The Global Imbalances from 1996 to 2009: Diagnosis and Prescriptions

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One of the main global economic concerns before the financial crisis in 2007/2008 was the emergence of widening global imbalances, which refer to the large and persistent current account deficits experienced in the United States and the corresponding surpluses mainly in China, emerging Asia, and oil exporting countries. Not only the pattern and magnitude of the current account imbalances, but also the direction of global capital flows (from emerging to advanced countries) is peculiar. Many observers have already discussed different causes and explanations of global imbalances, e.g. the revived Bretton Woods system hypothesis, the asset shortage hypothesis, or the global savings glut theory. The main focus of recent debates lies on the sustainability of those imbalances and whether policy measures aiming on the reduction of imbalances should be adopted. The debate does not seem to have a clear answer which everyone agrees with. Some view global imbalances as an equilibrium outcome of asymmetries in financial development or in world asset demand and supply. For others, global imbalances are an unsustainable phenomenon which needs to be corrected through current account adjustment, dollar depreciation and reforms of financial institutions.

This paper analyzes and evaluates the different views on the sustainability of global imbalances and asks whether a rebalancing mechanism is necessary or not. The key points which I focus on especially in this paper are as follows. First, I review and analyze the facts on global imbalances from 1996 to 2009. Second, I discuss viewpoints which suggest different positions — no-rush-to-rebalancing, rebalancing-is-harmful and rebalancing-is-necessary — and put them into the context of common theories on the roots of imbalances. Some of the theories try to explain or justify the sustainability of global imbalances. I argue that the U.S. current account deficit and foreign surpluses will not disappear automatically (even if the crisis led to an initial reduction of the imbalances). I further argue that the possible interaction of current account imbalances with domestic and systemic distortions bears risks of a global recession and that unless countermeasures to rebalance the global economy are adopted, current account imbalances are likely to return and increase again.

Keywords: Global imbalances, Current account, Savings, Investment, Exchange rates, U.S. current account deficit, Sustainability, Bretton Woods II, Demographic change, Asset shortage, Global savings glut

1. Introduction

In 2006 the U.S. current account deficit reached its peak of $811 billion or about 6% of GDP or 1.5% of world GDP. Global current account imbalances have been and still are at the center of international policy debates. The main questions are why and how imbalances in the world economy should be reduced. Are current account imbalances bearing direct risks for the global economy? If so, how can rebalancing be achieved?

By definition, the current account balance is equal to the difference between gross domestic savings and investment. Thus, a country's current account balance reflects the savings and investment behavior of the domestic economy. There is much disagreement between current account deficit and surplus countries on monetary policy measures particularly when measures to rebalance the global economy conflict with the countries' own interests in protecting domestic activity and stability and power of the home currency. The United States blame China's refusal to let the yen rise faster and at the same time China blames the United States' loose monetary policy. Moreover, developing countries which should have rich investment opportunities of their own are lending cheaply to industrial economies, mainly to the United States. Capital is flowing away from poor to rich economies which also contributed to triggering the financial crisis by pushing down the U.S. long-term interest rate. The pattern of current account balances and international capital flows does not appear to conform to what would be predicted by standard economic theory. Moreover, there is doubt that a financial system in which emerging countries are vulnerable to sudden floods and droughts of foreign capital can be a stable basis for long-term growth. But more importantly, the fact of widening global imbalances and the rising U.S. current account deficit raises complaints about the dominance of the dollar as a reserve currency since it risks to leave the rest of the world vulnerable to the U.S. domestic monetary policy.

The pattern of global capital flows over the last century shows that global imbalances are not a new phenomenon. From the gold standard era over the Bretton Woods era to the oil shocks in the 1970s, global imbalances have always been existent. The 1980s were, similar to today, characterized by large current account deficits in the United States as opposed to surpluses in other countries. However, compared to the past decade, global imbalances at that time differed in their magnitude and geographic distribution; the U.S. deficits were not

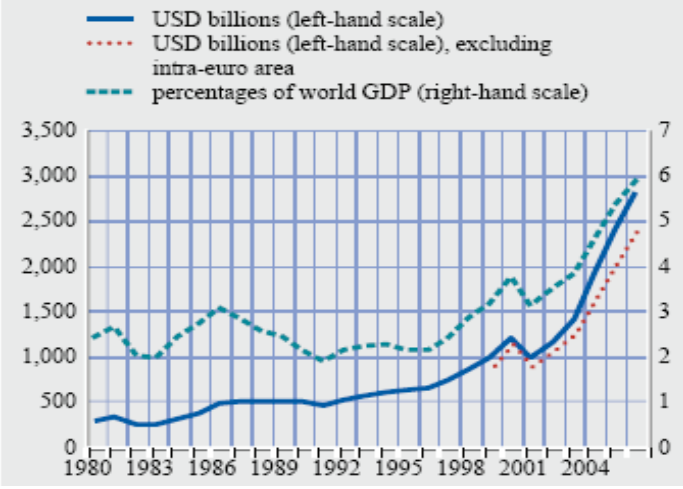
as large as those observed in recent years. Moreover, the current account deficits of the U.S. and some other industrialized countries of today are primarily funded by emerging countries whereas in the 1980s the lender countries were mostly other rich economies like Japan. Surpluses of today are spread across emerging Asia, some oil-exporting countries, Japan and other industrial countries, like Germany and Canada whereas deficits are more and more concentrated in one single economy — the United States. When summing up all current account deficits in the world economy in 2006, the U.S. deficit accounted for about 70% of the total. What are the forces behind this phenomenon? Why is the world's largest economy at the same time the world's largest debtor? Is this situation bearing risks for the United States and for the global economy? Or are current account imbalances and the current pattern of global capital flows sustainable?

Among economists and politicians there are different arguments and views on the sustainability of global imbalances. Cooper(2008) argues that the rising U.S. current account deficit over the last 10 to 15 years is a natural outcome of the globalization of financial markets and of demographic change. According to his view, attempts to force down the U.S. current account deficit may be misguided and bears risks of reducing world aggregate demand by reducing U.S. expenditures without a corresponding increase elsewhere in the world, which would provoke a world recession. He claims that the large U.S. current account deficit may be sustainable. Dadush and Eidelman(2011) argues that global imbalances and the international capital flows that mirror them mainly reflect market-driven differences in savings trends and investment opportunities and that they do not primarily result from manipulated currencies or protectionism. He claims that most imbalances are not a problem of themselves and that the global credit crunch has naturally led to a large rebalancing of global demand during the past two years. He argues that most current account deficits and surpluses today are in the 3% to 5% of GDP range and that they will likely remain in the medium-term. Moreover, he claims that historically current account imbalances have been financed without problems and adjusted to over time. Does this mean that the current global imbalances are harmless or at least not as severe as some politicians and economists claim? Chinn, Eichengreen, and Ito(2010) point to the need of concrete policy actions for rebalancing; regulatory reforms should aim on improved supervision and corrections of incentive problems in financial markets. They stress the importance of adjusting fiscal

policy in order to prevent threats to financial stability and growth as current account deficits widen and capital inflows increase. Bini Smaghi(2008) argues that global imbalances pose a major threat to the global economy and that adjusted actions by governments and financial institutions are needed in order to rebalance; central banks should respond to liquidity problems in the financial system by providing liquidity and reducing financial market strains. And Ahearne *et al.*(2007) claims that the large deficits and surpluses are not sustainable and that global current account adjustment must take place which requires a rebalancing of demand and saving across the globe as well as a depreciation in the dollar and corresponding appreciations in the currencies of other countries.

The debate on global imbalances does not seem to have a clear right answer that everybody agrees with. Some view global imbalances as an equilibrium outcome of asymmetries in world asset demand and supply. For others, global imbalances are an unsustainable phenomenon which needs to be corrected through current account adjustment, dollar depreciation and reforms of financial institutions. Moreover, there are different hypotheses on the causes and roots of global imbalances; Dooley, Folkerts-Landau, and Garber(2003) suggest a "revived Bretton Woods system" as possible explanation for the widening imbalances since the mid-1990s. The global savings glut hypothesis [Bernanke(2005)] suggests that global imbalances are largely the outcome of economic distortions in China which kept its savings artificially high and of sharp oil price increases which increased the revenues in Middle Eastern Countries.

The purpose of my thesis is to analyze and evaluate the different views on the sustainability of global imbalances and to ask whether rebalancing is necessary or not. In the following chapter, I will review the facts on global imbalances from 1996 to 2009. In chapter 3, I will review and discuss viewpoints that suggest different positions — no-rush-to-rebalancing, rebalancing-is-harmful and rebalancing-is-necessary — and put them into the context of common theories which try to explain and/or justify the sustainability of global imbalances. Chapter 4 gives a classification of imbalances into "good" and "bad" which will be used to interpret recent imbalances in the subsequent chapter. In chapter 6, I will present a discussion of possible risks associated with imbalances and I will conclude describing implications for domestic and multilateral policy action. I will argue that there is an urgent need to address domestic and international distortions which are not only reflected in imbalances, but also



Source: IMF, *World Economic Outlook*, from Bracke *et al.*(2008).

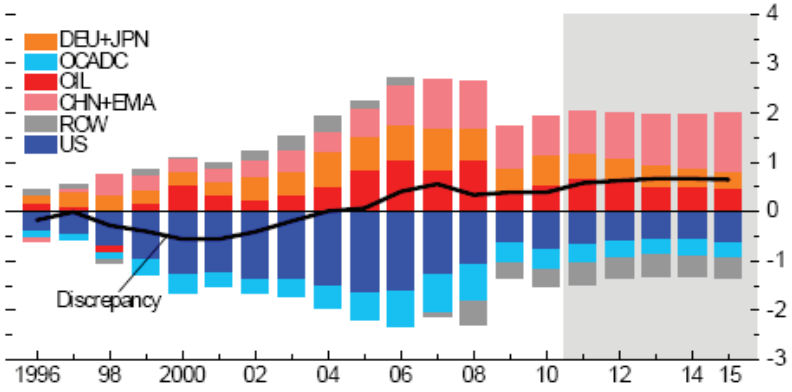
<Figure 1> Sum of Current Account Balances in the World

bear the risk of a further widening of global imbalances and a global recession.

2. The Global Imbalances from 1996 to 2009

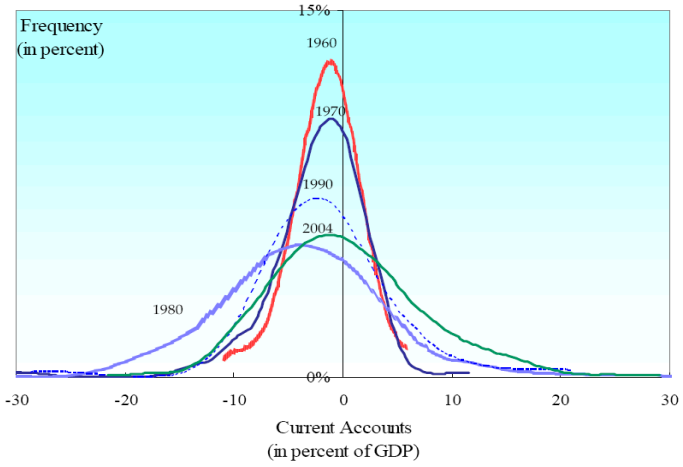
<Figure 1> shows the sum of current account balances in the world starting in the 1980s. It indicates not only an increase in global imbalances over time, but also an acceleration in the years preceding the financial crisis in 2008, both in value terms and as a percentage of world GDP. During the 1980s and the beginning of the 1990s this index remained broadly stable between 2% and 3% of world GDP, but it started to increase in 1996 and rose to nearly 4% in 2000. After a short drop in 2001, it increased at a faster pace and reached almost 6% in just 5 years.

What happened around 1996 and how can the fast and strong increase in imbalances after 1996 be interpreted? <Figure 2> gives a visual summary of current account deficits and surpluses of the main countries and regions since 1996. The U.S. current account deficit nearly doubled from slightly above USD 400 billion in 2000 to over USD 800 billion in 2006. This strong increase in the U.S. current account deficit is one of the key factors behind the rising concerns about global imbalances. On the other side, the major counterparts of the



Source: IMF, *World Economic Outlook*, January 2011.

<Figure 2> Global Imbalances (Percent of World GDP)



Source: Faruqee and Lee(2009, p. 6).

<Figure 3> Global Distribution of Current Account Balances as a percent of GDP, 1960-2004

U.S. current account deficit are surpluses in China and oil-exporting countries. However, it is interesting to observe that China is not always the only main surplus country; in 2005 Germany and Japan had a larger combined current account surplus than China and emerging Asia. And in 2006, oil exporting countries accounted for a larger share than China and emerging Asia.

<Figure 3> shows the global distribution of current accounts from 1960 to 2004. The

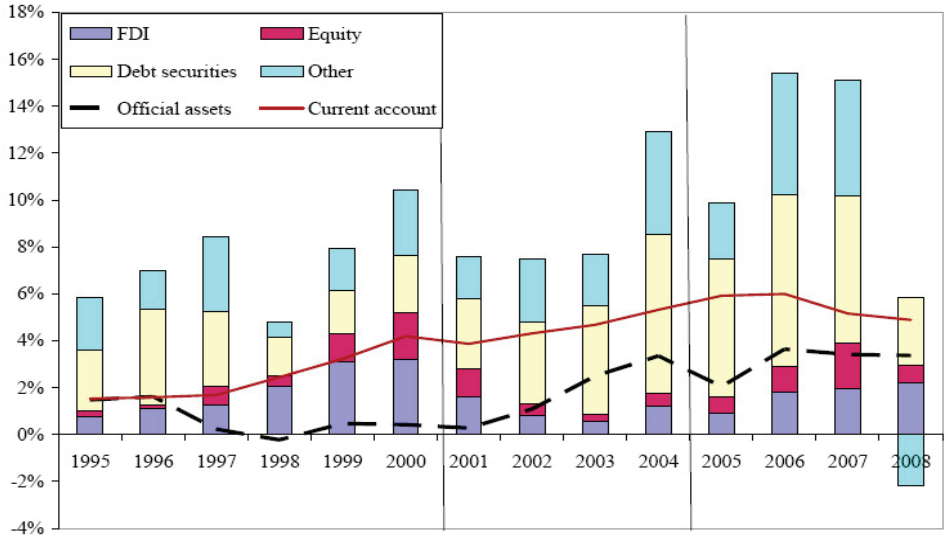
histogramm by Faruqee and Lee(2009) illustrates the widening distribution of current account balances in percent of GDP through time. In 1960, the distribution is tightest and becomes flatter with time. The flattest distributions apply to 1980 and 2004. The increase in the global spread around 1980 can be attributed to the two major oil shocks in the mid- and late 1970s. Overall, there is a trend increase in dispersion of global distributions.

Greenspan(2005) interprets this increased dispersion in current account balances as increasing capital mobility across borders. The Chinn and Ito(2005) index of capital openness indicates that capital openness has indeed steadily increased over time[Chinn and Ito(2007)].

There are many factors behind widening global imbalances: shifts in private or public savings, changes in current or expected productivity growth, movements in commodity prices, accumulation of foreign exchange reserves, or shifts in investors' attitudes towards risk or liquidity. Different factors play an important role in different periods. Blanchard and Milesi-Ferretti(2009) suggest dividing recent history of global imbalances into three main stages preceding the crisis: 1996-2000, 2001-2004, and 2005-2008.

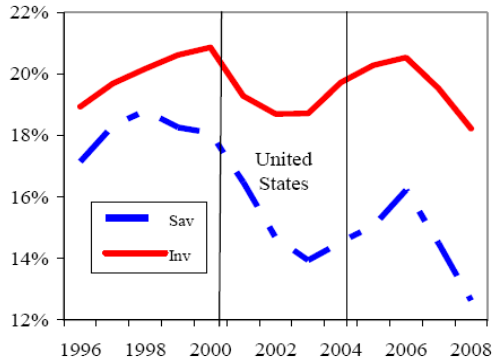
2.1. 1996-2000

In 1995, the United States was running a current account deficit of about 1.5% of U.S.



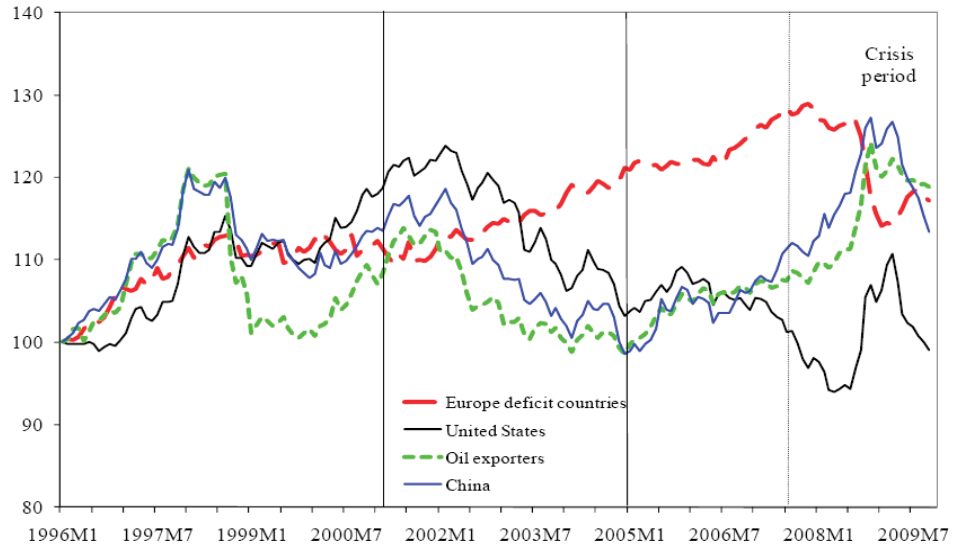
Source: Bureau of Economic Analysis, from Blanchard and Milesi-Ferretti(2009).

<Figure 4> United States Current Account Deficit and Capital Inflows (Ratio of GDP)



Source: Blanchard and Milesi-Ferretti(2009), calculations based on IMF, *World Economic Outlook*, October 2009.

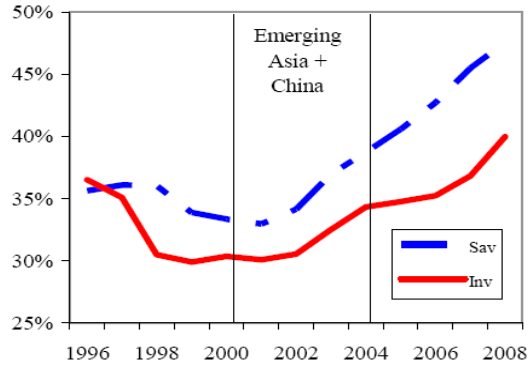
<Figure 5> U.S. Savings and Investment Trend (in Percent of Domestic GDP)



Source: Blanchard and Milesi-Ferretti(2009), calculations based on IMF data.

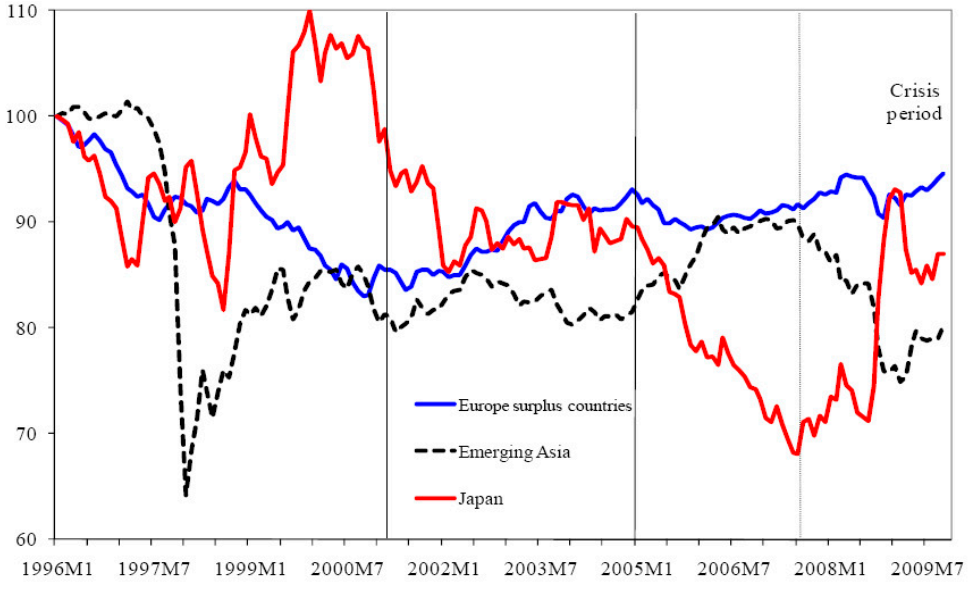
<Figure 6> Real Effective Exchange Rates, 1996M1-2009M10

GDP. <Figure 4> shows that between 1996 and 2000, the United States experienced a gradual widening of the deficit from 1.5% to 4.3% of U.S. GDP. The graph also indicates an increase in FDI and portfolio equity flows which was driven by the productivity boom and dot-com bubble — foreigners relied on strong U.S. domestic prospects. The widening of the current



Source: Blanchard and Milesi-Ferretti(2009), calculations based on IMF, *World Economic Outlook*, October 2009.

<Figure 7> Savings and Investment Trend Emerging Asia and China (in Percent of Domestic GDP)



Source: Blanchard and Milesi-Ferretti(2009), calculations based on IMF data.

<Figure 8> Real Effective Exchange Rates (Emerging Asia, Japan), 1996M1-2009M10

account deficit reflected a shift in the U.S. savings-investment balance during that period. <Figure 5> shows an increase in both U.S. investment and savings, but the sharp increase in investment which was linked to the high-tech boom and expectations of higher productivity

growth exceeded the increase in domestic savings which was driven by fiscal consolidation. Throughout the period, the dollar appreciated by 18% which was driven by high demand for US assets (see <Figure 6>).

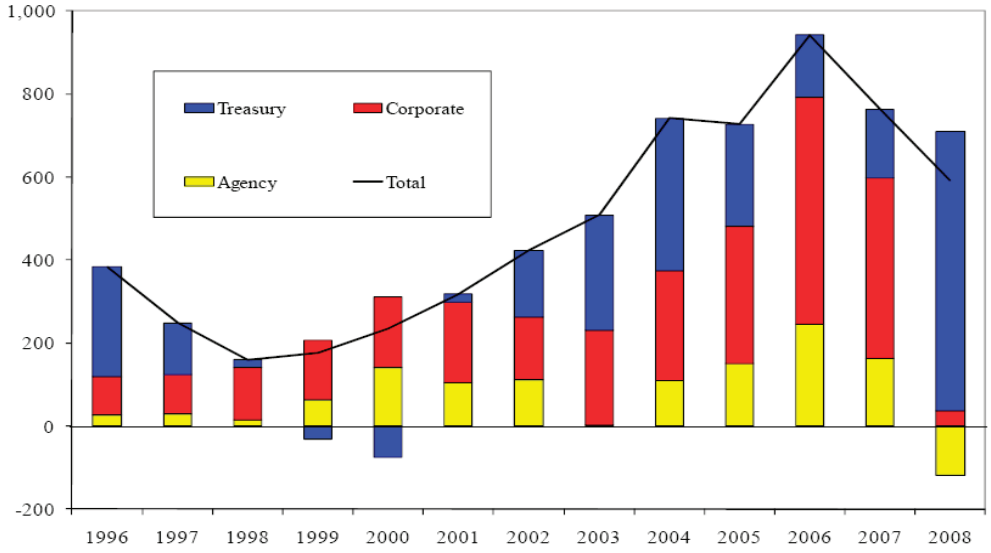
On the other side, as <Figure 3> shows, the main counterparts of the U.S. current account deficit were surpluses in Japan and Emerging Asia. In 1997, as the Asian crisis struck, investment in Emerging Asia collapsed (see <Figure 7>) and the current account balance went into a large surplus. The real effective exchange rate dropped sharply (see <Figure 8>). Japan's economy was in a recession in 1997-98. In addition to that, the persisting effects of the Japanese banking crisis of the early 1990s implied low perceived profitability and a sharp fall in investment. As a consequence, Japan's current account surplus further widened.

Overall, the increase in U.S. investment and the decrease in East Asian investment were reflected in a U.S. current account deficit of 0.8% of world GDP and a current account surplus of 0.4% of world GDP for Japan and emerging Asia.

2.2. 2001-2004

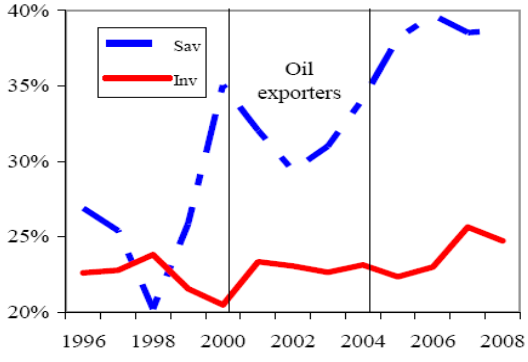
In the early 2000s, the pattern of imbalances changed. With the dot-com collapse and the early 2000s recession in the United States and the European Union, global imbalances decreased in 2001, but then increased again from 2002 onwards. <Figure 2> shows that the United States still remained the main deficit country. However, the factors that had been driving the deficit had changed. <Figure 4> shows a fall in both U.S. savings and investment relative to the earlier period, the fall in savings being sharper than the fall in investment. In fact, the dominant factor was the fall in U.S. savings which reflected a significant decline in public savings. Between 2000 and 2004, U.S. public savings declined by over 5 percentage points of GDP. Many economists as well as the IMF regarded the large structural deterioration in U.S. fiscal accounts as undesirable particularly given that expenditures in age- and health-related issues due to changes in demographics were more and more increasing. Another problematic issue was the steady decline in household savings which reflected borrowing against rising house prices and rising asset prices.

Also concerning U.S. external financing, the picture changed. Portfolio equity and FDI flows fell significantly compared to the preceding period. Moreover, <Figure 9> shows that despite low interest rates and a depreciating dollar in this period the relative importance of debt flows in the financing of the U.S. current account deficit increased. Particularly Treasury



Source: Bureau of Economic Analysis, from Blanchard and Milesi-Ferretti(2009).

<Figure 9> Composition of U.S. Portfolio Debt Inflows (Billions U.S.-$)

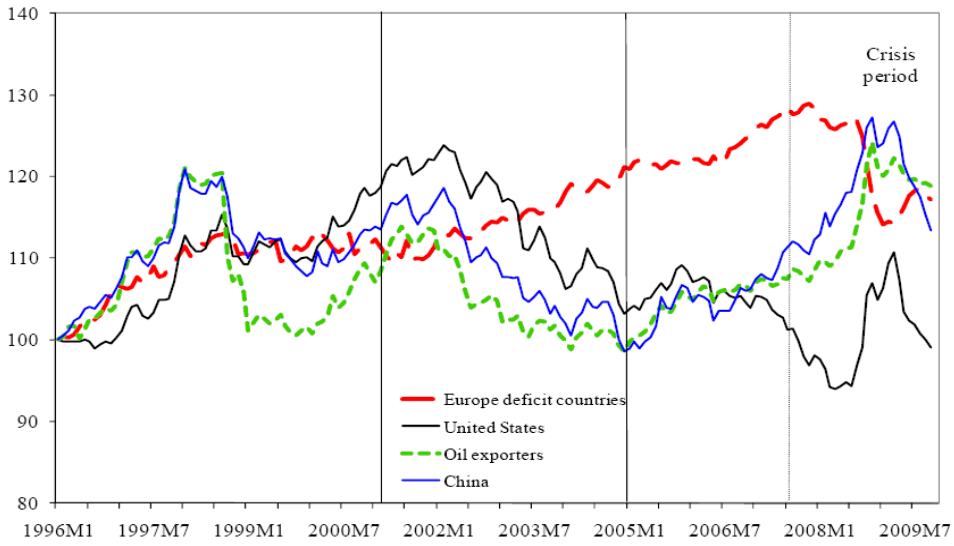


Source: Blanchard and Milesi-Ferretti(2009), calculations based on IMF, *World Economic Outlook*, October 2009.

<Figure 10> Savings and Investment Trend Oil Exporters (in Percent of Domestic GDP)

securities and corporate bonds dominated the composition of U.S. portfolio debt inflows.

<Figure 2> shows that on the surplus side, the current account surpluses of the oil exporters increased sharply which was driven by an increase in oil prices boosting savings (see <Figure 10>). Moreover, current account surpluses in Japan, emerging Asia and “core” European



Source: Blanchard and Milesi-Ferretti(2009), calculations based on IMF data.

<Figure 11> Real Effective Exchange Rates (U.S., China, Oil Exporters), 1996M1-2009M10

countries (particularly Germany) increased, reflecting declining investment.

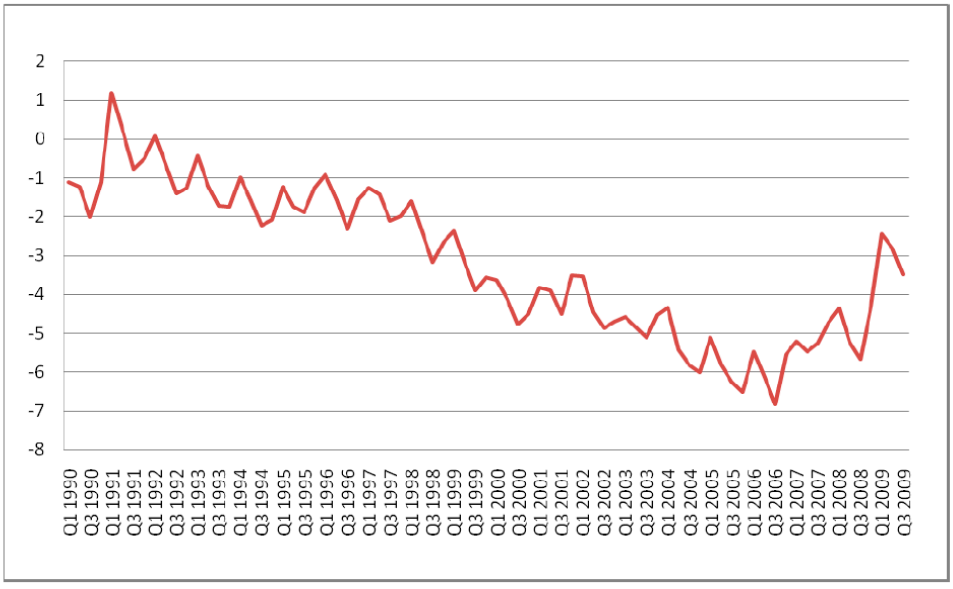
2.3. 2005-2009

In the years preceding the crisis, the global economy was characterized by asset price booms which were linked to lower savings and higher investment. The dispersion of current account balances in the world significantly widened.

The U.S. current account deficit remained large with continued low savings. But they were not the only economy running large current account deficits. Ireland, Spain, the United Kingdom and countries in Central and Eastern Europe joined the deficit side. Their rising current account deficits were associated with booms in asset prices and investment. Moreover, the European deficit countries experienced significant real exchange rate appreciations (see <Figure 11>).

Outflows from and inflows in the United States both increased significantly with debt flows playing a key role. Concerning the composition of U.S. portfolio debt inflows, official investors continued to buy huge amounts of U.S. Treasury and agency bonds, and moreover foreign purchases of U.S. corporate bonds increased significantly (see <Figure 9>).

Counterparts to these deficits were dramatically increasing surpluses in China and in oil



Source: *International Financial Statistics*, from Servén and Nguyen(2010).

<Figure 12> U.S. Current Account Balances (Percent of GDP)

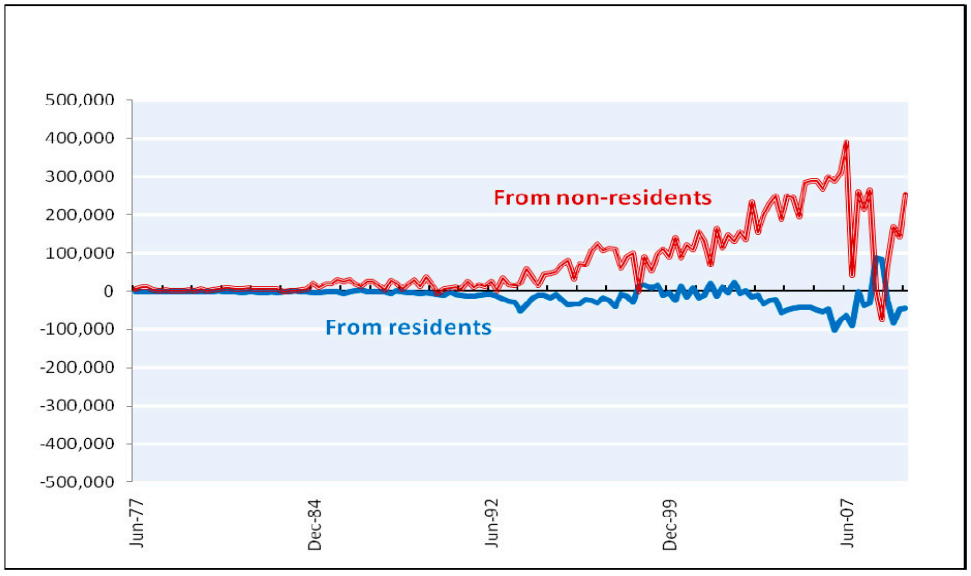
exporting countries, as savings increased faster than domestic investment and oil prices soared. Between 2004 and 2007 China's surplus rose five-fold and its accumulation of foreign exchange reserves rose to over $1.5 trillion between 2004 and 2008. Surpluses in Germany and other countries in Central and Northern Europe continued, whereas surpluses in emerging Asia and Japan remained moderate relative to world GDP which was the result of the sharp increase in oil prices. The real effective exchange rates in China and oil exporting countries appreciated throughout the period, whereas in European surplus countries real exchange rates remained stable.

Overall, the years preceding the crisis were marked by asset price booms, sharp increases in oil prices and huge reserve accumulations which led to a further significant widening in global current account imbalances.

Throughout 2008, the financial crisis became more and more intense. However, global current account imbalances did not decline yet. One reason might be the sharp increase in oil prices throughout the preceding years which boosted savings in oil exporting countries. In real terms, U.S. imports declined, but the huge oil bill did not allow the U.S. current account

deficit to narrow. In the second half of 2008, cross-border capital flows declined enormously and the world economy was heading towards a recession which persisted throughout the first half of 2009. After the large changes in capital flows, exchange rates and growth during 2008, the impact of the financial crisis on global current account imbalances came to the surface in 2009 when current account imbalances around the world drastically narrowed (see <Figure 2>). <Figure 12> shows the development of the U.S. current account deficit as a percent of GDP from 1990 to 2009. In 2009, the current account deficit has fallen to less than half of its peak which means from 6.1% of GDP in 2006 to 2.8% of GDP in the second quarter of 2009. The decline of the U.S. external imbalance reflects a fall in private investment on one hand and an increase of private savings on the other hand.

The crisis initially led to a sudden decline in international capital flows and moreover it led to the breakdown of world trade and oil and commodity prices. Oil prices have fallen from their peak close to $140 per barrel at the beginning of the crisis in July 2008 to around $30 per barrel at the beginning of 2009. The fall in oil prices induced an enormous reduction in the surplus of oil-exporting countries which declined from over 2% of world GDP in 2008 to around 0.5% in 2009. The impact of the crisis on the U.S. real exchange rate was a bit surprising as the dollar experienced an initial appreciation instead of a depreciation as many would have expected. International investors sheltered from the crisis in low-risk U.S. Treasury debt at the expense of all risky assets (see <Figure 9>). Paradoxically (as many claim the United States having been one source of the crisis), the dollar became the currency of last resort and the U.S. government the borrower of last resort. Another striking point is that there were huge changes in the pattern of capital flows to the United States. <Figure 13> shows in the top line the inflow of capital (only long-term securities) from non-resident investors which was always positive until 2008 and had shown an upward trend. On the other hand, the inflow of capital from resident investors (bottom line) were always negative which indicates capital outflow of U.S. investors. But at the beginning of the subprime crisis in mid-2007 the pattern suddenly changed; capital inflows from non-residents broke down and outflows of U.S. investors became positive which reflected capital repatriation by U.S. residents who wanted to cut down on losses in domestic markets or just escape from the global economic turmoil. In 2009 the pattern returns to its pre-crisis trend.



Source: U.S. Department of the Treasury, from Servén and Nguyen(2010).

<Figure 13> Gross Capital Inflows to the United States in Long-Term Securities (US$ Millions)

3. Common Views Explaining or Justifying Imbalances

Dadush and Eidelman(2011) argues that current account imbalances and the international capital flows that mirror them mainly reflect market-driven differences in savings trends and investment opportunities and that they do not primarily result from manipulated currencies or protectionism. He claims that most imbalances are not a problem of themselves and assumes that the decline in current account imbalances since the beginning of the crisis in 2008 may continue. According to his view, global credit crunch naturally has led to a large rebalancing of global demand during the past two years. He states that most current account deficits and surpluses today are in the 3% to 5% of GDP range and that they will likely remain in the medium-term. Moreover, he argues that historically they have been financed without problems and adjusted to over time. Dadush and Eidelman(2011) suggests simple explanations for the large capital inflows into the United States; it has the world's deepest financial markets, holds the reserve currency, and ranks among the highest in the

world in competitiveness and governance. This favourable investment climate combined with extraordinarily low savings rates causes the U.S. economy to attract as much foreign investment as it does.

Dadush's explanations for global imbalances seem simple and obvious. He is not the only one claiming that the current situation of global imbalances is NOT alarming and that there is no rebalancing policy needed which addresses current account imbalances at the moment. Dooley, Folkerts-Landau, and Garber(2003) suggest the theory of a revived Bretton Woods system, and Cooper(2008) argues that the rising U.S. current account deficit over the last decade is a natural outcome of the globalization of financial markets and of demographic change.

In the following sections, I will review and briefly discuss the main theories which try to explain the imbalances of the past 10 to 15 years as a harmless outcome of various factors such as differences in productivity growth, differences in financial market development, demographic dynamics or a global saving glut.

3.1. Export-led Growth Strategy by Emerging Countries in Asia

Historical Background: Bretton Woods (1944-1971)

In 1944, following the end of the Second World War, the Bretton Woods regime was established in an effort to free international trade and fund postwar reconstruction. The United States pegged the price of gold at $35/oz. and the rest of the world pegged their currencies to the dollar. Europe and Japan represented an emerging periphery at that time as they were both working to restore their economies and capital. The United States became the core country of the new system as a result of its open capital markets. In order to preserve the system, the member countries agreed to maintain a fixed exchange rate against the dollar unless a substantial disequilibrium occurred in their exchange rate. Nations were expected to buy and sell U.S. dollars to keep their currencies within 1% of the fixed exchange. Some economists claim that the Bretton Woods regime yielded the most stable inflation rates of any regime. However, between 1968 and 1971, as a result of expansionary U.S. monetary policy (which was used to finance the Vietnam War) this stability broke off. Europe and Japan at that time had graduated to the center, but were still tied to U.S. monetary policy. However the major industrialized countries were more and more unwilling to adjust and revalue their currencies. The gap between the sovereign interests of the United States and the other major

industrialized countries became larger which reflected a decline of U.S. power relative to the continental European countries and Japan. The peripheral countries allowed their currencies to float against the dollar which eventually led to the collapse of the Bretton Woods system in 1971.

The Revived Bretton Woods System

In 2003, Dooley, Folkerts-Landau, and Garber (henceforth: DFG) began describing the emergence of a new international monetary system similar to the original Bretton Woods system involving an interdependency between a core issuing the currency used as international reserves, and a periphery being committed to export-led growth based on the maintenance of an undervalued exchange rate. They suggest that a new periphery (mainly China and other emerging Asian countries) has emerged replacing the former periphery of Europe and Japan in pursuing export-led growth strategies by pegging to the U.S. dollar which has remained the core currency. DFG interpret the U.S. current account deficit as the result of planned mercantilist behavior by the new periphery countries who opened their economies to trade and their capital markets to foreign capital and chose the strategy of undervaluing the exchange rate, managing sizable foreign exchange interventions, imposing controls, accumulating reserves, and encouraging export-led growth by sending goods to the competitive center country — just like Europe and Japan did in the 1960s. DFG argue that in the revived Bretton Woods system there are three principal economic and currency zones in the world; the United States remains the center country and acts as a financial intermediary with entirely open markets and unrestricted exchange rate fluctuations. China and emerging Asia are the new periphery. DFG name it the trade account region which stands in contrast to the capital account region — Europe, Canada and Australia — where private investors purchase U.S. securities, but at the same time care about the risk and return of such investments. In a nutshell, the trade account region's use of official purchases of U.S. securities boosts its domestic growth and at the same time lowers yields and squeezes out private investment from the capital account region, and this on the other hand permits continued U.S. current account deficits and allows continued U.S. domestic growth based on capital inflows. Hence, each region pursues its self-interest and the convergence of these interests stabilizes this system.

The Center: The United States

The United States is the center country and serves as intermediary of the system. It does not try to manage its exchange rates, nor does it accumulate official reserves. Its investment motivations make it a capital account country, but its own growth motivations in turn make it a trade account country seeking foreign savings as a means to finance domestic capital formation. The United States is borrowing at a growing rate and provides a stable place for Chinese authorities to invest their official savings. Thus, it does not only serve as financial intermediary of the system, but also as the counterpart region to the periphery. The U.S. dollar continues to be the preferred reserve currency of the global financial system.

The Periphery: China and Emerging Asia

The periphery's main concern is domestic growth by exporting to the United States. In order to finance the shortfall of imports, the official sector buys U.S. securities without regard to the risk or return characteristics of the securities. Concerning currency policies, the periphery countries manage their exchange rates. The result in China is a persistently undervalued renminbi, a substantial level of reserve accumulation and favorable terms of trade for Chinese exporters.

The Capital Account Region: Europe, Canada, and Australia

Concerning their currency policies, the capital account region's countries maintain floating exchange rates. In contrast to the periphery, private investors in the capital account region undertake foreign investments in the United States. DFG indicate that these private investors are concerned about their U.S. exposure and care about the risk or return of their international investment position. However, DFG demonstrate that the influence of these private investors is becoming smaller since yields and spreads in the United States have not been rising, but falling, and investors would have to be rewarded with rising returns if they were becoming unwilling to invest in the United States. Thus, DFG claim that investors in the capital account region are being squeezed out by flows of the periphery's official sector which demand much lower interest rates. However, just as occurred with Europe and Japan in the original Bretton Woods regime, the system might come to a point at which China's domestic growth allows it to graduate to the center, and float. This might bring DFG's revived Bretton Woods system to an end. But DFG disagree. They argue that there will be another wave of countries, for example India, graduating to the periphery. As a result, DFG claim that the revived Bretton

Woods system will be sustainable from now into the foreseeable future.

There are a number of critics to DFG's view. Eichengreen(2004) argues that DFG(2003) make a false analogy with the original Bretton Woods system since they do not take into account of how much the world has changed since the 1960s. He claims that the members of the periphery today are more numerous and heterogeneous which makes them unlikely to be able to subordinate their individual interest to the collective interest which would be crucial to the maintenance of such a system. Moreover, very few countries have extensive capital controls and domestic financial systems have been liberalized. Furthermore, the global financial system and international capital movements have been transformed and the United States is no longer a net saver recording trade and current account trade surpluses. Eichengreen(2004) goes on by arguing that another crucial difference to the original Bretton Woods system is that the willingness of foreign central banks to stick to the dollar mainly depends on how reliable they see the commitment of the reserve-currency country to preserving the value of their claims. Since in contrast to the 1960s there does not exist an alleged commitment of the United States to maintain the convertibility of their claims at a fixed price, the system could easily prove to be unstable. Eichengreen(2004) also points out that Asian governments are aware that the current strategy of keeping the exchange rate low and domestic savings high bears risks of financial fragility in light of the liberalization of domestic financial markets since there is an increasing tendency to invest in property and not in the traded goods sector. Thus, Asian governments will tend to think about incentives to modify their strategy and not blindly repeat past policies. He concludes by claiming that even if the current situation has vague similarities to the Bretton Woods regime, the image of the system suggested by DFG(2003) will not be sustainable.

Goldstein and Lardy(2005) and Palley(2006) agree with Eichengreen's(2004) view that the revived Bretton Woods system which justifies persistently large current account imbalances is misleading. Palley(2006) argues from a different perspective; in his opinion, DFG's(2003) analogy of the current system with the original Bretton Woods only relies on similar macroeconomic patterns (quasi-fixed exchange rates, growing U.S. current account deficits financed by the periphery) and ignores the fundamentally different microeconomic regimes of both periods. For example, he argues that the widening U.S. current account deficits of the 1960s were driven by full employment in the U.S. with growing wages, an increasing

manufacturing sector, and growing manufacturing employment, but that this differs from current account deficits today that are driven by debt-financed consumption spending supported by a house price bubble.

Chinn, Eichengreen, and Ito(2010) point to the need of concrete policy actions for rebalancing; regulatory reforms should aim on improved supervision and corrections of incentive problems in financial markets. They stress the importance of adjusting fiscal policy in order to prevent threats to financial stability and growth as current account deficits widen and capital inflows increase. It means that fiscal policy in advanced countries should aim to set the cyclically adjusted budget balance near zero over the medium-term. It is particularly dubious if at all the revived Bretton Woods system as claimed by DFG can fully explain the large current account imbalances and in the end justify their sustainability. DFG argue that the government interventions in the periphery countries which are aimed at supporting exporting industries eventually led to the large current account surpluses in that region. But it does not explain why it is that the United States, United Kingdom, and also some other developed countries run substantial deficits.

Chinn(2011) importantly points out that particularly the aspect of timing in the revived Bretton Woods hypothesis is equivocal. The fact is that East Asian savings began flowing to the United States in 2003, but Chinn(2011) claims that it is questionable why it did not happen earlier, if the idea of pursuing a mercantilist strategy had been there all along. He suggests an alternative interpretation for the large reserve accumulation in East Asian countries; in his view it is possible that in the wake of the East Asian crisis, large scale reserve accumulations were driven by self-insurance motivations since foreign exchange reserves can reduce the risk of a decrease in output resulting from capital flight or sudden stops.

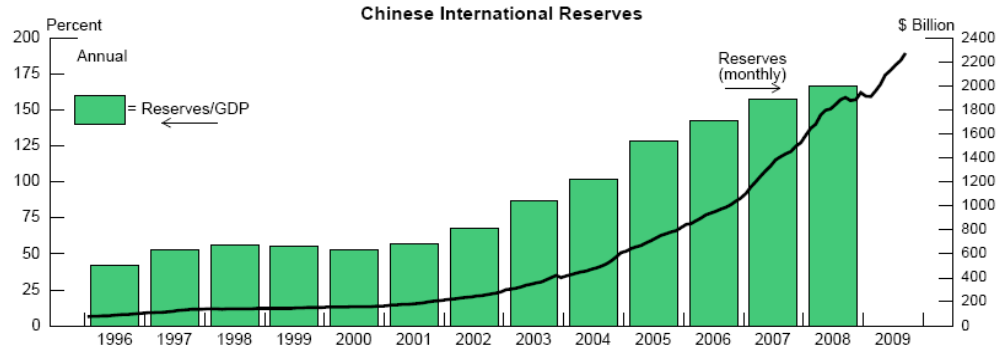
Portes(2009) claims that DFG's(2003) analysis does not address one of the key questions about global imbalances if the large US current account deficit can continue without bearing a major risk for global recession. In his view, the revived Bretton Woods hypothesis by DFG(2003) is not at all sufficient to explain the global imbalances of the past two decades.

The Role of the Chinese Exchange Rate

What role does the exchange rate play in the context of global current account imbalances? While some argue that it is mainly a shift in the savings-investment pattern between

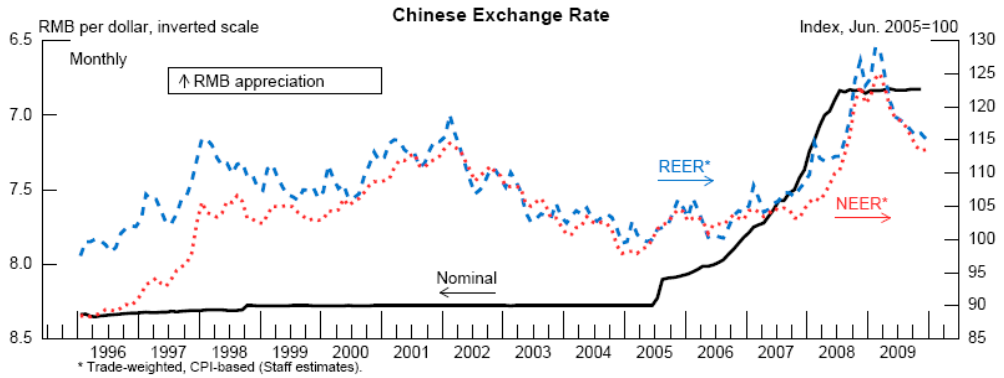
countries that affects current account balances, some emphasize that real exchange rate movements also play a significant role in determining the current account balance. The rapid accumulation of international reserves in China and its ballooning current account surplus in the years preceding the financial crisis raised concerns that the Chinese government is heavily managing their currency by keeping the renminbi artificially undervalued in oder to pursue an export-led growth strategy, and thus contributing to global current account imbalances. Alongside the sharp rise in the Chinese current account surplus has been a phenomenal rise in its international reserves until today (see <Figure 14>) even if the current account surplus narrowed since the crisis. <Figure 15> shows how the Chinese exchange rate behaved from 1996 to 2009. It shows that the Chinese government maintained a dollar-peg until 2005. In the middle of 2005, Chinese authorities allowed a one-time appreciation of about 2 percent of the renminbi against the dollar and since then a gradual appreciation took place until about the middle of 2007. And since then, the renminbi appears to have been pegged against the dollar. The blue-dashed and the red-dotted line show the trade-weighted real and nominal effective exchange rates, respectively. It can be seen that the trade-weighted effective exchange rates vary more than the bilateral exchange rate against the dollar. At first, the trade-weighted effective exchange rate showed a generally appreciating trend until the end of 2001, but then it followed a generally depreciating trend until mid-2005. After the peg was removed, the effective exchange rates followed a generally appreciating trend until 2008, particularly toward the end of the period when the renminbi-dollar rate was constant and the dollar was appreciating against other major currencies.

Cline and Williamson(2010) suggest that "an 'immaculate adjustment' to the locus of expenditure requires a change in the pattern of exchange rates[Cline and Williamson(2010, p. 77)]" and that "the major disequilibrium in the world remains the overvaluation of the dollar and the undervaluation of the renminbi[Cline and Williamson(2010, p. 77)]." They asked the question of "what exchange rates are appropriate[Cline and Williamson(2010, p. 77)]" in order to reduce current account imbalances or "what set of exchange rates would be needed to achieve the current account targets given the forecasts for real growth and commodity prices in the latest IMF World Economic Outlook[Cline and Williamson(2010, p. 77)]." <Table 1> shows the result for the G20 countries (plus Switzerland). A plus sign before the numbers indicates that the currency was undervalued and needed to appreciate. A minus sign indicates



Source: Ahmed(2009, <Figure 2>).

<Figure 14> Chinese International Reserves



Source: Ahmed(2009, <Figure 3>).

<Figure 15> Chinese Exchange Rate from 1996 to 2009

that the currency was overvalued and needed to depreciate. Cline and Williamson(2010) state that the overvaluation of the dollar and the undervaluation of the renminbi are the "major disequilibrium in the world[Cline and Williamson(2010, p. 77)]" and that "in the absence of any action on their [China] part the disequilibrium will persist[Cline and Williamson(2010, p. 77)]." Moreover, they argue that in case that China corrects its exchange rate, some other Asian countries will need to increase the value of their currencies too "in order to avoid becoming undervalued[Cline and Williamson(2010, p. 77)]."

<Table 1> Estimates of the Disequilibrium of the G-20 Currencies, May 2010

	Desirable change in REER	Desirable change in dollar rate
Argentina	0	+2
Australia	-13	-6
Brazil	-3	0
Canada	0	+2
China	+15	+24
Euro	0	+5
India	0	+8
Indonesia	0	+15
Japan	0	+9
Korea	0	+10
Mexico	0	+1
Russia	n.a.	+5
Saudi Arabia	n.a.	+7
South Africa	-14	-9
United Kingdom	0	+5
United States	-8	0
Memo Item: Switzerland	+13	+17

Source: Cline and Williamson(2010, <Table 2>, columns 3 and 6).

3.2. The Role of Changing Demographics

Cooper(2008) argues that the rising U.S. current account deficit over the last 10 to 15 years is a natural outcome of the globalization of financial markets and of demographic change. He argues that the globalization of financial markets means that investors will more and more tend to diversify outside their home markets. As a result, savings in the rest of the world would be invested in the United States according to the share of the U.S. economy in the world economy which will in turn produce larger current account deficits in the United States. However, he argues that financial globalization by itself is not a sufficient argument to claim that the rising U.S. current account deficit is sustainable or beneficial. He claims that demographic change is another aspect which affects savings behavior around the world. In fact, population growth is slowing and the age structure of population is changing; shares of young people are declining and shares of elderly people are increasing. The countries with the largest current account surpluses in the world – China, Japan, Germany – are also

countries where societies are aging due to increasing longevity and declining natality. He claims that this demographic transition of low birthrates and advancing life expectancy can help to explain why a greater share of savings is flowing out of these economies.

But it does not explain why these funds are flowing to the United States. Neoclassical theory assumes that excess national savings should flow to low-income countries where return to capital is highest. Instead, funds are flowing from developing countries to the United States. Cooper argues that the fact that capital is flowing to the United States can be explained by the attractiveness of the size and institutional arrangements in the U.S. economy which offers a wide diversity and security of financial assets to investors from outside the country. Moreover, due to its dynamic and innovative market structure the U.S. economy can offer high yields to investors. Thus, Cooper argues that mainly the desire of foreigners to invest in the U.S. economy results in the large U.S. current account deficit. He even goes so far as to say that serious efforts to reduce the U.S. deficit may provoke a financial crisis and economic downturn just as severe as proponents of rebalancing global imbalances hope to head off. According to Cooper's view, attempts to force down the U.S. current account deficit may be misguided and bears risks of reducing world aggregate demand by reducing U.S. expenditures without a corresponding increase elsewhere in the world, which would provoke a world recession.

The life-cycle theory (Modigliani and Brumberg 1980) of consumption and savings posits that savings patterns are different at different points in life; young households are more likely to borrow and invest as incomes are low, middle-age households are more likely to accumulate assets and save for retirement, and households in retirement spend those assets and consequently dissave. As a result, relatively young and relatively old countries are both more likely to run current account deficits since by national accounting definition a country's current account balance is equal to total savings minus total investment. Thus, the relative age structure of an economy plays a significant role in explaining their borrowing and lending behavior to the rest of the world.

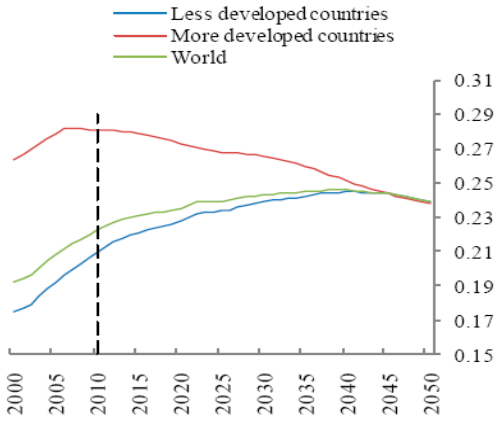
The impact of demographics on savings behavior has been empirically investigated in the literature for example by Chinn and Prasad(2003), Gruber and Kamin(2007), or Wilson and Ahmed(2010) who empirically show that demographics is one key medium-term determinant of savings. Feroli(2006) simulates a multi-region overlapping generations model which is

calibrated to match the demographic differences among G-7 countries from 1950 to 2000. He finds that the demographic differences can explain some of the observed long-term capital movements in the G-7. Moreover, the model predicts that from 2000 to 2030, the United States and Canada will be net exporters of savings while the rest of the G-7 will be be net-importers of savings. In fact, Feroli's(2006) model does not correctly predict the timing of the change in direction of the U.S. capital account since the capital flow to the United States continued to grow after 2000.

Poole(2007) has a perspective that is quite similar to that of Cooper(2008). According to his view the large and persistent current account imbalances — in particular the U.S. current account deficit — and the large capital flows into the United States are the results of demographic transition in high-income countries. Or put differently, he claims that differential rates of ages across countries are responsible for the global current account deficits and surpluses. He does not consider these deficits and surpluses as imbalances, rather he suggests that they may be desirable outcomes of optimizing behavior. Most notably, he argues that policymakers "should not interfere with a process that is allowing the global economy to cope in an efficient manner with the changing demographics[Poole(2007, p. 10)]."

Wilson and Ahmed(2010) show that demographic shifts play an important role in determining long-term trends in global current account balances and the flow of global capital. They use a model that links demographics, growth and current accounts in order to show how past demographic shifts have driven global current account trends in the past three decades. They claim that a tendency to save more across an economy will drive current account surpluses and an outflow of capital to other countries. Their model shows that demographic trends have boosted a shift towards greater surpluses in some emerging countries and deficits in some developed countries and that demographic projections suggest that pressure for capital flow from emerging to developed countries may become more persistent and uniform over time.

The crucial point here is that Wilson and Ahmed(2010) draw an opposite conclusion to Cooper(2008) or Poole(2007). Wilson and Ahmed(2010) claim that the impact of demographic trends on global capital flows and current account imbalances is an unsustainable anomaly in need to be corrected. According to their results, the odd thing



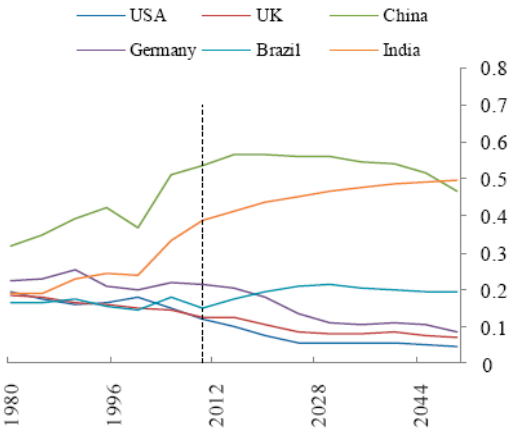
Source: U.S. Census Bureau and bank calculations, from Haldane(2010, p. 15).

<Figure 16> Share of Population Aged 40-59

about global capital flows and imbalances is not only the direction of capital flows (from emerging to developed countries), but also the scale or size of the lendings and borrowings which should be regarded as alarming. Since significant net flows of capital from emerging to developed countries are likely to remain and even grow in the future, they propose that global financial regulation and monitoring of cross-border capital urgently need to be improved.

<Figure 16> shows projected changes in the fraction of the "prime savings" cohort (persons ranging from 40 to 59 years) in developed and emerging countries. Among advanced countries, an aging population results in a decline in the middle-aged share. For developing economies the fraction of middle-aged individuals continually rises and both lines are converging over time. <Figure 17> projects saving rates based on population and GDP projections. Based on demographic and convergence trends alone, saving rates in the BRICS are projected to continue to rise and among developed countries they are projected to fall. However, these projections are only over-simplifications since they take no account of other factors pushing in the opposite direction.

Haldane(2010) supports Wilson and Ahmed's(2010) interpretation. Even if the projections only consider marginal impact on current account imbalances of medium-term demographic and GDP trends, he claims that the offsetting factors mitigating imbalances will need to be very large and significant to counterbalance the pressures on global imbalances from



Source: IMF, U.S. Census Bureau, UN, Penn World Table and Bank calculations, from Haldane(2010, p. 16).

<Figure 17> National Savings Rate by Country

demographics and convergence. Overall, while Cooper(2008) and Poole(2007) limit their interpretations on explaining imbalances as partly resulting from demographic trends, Wilson and Ahmed(2010) and Haldane (2010) think beyond the limitations of what can be seen and suggest that these potential pressures on widening imbalances should clearly be addressed by reforming international monetary, financial and trading systems.

3.3. Global Asymmetries in Supply of and/or Demand for Financial Assets

3.3.1. Asset Shortage

Caballero, Farhi, and Gourinchas(2008a, b) (henceforth: CFG) claim that international asymmetries in the supply of financial assets is a key factor leading to a sustained rise in the U.S. current account deficit, a steady decline in long-term real interest rates, and a rise in U.S. assets in international portfolios. According to their view, financial underdevelopment of emerging countries prevents them from generating attractive financial instruments (i.e. existence of expropriation risks, or yields on local assets are too volatile) and as a result, international savers prefer assets of countries with more advanced financial markets and consequently more attractive assets — for example the United States. Moreover, an oil price boom or growth acceleration of emerging countries (as it happened in the past decade) increases savings and wealth in emerging countries which eventually leads to an increase in their U.S. asset holdings. CFG claim that in order to meet the huge demand of U.S. assets,

the United States have to run current account deficits which increase the volume of U.S. assets available to international investors. The result is that capital is flowing "uphill" from developing to developed countries and not the other way around like standard economic theory would suggest. CFG claim this to be an outcome of an equilibrium situation resulting from the fact that different regions of the world have different capacities to generate financial assets. They developed a model which shows that large current account imbalances (in particular the large U.S. current account deficit and surpluses in emerging Asian countries) together with low long-term real interest-rates and a pattern of capital flow from low-income to high-income countries can arise naturally from structural factors and financial market shocks interacting with differing degrees of financial market development in different world regions. CFG imply that this equilibrium outcome can persist as long as financial markets in emerging countries remain underdeveloped relative to financial markets in developed countries. However, there are some questionable points in their model; long-term real interest rates during ... (figure of long-term real interest rates?) were even lower in Europe, Japan, and China than in the United States and moreover, other developed countries with advanced financial markets during 2001 and 2006 also had a high capacity to generate assets that international savers in emerging countries do want. Gruber and Kamin(2009) disagree with CFG's view that global imbalances may arise from differences in financial development or in the attractiveness of financial assets across countries (at least referring to evidence in the Eurozone). Portes(2010) encourages their view arguing that "Germany's financial system is not less developed than those of Ireland, Spain and Portugal[Portes(2010, p. 39)]."

3.3.2. Asymmetries in Demand

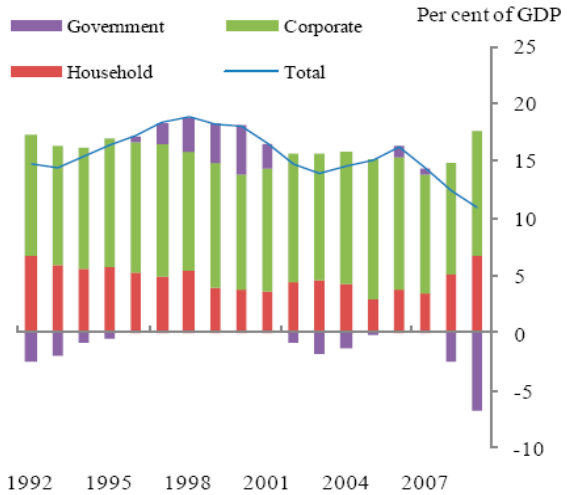
On the other hand, there are some who argue from the demand and not supply side of financial assets. Mendoza, Quadrini, and Rios-Rull(2009) also argue that both the large and persistent global current account imbalances and their portfolio composition can be an equilibrium outcome of differences in financial market development in different countries. According to their view, international asymmetries in the demand for financial assets may arise from the limited appropriability of the returns on emerging-market assets. Alternatively, Carroll and Jeanne(2009) explain that those asymmetries in global asset demand may arise from the insufficiency of the social protection system in emerging countries. The result in both cases is that savers in emerging economies tend to save more than savers in advanced

economies which in their opinion may lead to a global equilibrium where emerging countries are net creditors and advanced countries are net debtors. They also claim that this equilibrium situation of current account imbalances and capital flowing "uphill" can persist indefinitely if the underdevelopment of financial markets in emerging countries or the shortcomings of the social protection system stay unchanged.

3.4. A Global Savings Glut

The global savings glut theory has been explained by Bernanke(2005), Clarida(2005a, b), and Hubbard(2005). This view suggests that excess savings from Asian emerging market countries which were driven by increasing savings and declining investment in the aftermath of the financial crisis were the main cause of the U.S. current account deficit. According to the global savings glut hypothesis, the large U.S. current account deficit is a problem which has its origin outside of the United States.

Bernanke(2005) explains that the proximate cause of the increase in the U.S. current account deficit was a fall in U.S. savings; as <Figure 18> shows, the U.S. savings rate declined from 16.5 percent to slightly less than 14 percent of GDP between 1996 and 2004. Since domestic investment not funded by domestic savings had to be financed by capital flows from abroad, the United States experienced an expansion in net capital inflows like



Source: Bureau of Economic Analysis and Bank calculations, from Haldane(2010, p. 8).

<Figure 18> U.S. Gross National Savings

<Figure 2> shows.

However, the surprising point is that most of the increases in current account surpluses in this period happened in emerging countries rather than in industrialized countries. Moreover, the increases in current account surpluses in emerging countries reflected an increase in the savings rate rather than a decrease in the investment rate. Where did this rise in the supply of net savings in emerging countries come from? Bernanke(2007) suggests several factors which contributed to an increase in net savings in emerging countries; first, the Asian financial crisis in the 1990s led to a drop in investment and to policy changes (accumulation of foreign exchange reserves, resistance to currency appreciations) which led to promoting current account surpluses. Second, the sharp increase in oil prices boosted the incomes of oil-exporting countries leading to increases in savings and current account surpluses. Third, Chinese savings rates increased by far more than its investment rates (Bernanke explains this fact by the motivation for precautionary savings). As a result of these factors, desired savings increased more than desired investment in emerging countries which led to an increase in current account surpluses.

But how then did factors which caused the savings glut in Asian emerging countries lower the savings rate in the United States? Bernanke(2005) offers the following theory: as a result of increased foreign savings, the demand for U.S. financial assets rose, equity prices increased and the dollar appreciated. The increase in equity prices in turn increased the perceived wealth in the United States. Thus, savings declined and consequently the U.S. current account declined. Moreover, the dollar appreciation made U.S. goods more expensive relative to foreign goods and thus, net exports declined, again explaining a drop in the U.S. current account. With the unwinding of the dot-com bubble and a recession in advanced countries, the world demand for investment declined which required a drop in the world real interest rate. This in turn had effects on U.S. households since with a drop in real interest rates, saving became less attractive relative to consumption, and as a result savings dropped. Moreover, since the United States was in the position of a net debtor, lower real interest rates increased wealth leading to an increase in consumption and a fall in savings. Moreover, lower real interest rates led to sharp increases in U.S. house prices and liquidity constrained households could further increase their consumption and savings again were further suppressed. Here, it is interesting to note that other countries which also experienced

housing booms, like the United Kingdom, Ireland and Spain, also ran current account deficits. However, Obstfeld and Rogoff(2009) argue that the savings glut in emerging countries was not the only or primary reason for the rise in US house prices; they suggest that the reason was rather loose U.S. monetary policy after 2001. One questionable point of the savings glut hypothesis is that why capital flowed into the United States and not into Europe. Bernanke(2005) suggests that the attractiveness of US financial markets and the U.S. dollar as the world's reserve currency explain the tendency of the emerging countries to invest in U.S. assets.

If the savings glut hypothesis is true, are global current account imbalances then a problem, i.e. do they entail any risks? According to Bernanke(2007), current account imbalances over the short- or medium-term should not be considered as a problem, since he claims that external imbalances are a market phenomenon and particularly regarding the U.S. current account deficit, imbalances reflect the attractiveness of the US economy and its financial markets. He also claims that current account imbalances may rather help reduce a tendency towards overheating, inflation or a recession[Bernanke(2007)]. However, after the financial crisis hit the global economy in 2008, Bernanke(2009) links the crisis to the global imbalances in current accounts and capital flows that began in the latter half of the 1990s. He claims that the United States and its trading partners were together responsible for the imbalances and that the international community did not do enough in order to reduce the imbalances[Bernanke(2009)]. In particular, the United States as a receiving country of capital inflows is responsible of ensuring that the large capital inflows into the economy is wisely invested, but Bernanke(2009) argues that the risk-management systems and the government supervision of the financial sector in the United States and also in some other industrialized countries failed to do so. He draws parallels to the emerging-market countries in the 1990s where regulatory regimes and financial sectors were incapable of investing large capital inflows in an efficient way. As a result investors lost confidence and a crisis arose. The most important difference to the 1990s however is that at that time the crisis was regional, whereas, according to Bernanke(2009), the past crisis reflects a global issue. Thus, the international community should take responsibility in establishing measures to fight the imbalances. Bernanke(2011) argues even clearer by suggesting that reshaping the global monetary system in order to promote sustainable growth for all countries should be regarded as a conjoint

challenge. In particular, he points out that the aim should be to create an international system that can effectively support both an internal and external balance of countries; countries with large unsustainable current account surpluses should allow their exchange rates to better reflect market situations and the high domestic demand for exports should be addressed by finding substitutes. Countries with large current account deficits should increase their savings and increase efforts that aim at more sustainable fiscal policies. Moreover, the United States should increase efforts to strengthen financial surveillance and regulation.

Is Bernanke the only one suggesting measures to rebalance the global economy? Is he the only one stressing that clear policy actions are needed to fight current global imbalances? What would be Dadush's answer to these suggestions? According to Dadush and Eidelman's(2011) view, the policy focus should not be on the symptoms of global imbalances, but rather on domestic conditions which are reflected in those imbalances. He points out that global imbalances are only bad if they are clearly unsustainable (but he does not think they are!) or if something is wrong with domestic conditions since current account balances are only the residual of domestic savings and investment flows which themselves are mainly driven by domestic forces. With this argument he wants to make clear that the focus of the debate should not be on bilateral current account imbalances between the United States and China, but rather on the underlying domestic distortions in each country. So if reducing external imbalances is desirable at all, it can only be achieved if domestic policies and household behavior change. He argues that exchange rate changes by themselves only play a minor role in reducing imbalances and overall, he concludes that international coordination in dealing with domestic imbalances is limited since the international community may only collaborate in reducing trade frictions and coordinating stimulus policies.

But what are the risks if Bernanke's(2007, 2009, 2011) advice to rebalance the global economy and reshape the international financial system are ignored? If we believe that Dadush and Eidelman(2011), DFG(2003), Cooper(2008) and CFG(2007) are right claiming that imbalances are a sustainable equilibrium outcome — what will happen to the global economy? In the next two chapters, I will briefly explain the difference between good and bad imbalances (according to Haldane(2010), and Blanchard and Milesi-Ferretti(2009)) and then show how the past imbalances may be interpreted (according to Blanchard and Milesi-Ferretti(2009)).

4. Classification of Imbalances

Cooper(2008) argues that the widening U.S. current account deficit over the last two decades "is a natural outcome[Cooper(2008, p. 96)]" of demographic transition and financial market globalization. If he is right with his claim, does this mean that imbalances will unravel on their own? Does this mean that the international community should just stand on the sidelines hoping that the global economy will rebalance soon? Can imbalances disentangle on their own? Cooper gives a clear statement that "... serious efforts to reduce the U.S. deficit, even collaborative efforts with other countries, may well precipitate a financial crisis and an economic downturn every bit as severe as the one that many fear could result from a disorderly market adjustment to the trade deficit[Cooper(2008, p. 96)]." However, on the other side, many economists and policymakers argue that the choice of ignoring imbalances bears even greater risks.

Before discussing possible risks associated with global current account imbalances, it is important to characterize different sorts of imbalances since "global imbalances are not necessarily undesirable[Sibert(2010, p. 12)]." Blanchard and Milesi-Ferretti(2009) (henceforth: B&M) and Haldane(2010) classify imbalances according to both their nature and consequences.

Good Imbalances

B&M suggest that if imbalances reflect optimal allocation of capital across time and space, deficits and surpluses on current accounts are "good"; for example, different savings ratios across economies which are due to different aging profiles, or different investment ratios which are due to different productivity trends. Moreover, differences in financial market deepness may cause a country with more liquid financial markets attract more investors which in turn generates currency appreciation and current account deficits. Haldane(2010) argues that "capital flows are a necessary ingredient of trade and capital liberalisation[Haldane(2010, p. 2)]." As a consequence, he suggests that imbalances may be "a natural by-product of free trade in goods, services and capital[Haldane(2010, p. 2)]."

Bad Imbalances

On the other hand, Haldane suggests that capital flows may reflect "an imbalance between demand and output in an economy[Haldane(2010, p. 2)]" and he clearly argues that such

imbalances must be addressed and corrected “if debt and wealth stocks are not to become unsustainable[Haldane(2010, p. 2)]” B&M argue more specifically that imbalances may reflect distortions that stimulate suboptimal savings or investment behavior; for example, excessive public borrowing (when borrowers underestimate the volatility of capital flows and the related risks), lack of social insurance (leading to too much household savings), poor firm governance (creating unjustified corporate savings). Furthermore, low private savings can be suboptimal when driven by overoptimistic expectations about future growth or by bubble-driven asset booms. And excessively low investment may be caused by insufficient protection of property rights or lack of competition in the financial system. Imbalances reflecting these sorts of distortions (on a domestic level) are considered to be “bad” according to B&M.

Systemic distortions can also be the reason behind “bad” imbalances. In the aftermath of the Asian crisis, many emerging economies accumulated huge dollar-denominated foreign exchange reserves and ran large current account surpluses. In chapter 3, I presented the “revived Bretton Woods system”-view by DFG(2003) who claim this behavior to be an export-led growth strategy relying on an undervalued exchange-rate combined with measures to constrict domestic demand which for example prevents real appreciation through inflation. From the country’s perspective, it may be a rational growth strategy. However, B&M(2009) argue that this strategy “comes in effect at the expense of other countries[B&M(2009, p. 5)]” and moreover they warn against a possibly arising systemic problem in case that several countries follow and adopt this strategy. B&M suggest that self-insurance by emerging countries is another reason behind the large accumulation of foreign exchange reserves. They claim that alternatives such as the creation of credit lines, swap lines or reserve-pooling arrangements are more efficient on an international level. In case that imbalances reflect such systemic distortions like mentioned above, B&M advise policy responses at the systemic level. Concerning the self-insurance motive of emerging countries, B&M advise an improvement of liquidity provision on an international level. However, limiting exchange rate undervaluation through an international mechanism apart from peer pressure is not an easy task.

5. Interpretation of Past Imbalances (1996-2009)

So how can the imbalances during the past two decades be interpreted? Sibert(2009) claims that "the past imbalances (…) were caused by distortions and were clearly undesirable[Sibert(2009, p. 12)]." Is this statement correct? B&M propose interpretations of the past imbalances according to their classification of imbalances ("good" and "bad") described above.

1996-2000

B&M suggest that differences in perceived productivity may be the most important explanation for the dollar appreciation and the increasing U.S. current account deficit. They further claim that the drop in investment in emerging Asia was mainly the result of the balance sheet adjustment which was in progress following the Asian crisis. Concerning the low investment in Japan, B&M ascribe it to the country's protracted recession. Overall, they suggest that the imbalances were the result of "the reallocation of capital in response to perceived differences in profitability." Hence, imbalances in this period were for the most part "good."

2001-2004

The main drivers of the widening U.S. current account deficit in this period were the large decline in U.S. savings (mainly a drop in U.S. public savings) and the huge structural deterioration in U.S. fiscal accounts which was considered to be undesirable given that expenditures in age- and health-related issues due to changes in demographics were more and more increasing. These two factors driving the trade deficit can be attributed to domestic distortions. B&M call them "bad." On the other hand, according to B&M, increasing surpluses by oil exporting countries were "reasonable, in light of the uncertainty about future price dynamics, the exhaustible nature of oil, and adjustment costs in increasing investment[B&M(2009, p. 9)]."

2005-2009

B&M argue that the imbalances during this period were evidence for the "financial excesses[B&M(2009, p. 5)]" that were a key driver of triggering the crisis. They suggest that the large U.S. current account deficit reflected the U.S. fiscal deficits, the asset and housing boom, and excessively rosy expectations, and thus were for the most part "bad." Emerging

European countries joined the United States on the current account deficit side, which B&M view as an "initially good thing later turning bad[B&M(2009, p. 10)]" since the deficits in some of those countries (Spain, Ireland) later excessively widened as a result of credit and asset price booms. The increasing current account surpluses in oil-exporting countries mainly reflected the rising oil prices which makes good sense. However, B&M also suggest that the currency-peg to the U.S. dollar led to an exchange rate depreciation in oil-exporting countries (since the U.S. dollar had been depreciating since 2002), which in turn further increased their current account surpluses. Concerning the justification of the large current account surpluses in China and other emerging Asian countries, there are controversial views on it. As I mentioned in chapter 3, DFG(2003) argue that the export-led growth strategy of China and emerging Asian countries is a crucial part of the revived Bretton Woods explanation. Caballero, Farhi, and Gourinchas(2008a, b) suggest that the motive of self-insurance may be one key explanation for the large buildup in international reserves in emerging Asian countries. B&M claim that this insurance motive may "be rational at the individual country level[B&M(2009, p. 5)]." However, Jeanne(2007) claims that "reserves accumulation in emerging market Asian countries is difficult to justify — at least after 2000 — in terms of self-insurance against capital flow volatility and capital account crises[Jeanne(2007, p. 35)]." He argues that the countries "that accumulated the most reserves were also those who were the most protected from capital flow volatility by capital account restrictions[Jeanne(2007, p. 35)]." Moreover, he compares the benefits and costs of reserves in the context of a model which assumes that the accumulation of international reserves insures an open economy against current and capital account crises through reducing the probability of a crisis on the one hand and reducing the welfare cost of a crisis on the other hand. However, this cost-benefit model of optimal reserves fails in defending the reserves accumulation of emerging Asian countries after 2000, since "the vulnerability of those countries to a capital account crisis was too low, in 2000, to justify the cost of accumulating the reserves[Jeanne(2007, p. 35)]."

But what use is a differentiation between "good" and "bad", and "domestic" and "systemic", if one does not take into account the risks and dangers that arise from imbalances? According to B&M, risks do not only arise from "bad" imbalances. "Good" imbalances may interact with other distortions and the outcome may be inefficient as well.

6. Risks and Dangers for the Global Economy

Large capital inflows into a country stimulate real appreciations which may lead to a decline in the manufacturing sector. B&M warn that in the combination with externalities "changes in manufacturing activity (may be) very costly to reverse[B&M(2009, p. 5)]" and that it might lead to the emergence of a Dutch Disease. For example if credit booms stimulated by over-optimism result in large current account deficits and real exchange rate appreciations, it will be difficult to rebalance "without a protracted real depreciation, which can be very painful when the exchange rate is fixed and partner-country inflation is low[B&M(2009, p. 5)]." Moreover, an underestimation of foreign exchange or liquidity risk by domestic borrowers may lead to capital flow volatility which in combination with a large current account deficit may lead to large output declines. In these cases, B&M recommend policy actions which "correct the externalities through taxes or subsidies, and limit the risks taken by domestic borrowers through prudential regulation or controls on capital flows[B&M(2009, p. 5)]." In addition to domestic problems, B&M warn against possible systemic risks which may particularly arise if imbalanced economies are large and if capital flows are liquid. This was the case in the United States before the crisis when the global economy was facing the risk that the demand for US assets would not be enough in order to "finance a rapidly growing stock of external liabilities[B&M(2009, p. 6)]." B&M admit that it is difficult to define a clear policy response for systemic risks. They suggest that "intervention ex-post to allow for more orderly adjustment (for example in the form of extensive liquidity provision) may be the best response[B&M(2009, p. 6)]", or reducing "the other distortions, for example limiting the foreign currency exposure of domestic borrowers, reduces the size of the problem or the disruptions from exchange rate adjustments, and makes the problem less important[B&M(2009, p. 6)]."

Portes(2010) agrees with B&M and claims that global imbalances "are no less a systemic threat to financial stability in the medium and longer term." He questions the future prospects given by the latest OECD outlook which informs that the sum of current accounts as a percentage of world GDP will decline and return "to about four-fifths of its 2007 level[Portes(2010, p. 39)]." In his opinion, this prediction understates the future path of global current accounts, particularly of the Chinese current account surplus since

exports in China sharply increased in the past two years. He argues that even an increased flexibility and appreciation in the dollar-renminbi exchange rate may only sparsely affect the Chinese current account surplus. He goes on by arguing that the euro area surpluses, the East Asian (including China) surpluses, and the U.S. deficit are likely to further increase since the euro is depreciating against the dollar and since recovery in the United States may be faster than in Europe. Moreover, he claims that future oil prices are not likely to fall which may lead to continued current account surpluses in oil-exporting countries. Portes'(2010) backs up his statement mentioned above by arguing that the large capital flows related to global imbalances were too much to handle even for the most elaborate financial systems to intercede. Plus, he claims that the capital inflows may "continue to make U.S. markets very liquid, to keep interest rates down, and thereby contribute to underpricing risk[Portes(2010, p. 39)]." His reasoning seems to makes sense. According to his view, there exists no generally right answer which for example states that the undervaluation of the Chinese currency causes global imbalances or "that global imbalances 'cause' prolonged exchange rate misalignments[Portes(2010, p. 39)]" Moreover, he does not think that it is "as obvious as many would argue that the renminbi is indeed significantly undervalued relative to some 'equilibrium' rate[Portes(2010, p. 40)]." Instead, he stresses the risk of systemic costs of imbalances that may arise if the level of exchange rates indeed differs a lot from the level of long-run equilibrium rates; the systemic costs to bear would be "distortions of investment allocation both across and within countries[Portes(2010, p. 40)]" such as the large evident capital flows flowing from poor to rich countries or the fact that "intermediation process has not channelled emerging market savings into emerging market investment, but rather into consumption and government expenditure in rich countries[Portes(2010, p. 40)]." He adds that another distortion bearing long-run systemic costs is that "within countries, overvalued (undervalued) exchange rates generate overinvestment (underinvestment) in non-tradeables[Portes(2010, p. 40)]." Portes draws a clear conclusion: "The imbalances are not benign reflections of underlying long-run equilibrium relationships[Portes(2010, p. 40)]."

Mann(2010) agrees with Portes(2010) and warns that if currency undervaluation and dependence on the U.S. consumer to support growth persist, resource misallocations, global imbalances, and future costs will increase. She argues that the codependency of surplus countries financing deficit countries appears to be stable, but that this apparent stability

bears the risk of neglectful policy decisions and undesirable economic consequences. In particular, resource misallocations may harm potential growth which may result in extensive resource transfers and weak financial positions. Similar to Portes(2010), Mann argues that a persistent external imbalance reflects a persistent resource misallocation within a country; an undervalued exchange rate channels investment more into the tradable or manufacturing sector than into the non-tradable or services sector. Bergsten, Freeman, and Mitchell(2009) give evidence for this fact claiming that the ratio of services to (urban) investment in China dropped from 63% in 1999 to 55% in 2007, whereas the ratio of manufacturings to (urban) investment increased from 15% to 30%. Mann(2010) also mentions other facts of evidence of resource misallocations, for example dropping profit-margins in export-driven firms and excess capacity, a falling share of consumption in GDP, growing non-performing loans in the banking sector, housing price bubbles in main urban production centers, or an increasing geographical-and-income Gini coefficient. Concerning the United States, Mann argues that "a persistent external imbalance points to unsustainable trajectories of both domestic spending and international financial obligations[Mann(2010, p. 45)]" since "the dollar relative price, along with spending habits exacerbated by domestic policies of tax cuts and accommodative monetary stance, has contributed to a systematic external deficit heavily concentrated in consumer-oriented products[Mann(2010, p. 45)]." She warns that "once production facilities move abroad, hysteresis and pricing-to-market tends to keep them there[Mann(2010, p. 46)]", and thus it will be difficult to offset or unwind the external deficit in consumer goods.

Moreover, the fact that most international reserve accumulations in the world are denominated in U.S. dollar poses another risk associated with persistent external imbalances and resource misallocations; there are many who argue that exchange rate appreciation or depreciation is needed in order to reduce the imbalances in the world, but it is not as simple as they might think since a dollar depreciation may reduce the international purchasing power value of dollar-denominated international assets. Mann(2010) gives the following example:

> "China's international reserves include nearly $1.5 trillion of US obligations, nearly all of which are denominated in dollars. These reserves represent about 30% of dollar-valued GDP. (...) A depreciation of the global dollar of some 10% (...) reduces the international purchasing power value of these reserves only some 3% of GDP - not a big

deal. On the other hand, a 30% appreciation of the renminbi against the dollar (which is the undervaluation as calculated by Subramanian in January 2010) would hit China's dollar store of wealth in renminbi terms much harder[Mann 2010, p. 46)]."

Thus, in case of a dollar depreciation, countries that depend on exports to the United States as well as countries that have large accumulations of dollar-denominated reserves may be relatively worse off. From the U.S. point of view, the picture would look more or less balanced since a shift from imports to net exports would act as a counterbalance to the decline in U.S. domestic demand and the loss in purchasing power would be counterbalanced by the gain on dollar-denominated obligations. Hence, there always also exists a trade-off in rebalancing. Concerning domestic distortions and domestic policy measures, the trade-off is small since it may be in the interest of the single countries to fight distortions and as a result reduce imbalances. But then, in which cases can rebalancing led by multilateral surveillance be justified? B&M(2011) identify three cases of imbalanced situations in which multilateral consideration is strongly advised:

"[First] Worries about cross-border effects of sudden stops justify multilateral surveillance. They also suggest, however, looking beyond the current account deficit, at the whole structure of the capital account.

[Second] Worries about unfair competitive advantage may justify restrictions on undervaluation and current account surpluses, but implementation is likely to be difficult. Proving intent — namely, that surpluses reflect a deliberate strategy designed to gain competitive advantage — is likely to be difficult. Ignoring intent may be unfair.

[Third] Worries about global demand if part of the world economy is in a liquidity trap. In that context, smaller current account surpluses in surplus countries might actually benefit growth in the rest of the world. The relevant question is why surplus countries should oblige. A pragmatic argument is that in many (but not all) surplus countries domestic and multilateral considerations actually go in the same direction. To the extent that these countries reduce domestic distortions, this will be good for them, and good for the rest of the world. And, even if one could hope for more, this can go a long way toward strengthening the world recovery[B&M(2011, P. 4)]."

7. Conclusion

During and since the financial crisis, there has been a great deal of discussion of global current account imbalances. Much of the attention has focused on the large U.S. current account deficit and the growing surpluses in emerging Asia and oil-exporting countries. Those in turn are associated with excessive reserve accumulations in emerging Asia, rising oil prices, falling long-term interest rates, falling savings in the United States, and capital flowing uphill from emerging countries to the United States. The most familiar theories that try to explain the pattern of imbalances during the past two decades (the revived Bretton Woods system, demographic change, asset shortage, global savings glut) may be partly true, but are not sufficient to justify the sustainability and harmlessness of global imbalances. With the collapse in global trade after the financial crisis, the magnitude of global imbalances has temporarily shrunk, but the future of global imbalances is "far from certain[Servén and Nguyen(2010, P. 18)]." Baldwin and Taglioni(2009) argue that imbalances are likely to return as soon as global demand recovers. It is true that imbalances are not necessarily undesirable. However, a closer look on the imbalances during the past fifteen years shows that their evolution was partly influenced by underlying domestic and systemic distortions. Without drastic domestic and international policy action addressing these distortions, they are likely to persist which implies that imbalances will return or further widen again. In the light of risks arising from global imbalances for the global economy, the focus of the debate may better shift to clear policy measures on a domestic and global level addressing underlying distortions. There have been some changes in global capital flows compared to the past when cross-border flows of goods and services dominated the interrelationship among countries; the size of global capital flows has vastly increased and the speed of capital moving from one economy to another has accelerated as well. Looking at current account data only, runs the risk of only assessing a partial picture. Central banks and other authorities may use a wide range of indicators such as information on risk pricing and risk profiles of financial institutions, asset prices, leverage, and gross capital flows in order to assess the emergence of unsustainable imbalances. Moreover, interlinkages between financial markets and among market participants are becoming more and more complex as globalization accelerates. Shocks in one region of the world may rapidly spill over to other regions – often

unexpectedly. In addition, the increasing presence of emerging market economies represents a fundamental change to the past. Their responsibilities within the global community has dramatically increased as they have become the drivers of global growth. For example, Shirakawa(2011) points out the following:

> "[I]t needs to be recognized that the implications of inflexible exchange rates in major emerging economies have become larger. The perspective of an orderly structural adjustment process for domestic industries may warrant a gradual shift from fixed exchange rates to a more flexible exchange rate system and a controlled appreciation of the home currency. But, at the same time, policymakers in emerging economies need to recognize that a policy of very gradual exchange rate adjustment both hampers the flexible implementation of domestic macroeconomic policies, including monetary policy, and exports the cost of the adjustment to other countries. If other countries follow with similar policies, the impact on economies which allow flexible exchange rate movements could be magnified[Shirakawa(2011, P. 5)]."

In light of rapid globalization of financial markets, a crucial point for policymakers to recognize is that identifying unsustainable and harmful imbalances and adopting rebalancing measures may no longer take place on a domestic level. Whereas the common emphasis used to be on providing and ensuring domestic stability, policymakers in both advanced and emerging countries may need to review the spillover effects of their policies across borders. More concretely, Blanchard(2010) argues that "two rebalancing acts are required[Blanchard(2010)]": internal rebalancing and external rebalancing. The first one should aim at substituting government spending with private demand which must strengthen and increase in order to drive and sustain growth and decrease fiscal stimulus. External rebalancing should address the imbalances between countries that are net exporters and countries that are net importers. In particular, the United States should now rely more on net exports (before the crisis they had relied too much on domestic demand) and on the other side China which had relied too much on net exports, should now strengthen its domestic demand. However, according to Blanchard(2010), the rebalancing process takes place too slowly. He claims that private demand in advanced countries is still too low. The United

States, for example, faces the problem that consumers are now saving more, but as a result they are consuming less. This may be positive for the long-run since a rising savings rate may contribute to reducing the current account deficit. However, in the short-run it dampens private demand. Blanchard(2010) claims that the U.S. trade deficit is still large and that net exports do not seem to stimulate growth. Emerging market countries still prefer reserve accumulation rather than exchange rate appreciation and their current account surpluses are still huge and international reserves continue to increase. Blanchard (2010) warns that this process is "neither strong, nor balanced, and runs the risk of not being sustained." His policy implications are clear:

> "First, wherever private demand is weak, central banks should continue with accommodating monetary policy. (…) Second, and wherever needed, governments must continue both financial repairs and financial reforms. (…) Third, and again wherever needed, governments must address fiscal consolidation. (…) Fourth, those emerging market countries with large current-account surpluses must accelerate rebalancing[Blanc hard(2010)]."

Thus, the focus in emerging countries should be on cutting down on the use of reserves, encouraging domestic consumption and investment, and particularly removing distortions that have led to too low levels of consumption and investment.

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