How Sustainable are Global Imbalances?

By Rónán Hickey[1]

ABSTRACT

Global economic imbalances have continued to widen in recent years, reaching unprecedented levels, and are now one of the major issues in international economics. This paper begins by taking a closer look at the evolution of imbalances since the turn of the decade. It is clear that we are now facing a very different situation to the 1980's, the last time imbalances were a major concern. While the United States continues to represent one side of global imbalances — the US current account deficit has almost tripled since the turn of the decade, and reached a new record low of over $800 billion (6.1 per cent of GDP) last year — the surplus economies are now a numerous and increasingly diverse group of countries, making any potential adjustment process more complicated. The focus then turns to the theories that have been put forward to explain the significant increase in imbalances that has taken place. These reveal that a range of factors has played a role, and the responsibility of the deterioration is truly a global one. Finally, the paper turns to the sustainability issue, and finds that a number of issues raise question marks over how sustainable the current position is. These include the role that cyclical factors have played in supporting imbalances, the sharp deterioration in the US external debt position that has occurred, and an expectation that the terms on which foreigners are willing to hold US assets will have to change. Despite considerable debate over the issue, this suggests that some risk of a disorderly adjustment exists, although this risk can be minimised by a number of policies being introduced across the globe.

1. Introduction

International imbalances have widened substantially over the last decade, against the backdrop of expanding global trade and rapid financial market integration. On one side of the imbalance issue is the US economy, where investment has been substantially higher than savings since the mid-1990's, resulting in a rapid expansion of the economy's current account deficit. On the other side is a diverse group of countries — most notably developed and developing Asian economies, and oil exporters — who have recorded sizeable surplus savings, and have been willing to use these savings to purchase significant quantities of US assets. As a result, despite net US external debt increasing substantially from $500 billion in 1995 to over $2.5 trillion last year, the world's largest economy has had no difficulties in finding foreign funds to finance ongoing excess investment.

The sustainability of this situation has become one of the most debated issues in economics in recent years. While it is widely accepted that the current trend cannot continue indefinitely, there is considerable disagreement over whether it can persist in the long-term (see for example Cooper, 2006, and Dooley et al.,

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2006) or whether an adjustment must take place in the coming years (Krugman 2006). Similarly, amongst those who anticipate an adjustment, there is a divergence of views over whether this adjustment will be gradual and benign (Cavallo and Tille, 2006, and CBO, 2007) or rapid and disorderly (Obstfeld and Rogoff, 2005, Roubini and Setser, 2004).

Against this background, this paper aims to take a closer look at the imbalances issue. We begin in section 2 with a brief introduction of the current account; those already familiar with balance of payments concepts may wish to move straight to section 3, which takes a detailed look at developments in the principal deficit and surplus countries in recent years. Section 4 outlines four contrasting theories that have been put forward to explain the emergence of imbalances, while section 5 and 6 look to the future, focusing on the sustainability issue and also the risks of a disorderly adjustment taking place. Reflecting the range of factors that have driven imbalances, their impact on US external debt and the potential for financing problems in the future, the paper concludes that there are significant question marks over future sustainability. Furthermore, while it is possible that a benign market based adjustment will take place, there is also a risk of a much sharper correction. This risk, however, can be minimised by authorities around the globe being pro-active, and introducing a range of necessary policies as soon as possible.

2. Introducing the Current and Financial Accounts

The current account balance of a country measures the difference between the value of exports and imports of goods, services and international transfers. A deficit indicates that a country is spending more than it is earning on these items. In order to finance such a position, the country must either sell domestic assets, run down its previously acquired stock of foreign assets or increase liabilities to non-residents. On the other hand, a current account surplus implies an excess of foreign receipts over domestic expenditure on current account items. In this case, a country will find itself adding to its stock of foreign assets or reducing its foreign liabilities.

In fundamental terms, the current account balance of a country summarises the difference between domestic saving and domestic investment by the public and private sectors. In essence, therefore, the current account balance can be viewed as representing the domestic savings gap (see box 1). By extension, a country's foreign investment will also be related to the difference between domestic savings and investment. A country invests abroad when its domestic savings are more than sufficient to finance domestic investment expenditure. In this instance, the stream of surplus savings generates a capital

Box 1: The current account and the domestic savings gap

We can use the national income accounting framework to illustrate the relationship that exists between savings, investment and the current account. To begin with, we break gross domestic product (GDP) down into its expenditure components; private consumption (C), private investment (I), government purchases of goods and services (G) and exports (X) less imports (M). This provides us with equation (1) below:

$$(1) \quad GDP = C + I + G + X - M$$

As well as recording a country's total expenditure on goods and services, GDP also measures the total income generated in the economy. More detailed reasoning for this can be found in any standard economic textbook. Focusing on this latter definition allows us to rewrite equation (1). We can identify four possible uses for income; it can be used for consumption (C), savings (S), to pay tax (T), or it can be transferred abroad (Tr). Accordingly, GDP can also be expressed as:

$$(2) \quad GDP = C + S + T + Tr$$

Given the uniform left hand side variable in equations (1) and (2) we can equate the two. Doing so and re-arranging the terms we get:

$$(3) \quad X - M - Tr = (S - I) + (T - G)$$

In equation (3) X – M – Tr is the current account of the balance of payments. The equation therefore reveals that the current account balance is equal to the sum of the private saving gap (saving less investment) and the government budget balance. In other words, the current account balance is simply the difference between total domestic saving and investment. A country that runs a current account deficit, will also have a negative domestic savings gap (and vice versa).

We can also go a step further — using the same framework — to confirm that a current account deficit will be offset by a capital and financial account surplus. Equation (4) outlines the various uses of private savings; private savings can be used to fund domestic investment, the government budget deficit or, alternatively, can be invested in foreign assets (FA).

$$(4) \quad S = I + (G - T) + FA$$

Rearranging the terms, we can write

$$(5) \quad FA = (S - I) + (T - G) = X - M - Tr \text{ [From (3)]}$$

This final equation confirms that the size of capital outflows/inflows will be equal to the size of the current account surplus/deficit. It also confirms that a country will accumulate foreign assets (i.e. experience capital outflows) when domestic saving (both private and public) is more than sufficient to fund domestic investment.

outflow, making the country a net lender to the rest of the world. A country that does not generate savings sufficient to finance its own investment needs must attract surplus foreign savings in the form of a capital inflow, making it a net borrower from the rest of the world.

Thus, in terms of simple accounting, a current account deficit will always be matched by an offsetting capital and financial account surplus. Equating the current account position and the domestic savings gap, however, is simply stating an accounting relationship that must hold at the level of a national economy. It is not a theory of how the current account position is determined or evidence that the position is an equilibrium one. In behavioural terms, a country's ability to run a current account deficit depends on the willingness of non-residents to acquire and hold an offsetting amount of domestic assets/liabilities. Balance is achieved by variations in the terms (exchange rate, interest rates, asset prices) on which the assets/liabilities are offered and held. For example, if its domestic assets are in demand, a country will be able to fund its current account deficit on relatively favourable terms and vice versa. As well as these flows aspects, however, there are also stock issues to be considered. Sustained or rising current account deficits imply that the stock of domestic assets held by non-residents will grow over time. Thus, a country which has run deficits for a long period will have a greater exposure to portfolio shifts by non-resident investors.

3. Global Imbalances: The Stylised Facts

3.1 Recent Developments in the US Current Account

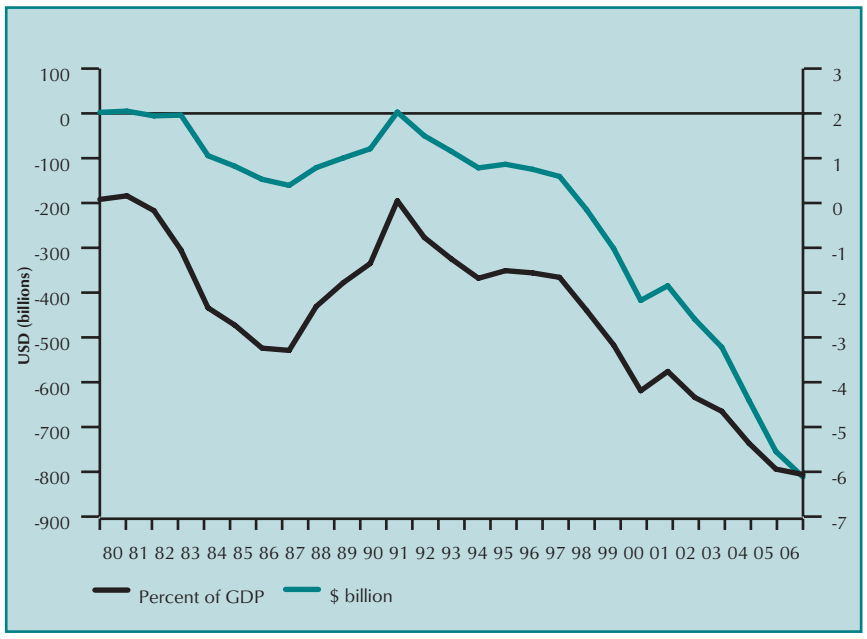
The US current account has been in deficit almost continuously since the beginning of the 1980's[2], but, as Chart 1 outlines, the deterioration in the external position has accelerated sharply over the past decade. From a deficit of $114 billion (or 1.5 per cent of US GDP) in 1995, the current account deficit had more than doubled to $300 billion (3.2 per cent of GDP) by the end of the 1990's, and following a brief improvement in 2001 — against the backdrop of a moderation in economic activity — the downward trend resumed once again. The external deficit reached a new record high in each of the five years to 2006, a trend that culminated in a deficit of $812 billion (6.1 per cent of GDP) last year. To put the scale of this figure in context, it was greater than the nominal value of the output produced by the Irish, Belgian and Portuguese economies combined in the same year.

Looking ahead, it appears that this run of record deficits will continue, albeit at a slower pace. The US external balance is expected to broadly stabilise over the medium term; in its latest

2 In fact, if one strips out significant transfer payments from the rest of the world to the US in support of the war in Iraq in 1991, the US current account has been in deficit continuously since 1982.

WEO, the IMF (2007b) has forecast current account deficits of $835 billion in 2007 and $866 billion in 2008 (or 6.1 and 6.0 per cent of GDP respectively). While this obviously represents a positive development — particularly in comparison with previous years — it is important to stress that, at such levels, US investment would remain substantially higher than saving in the economy. Furthermore, as we shall see later, a stabilisation in the external deficit would not lead to a stabilisation in external borrowing; the external debt position would continue to increase significantly.

Chart 1: US Current Account Balance
Nominal value and as per cent of GDP



Source: Reuters EcoWin.

Table 1 shows a breakdown of the US current account balance since the beginning of the decade. In 2000, US imports of goods and services exceeded exports of goods and services by almost $380 billion, a figure that had doubled to $760 billion in 2006. Consistent and deteriorating trade deficits since the early 1990's have reflected two key factors, positive growth differentials in favour of the US, and until the start of this decade, the strength of the US dollar; since peaking in early 2002, the dollar's nominal effective exchange rate has followed a broadly downward trend, declining about 20 per cent by the middle of this year. Positive growth differentials, on the other hand, which determine the relative strength of US and foreign income growth, continued broadly unabated until US economic activity moderated in the second half of 2006. In fact, most of the period since the turn of the decade saw not only robust US activity levels support significant imports to the economy, but weaker activity in other major economies — most notably the euro area and in Japan — soften foreign demand for US goods and services.

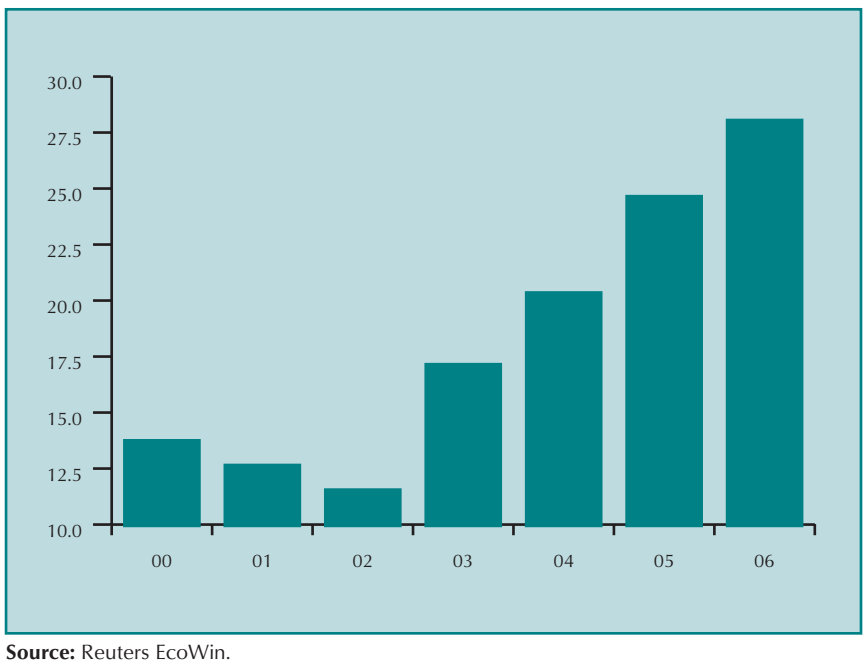
Even if the US and the rest of the world had grown by a similar level over this period, empirical evidence suggests that growth of US imports would still have outpaced growth of US exports. This reflects the fact that the responsiveness of US imports to increases in US income has exceeded the responsiveness of US exports to income growth in its trading partners in the past, the so called Houthakker-Magee asymmetry. This helps to explain why weaker US growth in the coming years is expected to have only a limited impact on the external deficit in the IMF forecasts; activity levels in the other advanced economies are predicted to increase at a broadly similar level to the US. Focusing on the other components of the current account, Table 1 also reveals that the income account recorded surpluses throughout the period, despite a sharp increase in US net external debt during this time. This issue receives more attention in section 3.5, below. Current transfers, meanwhile, have added to the deficit, as one would expect in a major advanced economy.

Table 1: US Current Account Balance, 2000-2006 ($ billions)

	2000	2001	2002	2003	2004	2005	2006
Balance on goods and services	–379·8	–365·1	–423·7	–496·9	–612·1	–714·4	–758·5
– Exports	1,070·6	1,004·9	974·7	1,017·8	1,157·3	1,283·1	1,445·7
– Imports	–1,450·4	–1,370·0	–1,398·4	–1,514·7	–1,769·3	–1,997·4	–2,204·2
Balance on income account	21·1	31·7	27·7	45·4	56·4	48·1	36·6
– Inflows	350·9	290·8	281·2	320·6	401·9	505·5	650·5
– Outflows	–329·9	–259·1	–253·5	–275·1	–345·6	–457·4	–613·8
Balance on unilateral transfers	–58·6	–51·3	–63·6	–70·6	–84·4	–88·5	–89·6
Balance on current account	–417.4	–384.7	–459.6	–522.1	–640.1	–754.8	–811.5
Current account as % of GDP	–4.2	–3.8	–4.3	–4.7	–5.4	–5.9	–6.1

Source: Bureau of Economic Analysis, Reuters Ecowin

Chart 2: Petroleum Trade Deficit, 2000-2006
As percentage of total trade deficit



Source: Reuters EcoWin.

Finally, there is no question that higher oil prices have played a significant role in boosting the US trade deficit in recent times. In the first four years of this decade there was only a modest difference between the total and non-petroleum trade deficits, but since 2004 the gap between these two figures has widened substantially; last year petroleum products accounted for almost 30 per cent of the total trade deficit (see Chart 2). Having moderated in the second half of last year, oil prices picked up significantly once again in the first six months of 2007, reaching new record highs, and with futures markets not expecting Brent crude oil prices to fall significantly from their current levels in the coming years, it appears that future improvements to the current account position via the petroleum channel will be limited.

3.2 Financing the US Current Account: The Surplus Countries

US current account deficits represent only one side of the global imbalance issue; by definition, on the other side must be a group of surplus countries, who are generating the capital outflows necessary to finance the US deficit. Two notable trends in recent years have been the significant increase in the magnitude of current account surpluses, and also the fact that they have become much more dispersed than in the past (see Table 2). The present situation is significantly different from the 1980's, when imbalances were primarily a tri-polar affair, involving deficits in the US, and surpluses in Japan and Germany. This greater number of economies now involved would appear to significantly complicate the issue of trying to orchestrate a multilateral policy response. The growing level of cross border financial flows has been facilitated by factors such as a reduction in home bias, against the backdrop of a global financial system that has become increasingly more integrated.

Table 2: Current Account Balances ($ billions)[3]

	Avg. 1996-00	Avg. 2001-03	2004	2005	2006(e)	2007(f)	2008(f)
United States	–239·9	–455·5	–640·1	–754·8	–811·5	–834·6	–866·1
Euro area	30·8	27·0	97·5	8·1	–29·1	–35·2	–50·6
Asia	155·4	211·2	348·4	416·4	517·5	570·6	614·7
— Japan	103·1	111·9	172·1	165·7	170·4	166·6	159·1
— NIA	32·8	51·1	83·9	79·9	87·0	88·1	89·6
— China	22·4	32·9	68·7	160·8	238·5	303·7	358·6
— Other Developing Asia	–2·9	31·1	23·8	10·0	21·6	12·3	7·3
Oil producers	46·6	95·8	188·0	325·6	383·6	282·4	271·6

Sources: IMF (2007b), Bureau of Economic Analysis, author's calculations.

Table 3 outlines the surpluses of these regions as a percentage of the US deficit. From the data it is clear that the euro area has played a far less significant role in the build up of global imbalances in recent years, and even ran its own small current

3 NIA or Newly Industrialised Asian includes Hong Kong, Singapore, Korea and Taiwan. Oil exporters include 10 of the 11 members of OPEC for whom data is available — Algeria, Indonesia, Iran, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates and Venezuela — and Russia.

account deficit in 2006. The major suppliers of capital since the start of the decade have been Asian and oil producing economies; Asian economies are estimated to have run surpluses that were the equivalent of 60 per cent of the US deficit last year, with oil producers accounting for around 45 per cent of the US figure[4]. The former were led by developments in China, who last year overtook Japan in running the largest surpluses in the region. Chinese current account surpluses have increased from around $30 billion at the beginning of the decade to an estimated $240 billion last year, when they accounted for around 30 per cent of the US deficit. The Japanese and Newly Industrialised Asian economies, meanwhile, have consistently run large surpluses over the past decade, which on average have represented approximately a quarter and a tenth of the US external deficit respectively. Surpluses in oil-producing economies, meanwhile, have accelerated even more rapidly than those in China, against the backdrop of the rapid increase in energy prices that has occurred since 2003. Oil producers' current account balances are estimated to have more than doubled since then to over $380 billion, with the percentage of the US deficit that they account for also doubling from around 20 per cent. With regard to individual countries, the Saudi Arabian and Russian economies ran the largest oil producer surpluses in 2006, with both coming in at just under $100 billion.

Table 3: Current Account Surpluses as Percentage of US Deficit (per cent)

	Avg. 1996-00	Avg. 2001-03	2004	2005	2006(e)	2007(f)	2008(f)
Euro area	12·8	5·9	15·2	1·1	–3·6	–4·2	–5·8
Asia	64·8	46·4	54·4	55·2	63·8	68·4	71·0
— Japan	43·0	24·6	26·9	22·0	21·0	20·0	18·4
— NIA	13·7	11·2	13·1	10·6	10·7	10·6	10·3
— China	9·3	7·2	10·7	21·3	29·4	36·4	41·4
— Other Developing Asia	–0·4	6·8	3·7	1·3	2·7	1·5	0·8
Oil producers	19·4	21·0	29·4	43·1	47·3	33·8	31·4

Sources: IMF (2007b), Bureau of Economic Analysis, author's calculations.

Tables 2 and 3 also include the latest IMF forecasts to outline what is expected to happen in surplus countries in the coming years. Two striking developments are expected to take place; the Chinese external surplus is forecast to continue to accelerate rapidly — increasing by 50 per cent between 2006 and 2008 — and, as a result, will account for 40 per cent of the US deficit next year. Furthermore, surpluses in oil producing countries are expected to moderate by around a third, against the backdrop of increased domestic spending; by 2008 they are forecast to represent just over 30 per cent of the US current account deficit.

4 The fact that the sum of these figures is in excess of 100 per cent reflects current account deficits in other advanced and emerging economies that are not included in the tables, and statistical discrepancies.

3.3 Financing the US Current Account: The Financial Account

These developments — the growing importance of Asian capital flows in financing the US current account throughout the decade, and, more recently, the significance of oil-producing economies — are also evident when focusing on the financial account of the US balance of payments. As discussed in section 2, a current account deficit must be matched by a financial account surplus, and as Table 4 confirms, net capital inflows to the United States have been substantial since the start of the decade, averaging almost $800 billion in 2005 and 2006. Two important trends that have emerged in relation to the financing of US external imbalances in recent years are the growing importance of official flows — although private flows still dominate — and the increase in debt related flows, which are now more important than FDI and equity flows. A significant increase in net official inflows — purchases of US assets undertaken by foreign authorities — has occurred since the year 2002 (see Table 4). These inflows — which result in many cases from heavily managed exchange rate policies — increased from an average of $40 billion in the five years to 2002 to $400 billion in 2004, growing from 10 per cent to 70 per cent of net capital inflows over the same period. Furthermore, Table 5 shows that the bulk of these official inflows have come from Asian economies. While a more detailed breakdown on a country-by-country basis is not available, the table shows that $310 billion, or almost 80 per cent of official inflows originated from Asia in 2004.

Table 4: US Financial Account, 2000-2006 ($ billions)

	2000	2001	2002	2003	2004	2005	2006
US owned assets abroad	–560·5	–382·6	–294·6	–325·4	–905·0	–426·9	–1,055·2
— Official	–1·2	–5·4	–3·3	2·1	4·5	19·6	7·7
— Private	–559·3	–377·2	–291·3	–327·5	–909·5	–446·5	–1,062·9
Foreign owned assets in the US	1,046·9	782·9	797·8	864·4	1,461·8	1,204·2	1,859·6
— Official	42·8	28·1	115·9	278·1	397·8	259·3	440·3
— Private	1,004·1	754·8	681·9	586·3	1,064·0	945·0	1,419·3
Net capital flows	486·4	400·3	503·2	539·0	556·8	777·3	804·4
— Official	41·6	22·7	112·6	280·2	402·3	278·9	448·0
— Private	444.8	377.6	390.6	258.8	154.5	498.5	356.4

Source: Bureau of Economic Analysis

More recently, however, developments in official capital flows have been somewhat more volatile. In 2005, as the Asian current account surplus recorded a more modest increase and the external balances of oil producing economies grew significantly, net official inflows to the US moderated sharply (accounting for just 35 per cent of total net capital inflows to the US). Unlike Asian economies, whose authorities — up until that point — tended to intervene directly in asset markets, a proportion of oil producers' revenues have been invested through private firms. As can be seen from Table 6, however, capital continued to flow into US Treasuries in 2005, despite the apparent decline in official inflows, and the relatively low rates of return on offer from US government securities.

Table 5: Inflows of Official Capital to the US by Origin, 2000-2006 ($ billions)

	2000	2001	2002	2003	2004	2005	2006
Asia	23·5	20·7	94·8	251·6	317·0	225·6	311·2
Europe	8·6	1·9	25·2	8·1	44·2	24·9	88·4
Latin America/Caribbean	7·8	6·1	–5·9	15·9	24·5	5·7	36·8
Other	2·9	–0·6	1·9	2·5	12·1	3·0	3·9

Source: Bureau of Economic Analysis

In 2006, as capital outflows from oil producing economies increased at a more modest rate, and total Asian outflows accelerated, net official inflows to the US picked up once again (to represent 55 per cent of total inflows). It is also interesting to note that the proportion of foreign inflows into treasury bonds moderated to just 17 per cent last year. This suggests that foreign authorities, which have concentrated their US investment in safe government bonds in recent years, might now be seeking a higher return by investing in other debt instruments. The fact that over half of the decline of capital flowing into treasury bonds went into corporate and agency bonds instead — which offer still relatively safe returns — supports this view.

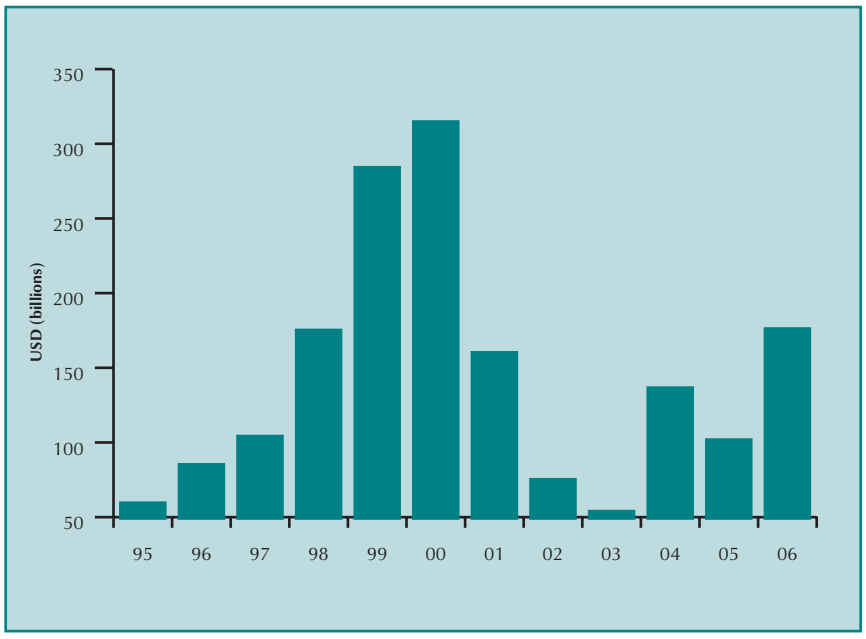
Table 6: Proportion of Net Foreign Purchases of US Securities Represented by Each Security Class

	Avg. 1997-2001	2002	2003	2004	2005	2006
Treasury Bonds	11	22	37	38	33	17
Agency Bonds	25	36	22	25	22	25
Corporate Bonds	39	33	37	34	37	44
Corporate Stocks	25	9	5	3	8	13

Source: Reuters Ecowin, US Department of the Treasury

Turning to developments in foreign direct investment (FDI), flows into the US economy have failed to recover to close to the levels seen in the late 1990's and earlier this decade, when optimism about the 'new economic paradigm' — and the limitless economic growth that it would bring — was at its peak (see Chart 3). From an average of $233 billion per year between 1998 and 2001, and a peak of $314 billion in the year 2000, FDI inflows fell sharply in 2002 and 2003, as one would expect given the weaker economic performance and increased uncertainty in these years. However, more recently inflows have remained relatively subdued, despite reasonable productivity growth in the US economy. In 2005 FDI inflows amounted to just $100 billion, and while they increased once again last year to $175 billion, they remain well below the levels recorded at the turn of the decade.

Chart 3: Foreign Direct Investment in the US, 1995-2006

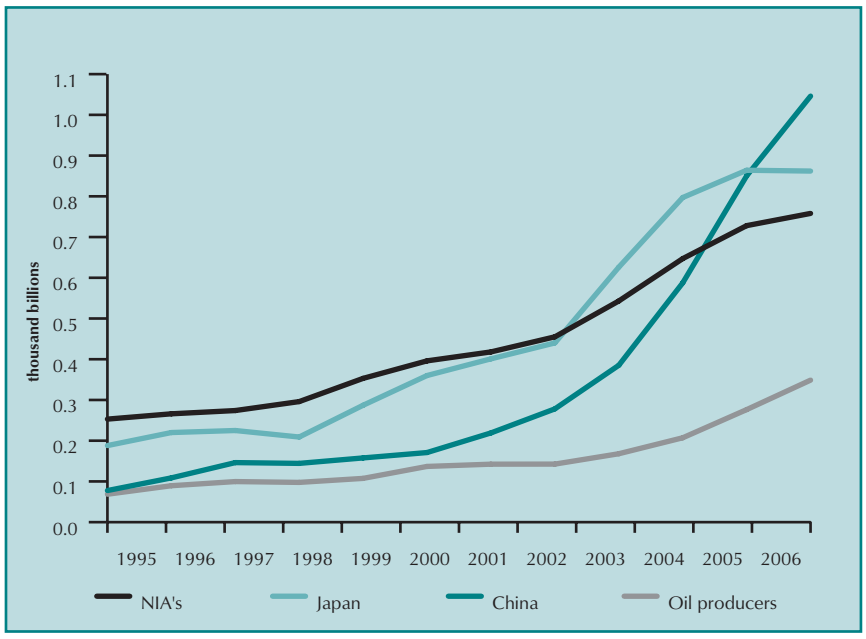


Source: Reuters EcoWin.

3.4 Global Imbalances and Foreign Reserve Accumulation

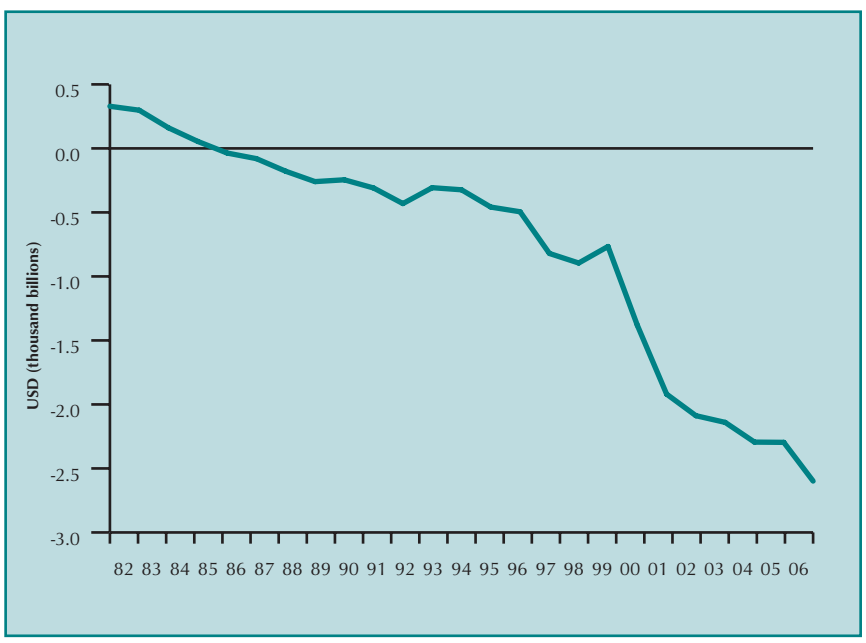
One offshoot of the significant level of official outflows from Asian and oil producing economies to the US has been a rapid increase in foreign reserves in these countries. While, initially, following the financial crises that took place in the 1990's and early 2000's stronger foreign reserve accumulation may have reflected a desire to self-insure against future crises, the size of reserves have long surpassed the levels that would generally be considered consistent with such a requirement. Increasingly reserve accumulation has reflected export-led growth strategies supported by tightly managed, undervalued exchange rates, and factors related to the financial underdevelopment of emerging-market economies. With regard to the latter of these factors, for example, the excess of domestic savings over investment combined with limited domestic financial intermediation possibilities has led to large outflows of capital. With regard to the former, most Asian countries either peg their currency to the US dollar or limit its movements considerably. As Chart 4 reveals, these developments have led to a surge in international reserve accumulation in the major Asian economies. China surpassed Japan as the largest foreign reserve accumulator in 2006, with reserves totalling $1,046 billion; Japanese reserves stabilised but remained substantial at $862 billion. Foreign reserves have also picked-up steadily in the Newly Industrialised Asian economies — Hong Kong, Singapore, Korea and Taiwan — and while they remain low by comparison in oil producing economies, they have nevertheless more than doubled there in the past five years.

Chart 4: Accumulated Foreign Exchange Reserves
USD Billion



Source: Reuters EcoWin.

Chart 5: US Net International Investment Position



Source: Reuters EcoWin.

3.5 The US Net International Investment Position

An obvious consequence for the US of running continuous current account deficits — and subsequently importing substantial levels of capital — has been a sharp increase in the nation's external debt, a development that is clearly evident from the US Net International Investment Position (NIIP). The NIIP, which is illustrated in Chart 5, is a cumulative measure of the difference between the value of US external liabilities and its external assets. Reflecting a history of current account surpluses up until the early 1980's, the NIIP did not move into deficit for

the first time until 1986, and a significant deterioration did not occur until the middle of the last decade. Between 1996 and 2005 US external debt increased steadily, from $500 billion to $2.2 trillion, and the NIIP reached a new record deficit of $2.5 trillion in 2006. Paradoxically, as we noted earlier, despite the scale of this deterioration and the resulting significant net liability position, the US economy has continuously experienced net inflows of investment income (see Table 2). This is an issue that we return to in more detail in section 5.

4. Why Have Imbalances Widened

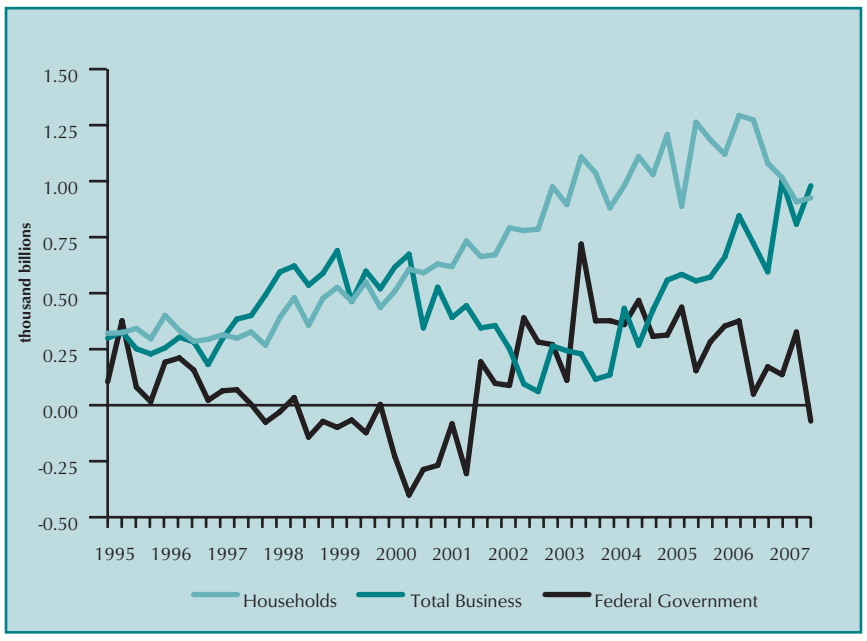
The global economy has experienced a variety of positive and negative episodes over the course of the last decade against the backdrop of increased globalisation; these include the Asian crisis, the new economy, and the bursting of the dot-com bubble and subsequent recovery. As section 3 outlined, however, an almost constant development over this period has been an increase in global imbalances. A number of theories have been put forward to explain why this widening has taken place, with different commentators focusing on different aspects. Some see the driving forces as coming from within the US — reflecting for example the savings behaviour of agents in the economy, or its robust productivity performance, while others focus on developments outside the world's largest economy — such as the impact of strong growth and exchange rate strategies in emerging market economies coupled with financial globalisation. In this section we outline four of the most popular theories. Two of these — the deterioration in US savings, and the emergence of a global liquidity glut — focus on the underlying savings-investment balance that was outlined in section 2. Another hypothesis, which focuses on the strength of the US economy as a favourable investment location, suggests that large trade imbalances are being driven by capital flow developments, while a fourth hypothesis, the Bretton Woods II theory, claims that a new international monetary system has emerged. These theories present mixed evidence over the sustainability of imbalances.

4.1 The Decline in US Savings

One factor that is often cited as being a key cause behind the deterioration in the US current account balance is a deficient level of US savings, a view that suggests that it is the US that is primarily responsible for the current level of global imbalances. Recall from equation 3 in Box 1 that the current account is equal to the sum of the private savings gap (saving less investment) and the government budget balance. As a result, economic theory tells us that a negative private savings gap (which can be caused by either low savings or high investment), a government budget deficit or a combination of the two can result in an economy running a current account deficit. According to IMF data, gross US savings have declined significantly since the turn

of the decade, falling from 18 per cent of GDP in 2000 to just 12.9 per cent in 2005, before picking up somewhat last year. By comparison, with the exception of France — where a small decline has taken place — gross savings in the other G7 countries have been broadly stable, or even increased, over this period.

Chart 6: US Private and Public Borrowing



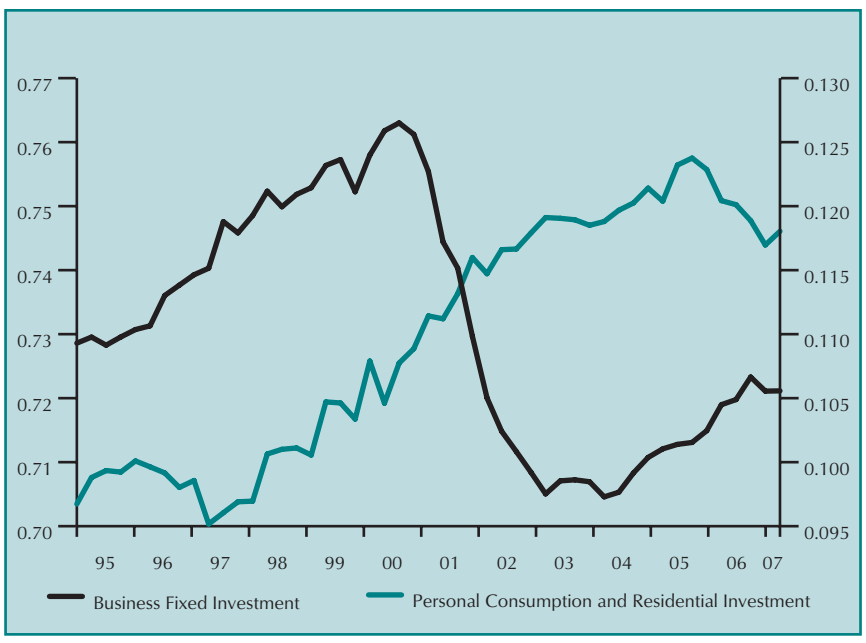
Source: Reuters EcoWin.

To analyse why this decline has taken place we must look at sectoral data, which reveals that weaker savings has primarily reflected a significant increase in household borrowing. Chart 6 outlines net sectoral borrowing (saving less investment) developments, for the period 1995 to 2006. The chart reveals that the private savings gap has been negative over this entire period, while the public savings gap has been in almost constant deficit since 2002. Taking a closer look at developments in the private sector, we can observe two fairly distinct periods. The first of these, in the second half of the 1990's saw both corporate and household borrowing increase almost in step; higher corporate borrowing during this period reflected the 'new economy' investment boom, while household borrowing was supported by significant positive wealth effects as the stock-market surged. The second period, which began in the year 2000, saw the increase in the private savings gap being primarily driven by higher household borrowing. Corporate borrowing fell significantly as stock market valuations declined, and businesses found themselves over-indebted and capital heavy to such an extent that it took until late 2003 for their borrowing to begin to trend upwards once again. Household borrowing, however, continued to accelerate as the decade progressed as the negative impact of the stock market crash on household wealth was compensated for by the impact of lower interest rates in

boosting house prices. Between 2001 and 2005 net borrowing by the household sector almost doubled, surpassing $1.2 trillion, before moderating significantly over the course of 2006, as concerns about the housing market developed. This shift in the driving forces behind the private savings gap — and the sharp decline in business investment spending that took place — is particularly evident from Chart 7, which outlines US household spending, residential investment and business investment as a percentage of GDP over the last 10 years.

As Chart 6 makes clear, the second period also corresponded with a significant turn-around in the US fiscal position, and a return of the 'twin deficits' of the 1980's; combined external and fiscal deficits. Although they are not as significant in volume terms as private savings, government surpluses at the time would at least have helped the overall saving position. However, from surpluses of 2.4 and 1.3 per cent of GDP in 2000 and 2001 respectively, the US budget balance fell into deficit in 2002 as sizeable tax cuts resulted in a significant decline in revenues, and federal spending expanded at an elevated level. By 2004 the fiscal deficit had reached an 11-year high of 3.6 per cent, and while the budget position has improved in recent years against the backdrop of soaring corporate profits, the IMF (2007d) has nevertheless forecast general government deficits of around 2.0 per cent into the next decade.

Chart 7: US Household Spending and Business Investment
Percent of GDP



Source: Reuters EcoWin.

This evidence suggests quite clearly that US private savings have weakened significantly over the last decade, with the move from surplus to deficit on the part of the public sector adding to this. The question is whether this low rate of saving is sustainable in the years ahead. Given the housing market slowdown currently

being experienced by the economy, and the negative impact that this is likely to have on household wealth, one would expect that the very low private savings rate will have to correct.

4.2 The Global Liquidity Glut

A second theory that focuses on underlying saving and investment developments, suggests that global imbalances primarily reflect economic policies and developments outside of the US. This theory was introduced by current Federal Reserve Chairman Ben Bernanke in a speech in early 2005; Bernanke (2005) suggested that a combination of diverse factors had led to the emergence of a global savings glut, which explained both the increase in the US current account deficit and also the low levels of long-term real interest rates that persist today. In essence this theory is a reversal of that discussed in section 4.1; instead of imbalances being driven by low US saving, it suggests that they have actually been driven by excess savings in the rest of the world over the past decade. This, according to Bernanke, in turn reflects the strong saving motive of developed countries with ageing populations, but more significantly a 'metamorphosis of the developing world from a net user to a net supplier of funds to international capital markets'. Bernanke suggests higher savings in developing economies can be explained by a range of factors. These include a response to the series of financial crises of the mid-1990's — after which emerging market nations 'were forced into strategies for managing international capital flows' and built up substantial foreign reserves — and the sharp increase in energy prices. Other important factors that have subsequently been mentioned by other commentators include the lack of a social safety net and limited domestic credit facilities, which encourage families to save in order to make future durable purchases.

The real strength of the global savings glut theory is that, as noted above, it also explains the very low level of world interest rates that have been evident since 2002 — the factor which Bernanke gives most credit to reducing US savings in recent years. From 1996 to 2000 he notes that higher equity prices played a key equilibrating role in international financial markets, as capital flowed into the US economy searching for higher returns; the subsequent positive wealth effects and expectations of high income growth resulted in a sharp decline in US saving. After the stock market decline the demand for financing waned around the world, but global savings remained high reflecting the factors noted above. As a result downward pressure was placed on global interest rates, and the transmission mechanism of excess liquidity to the US domestic saving behaviour switched to strong gains in house prices and housing wealth. Bernanke notes that housing wealth was easily accessible to US consumers through cash out refinancing and home equity lines of credit. Focusing on the data, Table 7 clearly outlines that global saving has

increased since the mid-1990's, and most of this has reflected developments in emerging market economies.

Table 7: Gross Saving as a Percentage of GDP, 1992-2006

	Average 1992-1996	Average 1997-2001	Average 2002-2006
Advanced Economies	21·5	21·5	19·3
US	15·4	17·7	13·5
Euro area	21·2	21·6	21·1
Japan	31·7	28·5	26·8
NIA	34·2	32·3	31·3
Developing Asia	32·9	32·1	38·3
Middle East	22·9	25·4	35·0
Africa	17·1	18·6	21·9

Source: IMF

More recently, the global liquidity glut theory has been augmented to also take account of the very low levels of global investment since the turn of the decade. In the same year as Bernanke outlined the hypothesis, the IMF (2005b) noted that 'unusually low investment rates across the globe are a contributing factor to low real long-term interest rates'. Rajan (2006) outlines a range of possible factors for this. These include the consequences of past excessive investment during the boom years in advanced economies, concerns in developing economies about the past inadequacies of their financial systems in allocating investment, political and economic uncertainty in developing countries which has limited FDI there, and a possible switch in the nature of investment from hard physical assets — like plant and equipment — to items like training and research and development that are not as easily tracked. In Rajan's view, overall investment restraint is the real macroeconomic conundrum, and his position is that the problem of the excess of desired savings over realised investment is better described as investment restraint rather than a savings glut.

As Table 8 reveals, the data also tends to support the IMF's view. Investment in advanced economies has declined only marginally from the start of the 1990's, but the decline that has taken place overwhelmingly reflects developments in Asia; investment spending in Japan and the NIA's has fallen by around 6 per cent of GDP from the levels recorded in the five years to 1996, while even incorporating rapid investment growth in China — 45 per cent of GDP in 2004 — investment in developing Asia as a whole remains at the levels witnessed prior to the Asian crisis, pointing to cautious developments elsewhere. In the Middle East, meanwhile, investment has remained broadly unchanged despite substantial inflows of oil revenue. This may reflect a reluctance of a number of these economies to repeat the mistakes made in the late 1970's, when following a normalisation of energy prices, governments were faced with significant fiscal deficits.

Table 8: Gross Investment as a Percentage of GDP, 1992-2006

	Average 1992-1996	Average 1997-2001	Average 2002-2006
Advanced Economies	21·9	21·7	20·4
US	18·2	20·1	19·2
Euro area	21·4	21·1	20·5
Japan	29·3	25·9	23·3
NIA	32·6	27·9	25·3
Developing Asia	34·9	30·5	34·9
Middle East	23·9	22·0	22·7
Africa	19·8	20·0	21·2

Source: IMF

4.3 The Strength of the US Economy as an Investment Location

Turning away from saving and investment developments, this theory suggests that the current level of global imbalances is not being driven by insufficient US saving, but rather by the desirability of the US economy as a destination for foreign investment. As in the case of the global liquidity glut, this suggests that it is the decision making of non-US residents that has driven the surge in the US external deficit. It is certainly possible that the direction of causality could flow this way; as outlined in section 2, a financial account surplus must be matched by a current account deficit, and there are a number of reasons why sharp net inflows of foreign capital should result in growth in domestic expenditure. We would expect strong foreign demand for a country's assets to lead to an appreciation in that country's currency, making its imports relatively cheaper and exports more expensive. Strong foreign demand should also push up stock prices — leading to positive wealth effects, place downward pressure on bond yields and in the case of direct investment create job opportunities, all factors that one would expect to boost private consumption. When inflows are spent on investment, meanwhile, the productive capacity of the economy should increase, leading to further strong capital inflows in the future.

Proponents of this theory initially suggested that sharp inflows of foreign capital reflected the strength of rapid productivity growth in the US. Given the strength of optimism surrounding the economic outlook there in the late 1990's, it certainly appears that return maximising decisions by non-US investors played a significant role in driving the current account deficit at the turn of the decade. As Table 9 reveals, significant productivity growth differentials emerged between the US and the other major economies at the time, and as Chart 3 and Table 6 show, a substantial amount of the capital flowing into the US at the time was invested directly or used to purchase corporate equity.

In more recent years, however, as hopes of a 'new economy' have dissipated, the evidence no longer suggests that the substantial US current account deficit is being driven by private

foreign investors seeking to maximise returns. This partly reflects a reversal in the developments noted above; there has been a moderation in US productivity growth in recent years, while the proportion of foreign capital flowing into riskier US assets has declined significantly. Initially strong flows into US Treasury bonds might have reflected a flight to security against the backdrop of weaker global growth, but it persisted even as US stock markets rebounded (see Table 6). We have also seen official inflows of capital playing an increasingly important role in financing the US deficit, and clearly foreign authorities have not been investing substantial funds in low yielding US treasury bonds in order to maximise their returns.

Table 9: Labour Productivity for the Total Economy; Growth in the Major Economies, 1998-2007

	Avg. 1998-2002	2003	2004	2005	2006	2007(f)
US	2·0	2·5	2·8	1·6	1·5	1·0
Euro area	0·7	0·4	0·9	0·5	1·2	1·2
Japan	0·9	1·6	2·5	1·5	1·8	2·2
UK	1·9	1·7	2·2	1·0	1·9	1·7

Source: OECD Economic Outlook, June 2007

Reflecting this evidence, many supporters of the view that global imbalances reflect the desirability of the US as an investment destination have augmented their view to take a wider perspective. Cooper (2006), for example, suggests that the US remains an appealing destination for foreign investment not only because of the attractiveness of US financial assets, but also because of demographic trends in other developed and, in many cases, developing countries. Cooper claims that an ageing society in these countries limits the prospects for significant future increases in domestic investment — and therefore productivity growth — and as a result these economies' future needs can only be met by profitable external investment. In the US, by comparison, the author notes that there is the prospect for a continued rise in population in the coming years, reflecting both a higher fertility rate and continuing significant immigration. As a result US investment spending and productivity growth should remain robust in the medium to long term, and the country will continue to offer superior higher risk-adjusted returns. Others have suggested that the desirability of the US economy does not just reflect the high quality of assets available, but also other factors. Clarida (2005) suggests that the US external deficit reflects a deficit of growth and growth prospects in much of the rest of the world, especially the rest of the G7. However, he concludes that 'the United States, because of the role of the dollar as a vehicular currency, because of the depth and breadth of the US financial markets, and because of the credibility of US monetary policy, is destined for some time . . . to run a structural international capital inflow, and thus a structural

current account deficit'. Having acknowledged that higher realised returns do not drive US capital inflows, meanwhile, Forbes (2007) outlines a number of reasons why foreign private sector investors may choose to purchase US assets. These include a more highly developed, liquid and efficient financial sector; strong corporate governance, accounting standards and institutions; low information costs due to familiarity; the reserve status of the dollar; and possibly even an advantage amongst US based investors, which helps them earn higher returns than their foreign counterparts. Given that these factors should continue to support strong net inflows of foreign capital into the US economy, Cooper notes that 'the US current account deficit . . . is likely to remain large for some years to come'.

Box 2: Dark matter and the debate over US external assets

As noted in Section 3.5, while the US net liability position has deteriorated significantly over the past decade, the US economy continued to experience positive net inflows of investment income until last year. This apparent paradox is at the centre of the controversial 'dark matter' hypothesis, developed by Hausmann and Sturzenegger (H&S, 2005). H&S claim that, measuring the value of US external assets on the basis of the income generated, the US has actually been a net creditor since the 1980's rather than a net debtor. 'Dark matter' is what the authors refer to as the gap between the official balance of payments data — which they believe has failed to accurately measure the true value of US assets overseas — and their own measurement of net assets. In their own words 'dark matter . . . corresponds to assets we know exist, since they generate revenue but cannot be seen or better said, cannot be properly measured'. The most notable source suggested by H&S is superior US 'know how', evident from a consistently higher rate of return on US FDI as compared to foreign FDI in the US. However, the dark matter hypothesis has been the subject of significant criticism. Most significantly, H&S make the very heroic key assumption that all investments earn the same rate of return. If this is not the case, there is no reason why net investment income cannot be positive even when a country is a net debtor. In reality this appears to be what has happened in the US. In the words of Gourinchas and Rey (2005), the US has benefited from the 'privileges of the issuer of the international currency . . . being able to borrow short and lend long', a privilege that saw the US experience a positive return differential. This issue is discussed in more detail in section 5.

4.4 The Bretton Woods II Argument

A final theory which has received a significant amount of attention in recent years is the Bretton Woods II (BW2) argument, devised by Dooley, Folkerts-Landau and Garber (2003, hereafter DFG). DFG suggest that a new de facto Bretton Woods regime of fixed exchange rates has emerged in the international monetary system, and this will allow the US to continue to run sizeable current account deficits for a prolonged period. In the 1950's, two large 'periphery' economies, Europe and Japan, adopted a development strategy based on exports to a 'central economy', the United States. The strategy was supported by the Bretton Woods (BW1) system of fixed exchange rates — under which foreign currencies were pegged to the dollar at fixed parities — which ensured exports from the

periphery economies remained competitive. Today, DFG claim that a similar scenario is playing out, albeit one with somewhat different players. The central economy remains the US, but a new periphery — consisting of a number of Asian economies — has adopted an export led growth strategy to support its development. While DFG acknowledge that no formal exchange rate system exists, countries in the periphery have ensured that they remain competitive by heavily managing their currencies against the US dollar (the so called BW2 arrangement), a development that has resulted in the periphery accumulating substantial levels of external reserves. Of course, today a third group of countries also exist; labelled 'the capital account economies' and consisting of Europe, Canada and Latin America, these economies allow their currencies to float freely, and accordingly are the ones DFG believe are most likely to face the burden of adjustment under the current arrangement.

DFG suggest that the current system is sustainable into the long run because even when the current important periphery countries develop and move to fully floating exchange rates — a point that is not expected to be reached for 'perhaps ten more years', the clear success of the strategy will lead other developing countries — most notably India — to follow the same path and 'graduate to the periphery'. In the authors words 'the Bretton Woods system does not evolve, it just occasionally reloads a periphery'.

The BW2 theory certainly captures recent developments in the global economy. No one can question that many Asian countries have, and continue to, manage the fluctuations in their currencies against the US dollar, in a manner consistent with export-led growth strategies. The result of this behaviour has been a sharp increase in these economies' external reserves, the recycling of which has spurred foreign official demand for US assets, and ensured bond yields have remained close to record lows. However, it is less clear that the current arrangement is sustainable, particularly over the medium-term. The authors themselves note in their most recent paper that while 'a general acceptance of the [BW2] view [has developed] in financial markets . . . this is much less true of the academic and official sector'.

Barry Eichengreen (2004), for example, stresses the significant differences that exist between the original BW1 arrangement and the current international monetary system. The most notable of these reflects the nature of the periphery countries themselves; today the periphery represents numerous heterogeneous economies, making it less likely that they will be able to subordinate their individual interest to collective interest. He also notes that today there is no commitment from US policymakers to maintain the value of their currency. Goldstein and Lardy (2005), in comparison, focus on one of the key members of the

periphery, China, and outline why 'the China portrayed in BW2 is not consistent with several important trends in, and features of, the Chinese economy'. In particular, more than half of China's exports go to markets whose currencies are not pegged to the US currency. They also believe that BW2 underestimates the costs of sterilisation, and that it sets out a faulty development strategy for China, where the pace of financial reform must be accelerated and greater flexibility introduced to the exchange rate in order to promote financial stability. Roubini and Setser (2004) take a broader view of BW2 that is no less critical, and incorporates some of the points noted above. The authors believe that the current regime is highly unstable and unsustainable, as it will place an increasingly large strain on the global economy in the coming years. In particular, significant protectionist pressures would emerge in the US and the capital account countries, while the regime would also place an increasing strain on the periphery countries themselves. These strains would not only be felt on domestic financial systems, but also in relationships amongst the peripheries.

4.5 Why Have Global Imbalances Widened?

The theories outlined above have typically been presented as independent of one another. In reality, however, given the complexity of the global economy, it is unlikely that only one factor has led to the emergence of substantial imbalances. Many factors have presumably been of significance, and accordingly, it is probable that all of the above theories are relevant to some degree. This is the view now taken by a number of commentators, most notably the IMF (2005a), who note that since the stock market correction in 2000 a number of factors have been at play in supporting imbalances. Similarly, more recent papers by Barry Eichengreen (2006) and Nouriel Roubini (2006) have concluded that a range of factors has driven global imbalances.

5. How Sustainable are Global Imbalances?

Having outlined the current extent of global imbalances, and reviewed a range of theories that attempt to explain why imbalances have widened over the last decade, this paper now turns its attention to the future. Looking ahead, the present situation, which sees capital flowing from developing economies to already capital rich advanced economies, is unlikely to persist indefinitely, although there is no consensus over when an adjustment will have to take place. In this section, however, the article outlines a number of factors that suggest that a move towards a more sustainable level may have to occur in the medium term.

5.1 The Positive Impact of Structural Shifts

A number of structural shifts have taken place over the last decade that have been supportive of an increase in cross-border

capital flows, and have facilitated expanding external imbalances. Returning to one of the theories outlined in section 4, for example, the emergence of the global savings glut reflects a number of these structural factors: rapid increases in global financial integration, the reduction of home bias, a prolonged period of robust global growth — most notably in emerging economies, and the uneven pace of financial market and social security developments in said economies. Against the backdrop of greater financial globalisation, we would expect to see an increase in the number of countries with external surpluses or deficits, and bigger imbalances than we have seen in the past. However as Geithner (2006) has noted, just because it is possible does not mean that it is prudent for the US to continue borrowing on this scale, and there are a number of compelling factors that suggest that imbalances have reached unsustainable levels and will have to adjust downwards in the coming years.

5.2 Reversing Cyclical Effects

Alongside the structural shifts outlined above, positive cyclical factors have also been highly supportive of growing imbalances. By their very nature we would expect these cyclical factors to dissipate over time, and there is growing evidence that this process has begun and will intensify in the coming years. Section 4 outlined two of the more notable of these factors; very weak saving in the US economy, and weaker than usual investment outside of the US. Low private saving in the US has been supported by the positive impact of booming asset prices on household wealth since the turn of the decade, and in particular the strength of house price growth. Between 2000 and 2006, national house price growth in the US[5] averaged almost 9 per cent per annum, peaking at 13 per cent in 2005. Since early 2006, however, the slowdown in the growth rate has been notable. House prices expanded by just 3 per cent in annual terms in the second quarter of the year, and are expected to decline before 2007 comes to a close, as indicators from the sector remain extremely weak, and concerns about subprime mortgages have spiralled. Against such a background, one would expect household savings to pick up, particularly given the very low base that they are starting from. Very low investment outside of the US also appears unsustainable over a prolonged period, particularly given the current environment of robust global growth. Table 8 revealed that global investment was weaker in the period 2002 to 2006 than in the first half of the 1990's for many regions. However, more recently there is evidence that a gradual upward trend has been established, an upward trend that the IMF's projections suggest will continue this year and next.

5 These house price figures are based on the Office for Federal Housing Enterprise Oversight (OFHEO) house price index.

5.3 Expanding US External Debt

Focusing on the external debt implications of the US running uninterrupted current account deficits also raises sustainability questions. As outlined in section 3, the US net international investment position (NIIP) has deteriorated rapidly over the last decade, falling from $500 billion in 1996 to $2.5 trillion last year (or from 6 to 19 per cent of GDP). However, the situation would have been significantly worse, but for valuation effects limiting the expansion of the NIIP in recent years. In particular, a weaker US dollar has reduced the external burden by around $200 billion in the past three years (as is discussed in more detail below, the US is in a unique position of borrowing in its own currency, so a dollar depreciation weakens its external liabilities), while the strength of equity markets in Asia and Europe relative to those in the US has subtracted $1 trillion from the US external debt position. As Higgins et al. (2006) note, however, this latter valuation channel cannot be expected to persist in the coming years as typically 'changes in US and foreign stock prices have been highly correlated' and '[this] historical pattern is likely to reassert itself in the future'. In fact, between 1998 and 2003, asset price changes actually increased the burden of US debt marginally. Accordingly, the deterioration in the US external debt position is likely to accelerate in the coming years.

It is important to note that even if the US current account were to stabilise in the coming years — as the major international organisations expect — this would still imply a substantial increase in the country's external debt position. This is clearly illustrated in an earlier paper by the same authors, Higgins et al. (2005), which outlines how rapidly external debt can build up. The authors consider alternative current account scenarios, assuming that US nominal GDP growth proceeds at its recent average of 5 per cent per annum, and exchange rates and the rate of return on assets and liabilities remain unchanged. In a scenario where the US current account deficit remains unchanged at 6 per cent, the authors find that net US external liabilities triple to 65 per cent of GDP by 2015, and 89 per cent by 2025. Even if the US current account was to decline smoothly to 2.5 per cent of GDP by 2015, meanwhile, the authors find that US external debt would reach 50 per cent of GDP by that year, and remain at that level in the following decade.

It is also important to note that the composition of US expenditure since the turn of the decade — outlined in detail in section 3 — will make the burden of repaying this debt more difficult for the US economy. External deficits in the late 1990's partly reflected a significant increase in corporate borrowing to finance investment, enhancing the productive capacity of the economy. Since the bursting of the dot com bubble in 2000, however, foreign borrowing has primarily financed increased consumer and government spending. Consequently, from a position at the turn of the decade where capital inflows were

partly adding to the economy's capital stock, inflows into the US economy over the past five years have had a modest positive impact on the economy's productive capital stock.

5.4 The Conundrum of the US Income Account

As we noted in section 3, an apparent paradox has emerged relating to the US income account. Despite the significant deterioration that has taken place in the NIIP in recent years, the US economy has continuously experienced net inflows of investment income (see Table 1); while the NIIP recorded a deficit of $2.6 trillion in 2006, inflows of investment income to the US were nevertheless $37 billion greater than outflows to foreigners holding US assets, developments that seem somewhat inconsistent with one another. How has the US economy continued to benefit from net income inflows? The answer reflects the differing compositions of US assets and liabilities. As Heath (2007) notes, the US has a positive net external equity balance and a negative net external debt balance, and the income yield on the former has been higher than the income yield on the latter. Furthermore, the US net income balance has experienced a persistent positive income yield on FDI. Table 10 breaks down US external assets and liabilities in 2005 by security type. The table indicates that the level of demand for portfolio debt securities differs significantly between the US and the rest of the world. These debt securities make up just 10 per cent of US owned foreign assets, with foreign direct investment and equities accounting for 33 and 25 per cent respectively. The composition of foreign-owned assets in the United States, on the other hand, is dominated by interest sensitive securities, a significant development when one considers the lower rate of returns offered by these 'safer' assets. Interest sensitive securities account for 33 per cent of the total, while foreign direct investment and equities make up just 22 and 17 per cent respectively. This differing composition has allowed the US economy to experience a positive return differential.

Table 10: US External Assets and Liabilities, 2005 (per cent)

	Assets	Liabilities
Portfolio debt	9·9	33·1
Portfolio equity	25·4	17·0
FDI	32·6	21·6
Other investment	30·2	28·3

Source — Heath (2007)

Will this positive trend continue? It appears unlikely. While the overall increase in the US NIIP figure has been significant in the last decade, the increase in gross asset and liability flows has been even more substantial; gross liabilities amounted to over $16 trillion in 2006. This continuing increase in liabilities should soon push the US income account into deficit, and as a result income flows will begin to add to the current account deficit,

rather than subtract from it as it is doing now, reinforcing the deterioration in the US net liability position.

5.5 Increasing Financing Costs

As section 3 outlined, the US economy has found little difficulty in financing its external deficits, receiving substantial inflows of foreign capital. But looking to the future, can it continue to do so at such favourable terms? There is no question that there will always be a strong underlying demand for US assets, irrespective of the returns on offer. This reflects the many desirable features of US markets that were outlined in section 4, most notably the currency's reserve status, and the depth and liquidity of US markets. However, given the implications for the debt profile, and the required increase in concentration of US assets in foreign portfolios, there is a question as to whether the structural demand for US assets is consistent with current account deficits of around 6 per cent of GDP. As a result, there may have to be an increase in the incentive for investors to continue to purchase US assets in the coming years. This belief reflects a number of factors. In particular, while a decrease in home bias has made investors more willing to hold foreign assets, US assets appear to have increased significantly as a proportion of portfolios. BIS data shows that almost a quarter of all debt securities issued in 2005 and 2006, and half of all corporate debt securities issued in this period, originated in the US. At some point, investors could well require higher returns to continue to purchase US assets, particularly as the exchange rate risk involved increases with exposure to a particular currency. As section 3 outlined, there are also tentative signs that official capital flows, which have played such an important financing role, may start to chase higher returns. There is still no firm evidence of these central banks diversifying out of dollars, but they do now seem to be paying more attention to the value of, and possible risks related to, their balance sheets. If official flows to the US were to moderate, it would place more emphasis on private investors, reinforcing the point made above.

Roubini (2006) notes that in 2005 the conditions were perfect for the private sector to play a bigger role in financing the US external deficit; the Fed was tightening while the ECB and the Bank of Japan were on hold; the US economy was growing much faster than Europe's and Japan's; the Homeland Investment Act heavily subsidised the repatriation of US profits abroad; and the dollar was rising, providing capital gains to foreign holders of US dollar assets. Yet, gross private purchases of US assets actually declined marginally. Now the environment is very different. US growth is slowing with growing concerns over the economic outlook, while risk generally has been repriced upwards. Against this backdrop there is a risk that private investors may become less willing to continue to increase holdings of US assets significantly without receiving higher returns. Higher financing

costs in the US would presumably have a negative impact on domestic activity, placing downward pressure on imbalances.

6. Adjustment Possibilities

If global imbalances have reached an unsustainable level, and must adjust downwards, the question emerges of whether this correction will be benign or disorderly. Just as in the case of sustainability itself, there is considerable debate amongst commentators who expect an adjustment as to which is more likely to occur. What does appear clear, however, is that the risk of an abrupt correction could be minimised by economies around the globe being proactive and adopting a number of necessary policies. There has been some limited progress on introducing these policy reforms in recent years, but given the financial stability implications of a disorderly correction, much more needs to be done.

6.1 How Will Imbalances Adjust?

With global imbalances being driven by trade flows, ultimately any adjustment must come via changes in price (exchange rate) and/or income (growth rate) differentials across countries. A lot of attention has been placed on the substantial benefit that the US would appear to hold in this regard; the majority of its foreign borrowing is denominated in its own currency, while the bulk of its foreign assets are in foreign currencies. As a result, a depreciation of the US dollar should not only reduce future external debt accumulation (by reducing the US current account deficit), but also lead to a decline in the value of the economy's existing debt burden. However, more recently Goldberg and Dillon (2007) have noted that a number of factors may blunt the pass through of deprecation, in particular the near exclusive use of dollars in invoicing US trade, foreign exporter's market share concerns, and the unusually high distribution costs added to US imports.

Looking at previous adjustment episodes, empirical evidence suggests that both exchange rate and growth developments have played important roles in the rebalancing process. Recent work by the IMF (2007c) is particularly novel as it not only analyses episodes of current account deficit reversals over the past forty years, but also surplus reversals over this period. With regard to the former, it identifies 42 previous episodes in advanced economies, and finds that while 'changes in growth differentials clearly play a role in the adjustment, real depreciation can help smooth the impact of slowing domestic demand'. There has been 'a clear trade-off' between the growth slowdown that an economy has experienced after the reversal and total real effective exchange rate depreciation; 'simple regression analysis suggests that a ten per cent total real effective exchange rate depreciation has been associated with a half percentage point

lower average decline in GDP growth after the reversal'. Turning to surplus countries, meanwhile, the IMF identifies 100 episodes of large and sustained reversals in the global economy in the last four decades. It finds that for non-oil exporters, surplus reversals have been associated with both acceleration in real GDP growth and a real exchange rate appreciation. However, only for the advanced economies does a trade-off exist between the adjustments in these two variables; 'for emerging markets a stronger real appreciation does not reduce the magnitude of the increase in output growth associated with the reversal'. In oil exporting economies, on the other hand, the adjustment process has occurred with both a substantial slowdown in GDP growth and a large total real appreciation of their currencies. The sharp decline of the external surplus has reflected a negative terms-of-trade effect, but the currency continued to strengthen in real terms, as domestic demand and inflation remained robust.

There are some question marks over how relevant past experiences may be for the current episode, as the two are not directly comparable; the present situation is unique in terms of scale, geographical composition (in terms of the role of emerging market economies and oil exporting countries) and financial characteristics (in terms of the role of official reserves accumulation). In addition, asset prices and wealth effects have played a much larger role in the recent build-up of imbalances than has been the case in the past. Thus, one cannot overly rely on the past to infer what future adjustment dynamics might be. Furthermore, as Algieri and Bracke (2007) stress, the average trends noted above 'mask an unusually large degree of heterogeneity', and as a result 'any meaningful inference [from the past is] difficult'. While their focus is limited to deficit countries, they find that in around a third of their seventy-one adjustment episodes economic growth actually strengthened, while also in one-third of cases, the real effective exchange rate appreciated rather than depreciated. In conclusion they note that this confirms that there is 'no single route of current account adjustment' and 'various combinations of relative growth rotation and exchange rate adjustment appear possible in the context of current account adjustment'.

6.2 Will the Adjustment be Benign?

If we assume that global imbalances are unsustainable at their current levels, the next issue that arises is whether the necessary adjustment will be disorderly or benign. Just as in the case of the sustainability issue, however, there is no consensus over how this process will occur, even amongst commentators who agree that imbalances must moderate over the medium term. Obstfeld and Rogoff (2005), for example, find that any adjustment will require substantial changes in global exchange rates, that would, presumably, have significant implications for global activity. In their baseline scenario, where current accounts in three regions

— the US, Asia and Europe — all go to zero, the dollar's real effective exchange rate needs to depreciate by 33 per cent[6]; real currencies in Asia and Europe would need to appreciate by 35 and 28 per cent against the US dollar respectively. If, however, Asian economies were to continue to peg against the US dollar, the real value of European currencies would have to rise by almost 50 per cent against the dollar.

Paul Krugman (2006) believes that there will be 'a Wile E Coyote moment, when investors realise that the dollar's value doesn't make sense, and that value plunges', but suggests that in the medium-term the US economy will be insulated from harm as it can trade off weaker domestic demand for higher exports. However, his analysis suggests that the transition to this new equilibrium could involve a US recession in the short run. He notes that this would occur if the contractionary effect of a burst housing bubble (given the significant positive impact housing has had on wealth effects) arrived quicker than the expansionary effect of dollar depreciation, and recent developments in the US housing market would appear to raise the possibility of this occuring.

The Congressional Budget Office (2007) notes that both soft and hard landings are possible, but find the former 'the more likely scenario'. The CBO reviews studies of past currency crises, and find that these have tended to occur in emerging economies and in countries with managed exchange rate systems. They also suggest that the unique role of the US dollar reduces the probability of a sudden stop in foreign financing, both because nearly all US international liabilities are denominated in dollars, and because there will always be a basic level of demand for the currency. Furthermore, even in the case of a sudden stop of foreign financing (a hard landing), the CBO suggests that the resulting slowdown in economic activity may be limited, reflecting the strength of US financial markets and the ability of US entities to borrow in their own currency. This would ensure that a currency crash would not inflate US borrowers' debt burden.

A common view that connects most commentaries is an agreement that the risks of a disorderly market based adjustment can be minimised if a range of macroeconomic policies are introduced. Using their Global Economy Model (GEM), the IMF (2005b) finds that an orderly adjustment can take place if non-US residents are willing to continue to increase their holdings of US assets for a considerable period without demanding a large risk premium, even while the value of these assets are being eroded by a weaker dollar. When a number of policies are introduced, however, the IMF not only finds that the risks of a

6 This figure, and the others taken from the paper, are in addition to the currency movements that took place in the period 2002 to 2004.

disorderly adjustment are reduced, but the overall outcome for the global economy is significantly better. They incorporate increased exchange rate flexibility in emerging Asia, faster fiscal consolidation in the US, and growth enhancing structural reforms in the euro area and Japan into GEM and find that:

- Global imbalances and the build up in US net foreign liabilities would be significantly reduced;
- Global growth would be better balanced and significantly higher over the medium term, reflecting both lower global interest rates and stronger productivity growth in the euro area and Japan;
- Each individual region would also be better off. Emerging Asia's consumption would increase, consumption and growth would be higher in the euro area and Japan, and the US would face lower risks of a decline in appetite for domestic assets. The rest of the world would also benefit from more appreciated real exchange rates and lower world interest rates.

Reflecting these findings, the IMF announced in June 2006 that it was to begin multilateral consultations (MC) on global imbalances, involving 'systematically important members and groups of members'; China, the euro area, Japan, Saudi Arabia and the US. The aim of the consultations was to provide a forum for debate amongst the parties, and enable them to agree on policy actions. In April 2007 a review of the MC process took place. The five participants and the IMF staff noted that 'the consultation process has proved a useful initiative . . . the discussions have been open and constructive' and the implementation of their policy plans 'would in combination constitute a significant further step towards sustaining solid economic growth and resolving imbalances'. The coming months will show how serious the international participants are in reducing imbalances. Policy plans to be introduced include:

- Speeding up financial reform, further improving the exchange rate regime and boosting domestic demand — in particular consumption — in China;
- Further reform of product, labour and financial markets in the euro area;
- Strengthening competition, facilitating inward FDI, labour market reforms and advancing fiscal consolidation in Japan;
- Increased investment — in both the hydrocarbon sector and more general infrastructure — in Saudi Arabia;
- Further fiscal consolidation, reforming the budget process to contain spending growth, introducing tax incentives to support private saving and enhancing energy efficiency in the US.

7. Conclusions

Global economic imbalances have increased substantially over the course of the last decade. On one side of the issue is the US economy, whose current account deficit increased to over $800 billion or 6 per cent of GDP in 2006. On the other side is a diverse group of developed and emerging market economies that run sizeable current account surpluses and finance this US position. In particular, surpluses in developing Asian and oil producing economies have grown rapidly since 2000, against the backdrop of rapid economic growth and robust energy prices. The net impact of these developments has been a substantial increase in the US external debt position. In 2006 the US net international investment position recorded a deficit of 19 per cent of GDP, up from 6 per cent of GDP a decade earlier. With imbalances forecast to stabilise at their current level in the coming years, this debt position is expected to continue to deteriorate, increasing the portion of future US wealth that goes to the rest of the world.

The expansion of imbalances appears to have been driven by a range of factors that have their origin both in the US and in the rest of the world, so responsibility is shared and does not reflect developments in one single country. Some of these factors are structural in nature, such as increased financial integration, the emergence of a global savings glut and very strong underlying demand for US assets. Others represent cyclical developments, including very low private savings in the US economy and weak investment expenditure in the rest of the world. Policies have also played a role; in particular developmental strategies based around fixed or heavily managed exchange rates.

Given the magnitude of the flows involved, and also the prolonged nature of the issue, it is no surprise that the sustainability of global imbalances has become one of the most debated issues in economics in recent years. The fact that the US economy has had little difficulty in financing external deficits up until now has led to benign views holding sway and also explains the fairly benign reaction in financial markets to date. However, while structural factors mean that the global economy can now facilitate bigger capital flows, a range of issues point to imbalances being unsustainable at their current level. Amongst them are indications that the cyclical factors mentioned above may be set to unwind, concerns over the impact that continued imbalances will have on the US external debt position, and also indications that there will have to be a change in the terms on which foreigners are willing to hold US assets.

If imbalances have to adjust from their current levels, this raises the issue of whether this adjustment will be benign or disorderly. Again there is considerable debate over this issue, but what

appears to be clear is that the risk of sharp correction exists, which could involve sizeable exchange rate movements and weaker global growth. The current environment, where the price of risk is increasing and there are concerns over turbulence on financial markets would appear to increase these risks. However, this risk can be minimised if a range of policies are introduced around the globe, policies that would not only have a favourable impact on global imbalances, but would also more fundamentally improve global growth prospects. There has been some limited progress on introducing these policy reforms in recent years, but much more needs to be done.

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