GLOBAL ECONOMIC CRISIS

Abstract. In the article, the author considers the impact of financial and economic crises on labor markets and international migration in past decades and current period. This article investigates the factors that affect international migration the most, based on migration theory and expert studies. It is emphasized that transformation of patterns and processes of international migration is taking place, and

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