

Global and financial imbalances and their resolution: Implications for financial stability

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Selected quotations

The pessimists

“... the unwinding of the financial imbalances could undermine economic activity and contribute to unwelcome disinflation ... It is also easy to identify forces that might make various processes of rebalancing less smooth. Some of these could imply the end will be a ‘bang’ of market turbulence, others a ‘whimper’ of slow growth for an extended period.” (Bank for International Settlements *Annual Report*, 2005)

“The issue is not whether but how the adjustments will be made.” (IMF, 2005)

“Global imbalances constitute a further risk to activity and they are likely to correct at some point.” (Bank of England, 2006)

“What is undesirable ought to change. What is unsustainable will change. What is dangerous must change.” (Martin Wolf, *Financial Times*, 29th March, 2006)

“Circumstances seem to me as dangerous and intractable as any I can remember ... What concerns me is that there seems to be so little willingness to do much about it.” (Paul Volker, Former Chairman of the Federal Reserve, 2005).

“... the current conjuncture more closely parallels the early 1970s when the Bretton Woods system collapsed.” (Obstfeld, M and Rogoff, K, 2005)

The optimists

“Unlike the conventional wisdom ... our model does not auger any catastrophic event.” (Caballero, Farhi and Gourinchas, 2006).

Introduction

Global economic and financial imbalances, and their resolution, have become central issues in the world economy. They represent important risks in the global economy and financial system, and the adjustment of current substantial global savings and balance-of-payments imbalances without a precipitous decline in the United States (US) dollar and/or a sharp slow-down in world economic growth represents a major challenge. The resolution of the imbalances over the medium term could have a major impact on the world economy and the stability of financial markets.

Former Federal Reserve Chairman Volker has recently given particular emphasis to the risks in the current conjuncture of large global economic and financial imbalances:

“Circumstances seem to me as dangerous and intractable as any I can remember ...
What concerns me is that there seems to be so little willingness to do much about it.”

Current imbalances have important implications for the transfer of real resources between countries and regions and, in particular, imply an untypical transfer of goods and services from relatively low-income countries (such as China and other countries in Asia) to high-income countries (notably the US). In the process, net national savings in surplus countries are effectively financing the deficits of the American government and consumers. The imbalances

also have important implications for national and global financial markets, the level of long-term interest rates, and the stability of financial markets. When substantial imbalances build up in any financial market, there is always a potential for disruptive adjustments.

The issue of whether current imbalances are sustainable is central to any judgement about what, if any, policy adjustment mechanisms need to be adopted, and whether this would optimally be undertaken on a concerted and coordinated basis involving all major regions in the world. In particular, the issue arises as to whether the US and China in particular need to initiate an adjustment process. Furthermore, the way any adjustment might be made would itself have major implications for the world economy and, in particular, the level of world income at which the adjustment is made. In general, the more the adjustment is made through expenditure-reducing measures in deficit countries (most notably the US) the greater is the potential for the adjustment to be deflationary in the world economy. By contrast, an optimal combination of expenditure-reducing/increasing and expenditure-switching policies adopted by both surplus and deficit countries could make significant adjustments to imbalances without threatening growth in any region or the world as a whole. This, however, could prove to be problematic in that, as argued below, there is no obvious institutional architecture in the world economy for such a coordinated strategy to evolve.

A key issue is whether, if adjustment to global imbalances is to be made, this will be done in an orderly or disorderly manner. Above all, a central question is whether history will repeat itself. Substantial global imbalances emerged in the early 1970s with Europe being the surplus counterpart to the US deficit, though at that time the deficit was not exclusively on the current account but also included a net outflow of long-term capital. At the time, the US was accused of exporting its inflation to Europe. In the Bretton Woods fixed exchange rate regime of the time, this eventually proved to be unsustainable largely because of its monetary and inflationary implications in Europe. As now, there was dispute as to who was primarily responsible for the imbalances, and whether it should be surplus or deficit countries that needed to adopt adjustment measures. The adjustment was eventually made in a dramatic way that effectively ended the Bretton Woods regime of fixed exchange rates and led the way to a generalised regime of floating exchange rates. The 1970s experience could prove to be instructive in that the current regime (whereby China and other Asian countries maintain an exchange rate peg against the US dollar) has close parallels with the earlier period and has been dubbed Bretton Woods 2: A significant group of countries in the world economy maintains what is in effect a rigid fixed exchange rate regime based on the US dollar.

However, when similar imbalances surfaced in the 1980s, and the US dollar was judged to be seriously over-valued, a concerted and coordinated strategy was adopted (the 1985 Plaza Accord) with adjustment mechanisms adopted by both the US and major surplus countries in Europe and Japan. Such concerted and coordinated adjustment was made in a stable manner although the sharp rise in the value of the yen proved to be a contributory factor in the long recession of the Japanese economy during the late 1980s and the 1990s.

Main themes

The objective of the paper is to consider the key issues with respect to global financial imbalances and the appropriate policy responses. Several themes run through the analysis which may be summarised as follows:

- There are serious risks associated with the current conjuncture of global economic and financial imbalances because they may prove to be unsustainable before policy adjustment is initiated.
- There is an unusual (if not perverse) pattern of global real resource flows in that the largest and richest country in the world is a net capital importer, a group of relatively poor (but fast-growing) nations is effectively financing the deficits of the US government and

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- consumer, and in the process these countries are substituting financial assets denominated in dollars for real resources.
- There is no universal consensus on four key issues related to global imbalances: About their causes, the degree to which they will prove to be sustainable or unsustainable, with respect to the optimal policy responses (how, who, and when), or about the role of exchange rate adjustments.
 - Policy-makers therefore face both risk and uncertainty which is always a difficult decision-making environment.
 - The burgeoning imbalances need to be seen in the context of major structural changes in the global economy and financial system most especially with respect to the enhanced degree of international financial integration which itself has important implications for the emergence and sustainability of global imbalances. While such integration may have made it easy to finance imbalances, it may also prove to make the eventual adjustment more costly.
 - External imbalances in both surplus and deficit countries necessarily have domestic counterparts and the external imbalances are largely domestically driven. It also means that external adjustment will necessarily have implications for imbalances within an economy.
 - There are several origins to current imbalances though no agreed consensus on the relative or dominant importance of each: The strength of the US economy, US profligacy, excess savings and/or weak investment in emerging-market economies, development strategies of China in particular, the generation of excess international liquidity, and the impact of high oil prices. They may also reflect constraints within surplus countries which, partly because of inefficient domestic financial systems and the financing of investment with imported capital, are not able to transform domestic saving into real investment.
 - The US dollar has again emerged as a dominant reserve currency within the international monetary system which, *inter alia*, implies the earning of seignorage and less pressure on the US to adjust its internal and external deficits.
 - Partly as a result of this, the US dollar has come to represent a much higher proportion of international portfolios even though the “home bias” remains in international capital markets.
 - There have been substantial shifts in the pattern of US balance-of-payments financing and notably from autonomous to financing flows.
 - As a result, there have also been marked changes in the external balance sheet position of the US: The country has been transformed from being a substantial net external creditor to a large net debtor nation over a comparatively short period. There are also substantial differences in the structure of external assets and liabilities: Domestic currency liabilities and foreign-currency assets; equity assets but debt liabilities, short-term liabilities with long-term assets and with a significantly higher rate of return on external assets than liabilities. This last-mentioned implies that any depreciation of the US dollar has the “free lunch” effect of lowering the country’s net debtor position. In these respects, the US is effectively an international financial intermediary.
 - The school of thought that argues that global imbalances are unsustainable argue as follows: The implied substitution of financial assets for real resources will not be sustainable for emerging-market economies; the US consumer will eventually be forced to raise its saving ratio, surplus countries will continue to build up dollar assets because of

the exchange rate risk and the American government will at some stage be forced to adjust its budget deficit.

- On the other hand, others argue that the imbalances are likely to be more sustainable than the conventional wisdom suggests: They reflect chosen development strategies by a group of (mainly Asian) emerging-market economies; the US offers attractive financial assets compared with what are available elsewhere; the high degree of international financial integration reduces constraints on imbalances; and some emerging-market economies (notably China) are likely to sustain exceptionally high savings ratios for some time.
- There are strong parallels between the current conjuncture and two episodes in the past: The early 1970s and the 1980s. In the earlier period when large (at the time) imbalances emerged they were eventually resolved by the abandoning of an international monetary regime (Bretton Woods) that had lasted for twenty five years and a move towards generalised floating exchange rates. In the latter period the adjustment was made in a smooth manner. The current conjuncture looks more similar to the 1970s than the 1980s.
- The world now operates a hybrid exchange rate regime which includes a group of surplus, high-growth emerging-market economies which effectively operate within a Bretton Woods 2 regime of fixed exchanges against the US dollar. Within this regime, some countries (notably China) maintain deliberate under-valued exchange rates as part of their export-orientated development strategy.
- As with the original Bretton Woods regime, the current successor has important domestic monetary implications which offer a substantial challenge to the conduct of monetary policy. As before, the Incompatible Trinity (fixed exchange rates, freedom of international transactions, and independent conduct of domestic monetary policy) has re-emerged.
- It is largely within the dollar bloc that the major imbalances have emerged and hence any exchange rate adjustment needs to address intra-dollar bloc exchange rates, although such adjustments involve a prisoners' dilemma.
- The low level of real and nominal bond yields in the US is in part a reflection of global imbalances, the operation of the Bretton Woods 2 regime, and the portfolio preferences of large external holders of US dollars.
- There are substantial risks inherent in the current conjuncture of global financial imbalances: Forced and disorderly adjustment, deflationary bias, exchange rate instability, and financial turbulence in financial markets more generally.
- If adjustment to imbalances is to be made, several alternatives are available and could emerge. The key issue is at what level of world income and output any adjustment will be made.
- Given the nature of the risks and uncertainties in the current conjuncture, and particularly with respect to the degree of sustainability of imbalances, an optimal strategy would be for policy-makers to apply risk analysis to the adjustment process.
- The outcome of such an approach would be a concerted and coordinated set of adjustment measures at two levels: A combination of expenditure reducing/increasing policies within countries, and a coordinated strategy between countries.
- The problem with this solution is that there is currently no obvious architecture for such coordination to be undertaken though the IMF has been given an enhanced multilateral surveillance role.

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- An optimal adjustment strategy is likely to involve a combination of the following: A rise in the US savings ratio, cut in US budget deficit, a rise in demand in Europe and Japan, structural reform in some European countries so as to sustain non-inflation higher economic growth, an orderly depreciation of the US dollar, exchange rate adjustments within the dollar bloc, the introduction of social safety-net arrangements in some emerging-market economies so as to reduce the extremely high savings ratios, and financial sector reform in some emerging-market economies to enhance the role of domestic institutions and markets to intermediate savings and investment.

Before considering the analytical basis for these key conclusions, the context is set by considering significant structural changes that have occurred in the global economy and international financial system.

Structural features of the world economy

Global imbalances have become a major structural feature of the world economy. However, the emergence of these imbalances, and the nature of the adjustment process, need to be set in the context of other fundamental structural changes in the world economy and financial markets which in turn have important implications for the sustainability of imbalances. Several features of structural change in the world economy and financial markets can be identified:

- The centre of gravity of the world's manufacturing industry has shifted from traditional industrialised countries (notably the US, Europe and Japan) to several countries in Asia (notably China, Korea and Malaysia). Emerging-market economies now account for over half the world's output of manufactured goods and have become dominant in some.
- Substantial internal financial imbalances have emerged in several key countries and have financing implications. As shown below, external imbalances (notably current-account surpluses and deficits) have immediate counterparts in domestic financial imbalances in that the US external deficit reflects net dis-saving in the US while the substantial current-account surplus of China (and other surplus countries in Asia and elsewhere) has counterparts in either budget surpluses and/or an excess of private saving over investment.
- An historically unusual pattern of imbalances has emerged with the richest country in the world sustaining a massive external deficit (thereby absorbing real resources from the rest of the world) while many fast-growing, emerging-market economies (such as China and other Asian countries) sustain large current-account surpluses. In effect, a group of emerging-market economies has chosen to substitute the acquisition of external financial assets denominated in US dollars for real resources.
- There has been a sharp rise in levels of both internal and external debt with the former (most especially in the US) being one of the counterpart forces in the growth in the latter.
- The global financial system has moved towards a hybrid exchange rate regime with a mix of floating and fixed exchange rates, and the emergence in a group of countries of a Bretton Woods 2 regime.
- Oil and energy prices have risen sharply and to record levels. This has potentially important implications for both growth and inflation in the world economy, and the pattern of global financial imbalances.
- The US dollar has re-emerged as a major reserve currency and the US as a dominant reserve currency centre with all the implications that go with it.

- There has been a substantial and unprecedented growth in international liquidity over the past ten years due largely to the reserve currency role of the dollar and foreign-exchange market intervention of surplus countries.
- The US has emerged as a massive net debtor with a net external asset position having been transformed into a substantial net liability position. The normal pattern is that rich countries tend to have net external asset positions (Lane and Milesi-Ferretti, 2006). A major (though not exclusive) current exception to this is the US.
- The level of real interest rates has been on a declining trend since the early 1990s from close on 8 per cent to less than 1 per cent (see Chart 1). Bond yields have also fallen to low levels notwithstanding a period of exceptionally strong and sustained growth in the world economy.

Perhaps above all, and particularly significant for the sustainability of global financial imbalances, the increasing globalisation of the world economy and financial markets has substantially increased the degree of international financial integration. There are several dimensions to this. The growth of international capital markets has led to a sharp rise in gross international financial assets and liabilities both in absolute terms and also as a proportion of gross domestic product (GDP) (Chart 2). This is discussed further in Valgreen (2006). Trade in financial assets has grown exponentially over the past decade. In particular, as the proportion of foreign assets in investment portfolios has risen, world investors have diversified their holdings of financial assets away from their traditional “home bias”. However, there is still a long way to go before this historic bias is removed altogether which could imply that investors (both private and public) will continue to build up their holdings of foreign-currency financial assets. The US dollar has increased its share in global portfolios from around 7 per cent in 1990 to 17 per cent of the rest of the world’s financial wealth in 2005 (Chart 3). The chart also shows, however, that this remains significantly lower than the share of the rest of the worlds (ROW) in world output, and that the share of the dollar in portfolios has risen less than the share of the ROW in global output: The “home bias” remains.

The significance of the deepening of global financial markets has been emphasised by Lane and Milesi-Ferretti (2003 and 2004) and also by former Federal Reserve Chairman Greenspan (2005). All have argued that it raises the opportunity for “net borrowing” by countries and in particular has allowed the US to sustain its substantial external deficit. Increased financial integration may mean that global financial imbalances can be larger, and be sustained for longer, than ever in the past. On the other hand, it may also mean that if and when an adjustment is eventually required, it could be more substantial, disruptive and costly. Either way, the increased globalisation of financial markets, and greater international financial integration, represent significant structural changes in the world economy and the context in which global economic and financial imbalances have emerged and been sustained.

Global imbalances: Real and financial

The pattern of current-account balances since 1991 is given in Table 1 and Chart 4. The size of imbalances was comparatively small during the 1990s but rose sharply after 2001 (and most especially in 2004 and 2005 – Chart 4). The US deficit has risen steadily from \$141 billion in 1997 to over \$800 billion in 2005. The US is by far the dominant deficit country while the dominant surplus countries are Organization of the Petroleum Exporting Countries (OPEC), Japan, China and other Asian countries. In 2005, China had a current-account surplus of \$161 billion and over 7 per cent of GDP. The euro area moved from a small surplus in the period 2002 – 04 to a small deficit in 2005, and Latin America has been in small surplus since 2002 (Table 1).

The geographic counterpart to the US deficit also needs to be considered in that a large part of the corresponding surpluses are within the dollar zone, i.e. those countries such as China, other

Asian countries and, to some extent OPEC, which have chosen to maintain a fixed exchange rate against the US dollar. The significance of this will become apparent in later sections.

A longer-term perspective on the US is given in Chart 5 which shows a trend deterioration in the current-account position since the early 1960s and the very substantial widening in the deficit after 1991 from balance to a deficit of 6,5 per cent of GDP in 2005. An even longer perspective can be offered in that even in the 19th century (when the US was an emerging-market economy) the current-account deficit never exceeded 4 per cent of GDP (Obstfeld and Taylor, 2004).

The external deficit of the US (at 6,5 per cent of GDP) amounts to over \$800 billion pa and is unprecedented in terms of size and scale for any country ever. The external deficit represents dis-saving by the US which has a counterpart in net savings elsewhere in the world economy. In effect, net savings in some parts of the world (e.g. Japan, other parts of Asia and China which has an internal savings ratio of around 40 per cent against less than 2 per cent in the US) are financing the internal and external deficits of the US. Through this financing, the US now absorbs one sixth of world savings with the biggest suppliers of funds being Japan, "old Europe", Korea, China and the Middle East. It may not be surprising that "old Europe" and Japan are using their savings in this way as they are ageing societies and rich economies. There are also special reasons (oil wealth) for the Middle East to invest in this manner. More problematic is that relatively poor, but growing and dynamic, economies are utilising savings in this way. There is some perversity in the current pattern of global capital inflows with the richest country in the world absorbing savings from some of the poorest and/or fastest developing countries. In many ways it would be more appropriate to have fast-developing countries (such as China and countries in South East Asia) to have current-account deficits and to import capital. Countries such as China, Taiwan, Korea, India, and Russia have been accumulating massive foreign-currency reserves through, in effect, underwriting the US deficit. In so doing, they have been exchanging goods for financial assets.

The current pattern of imbalances has, therefore, real resource and financing implications. In effect, those surplus countries which maintain a pegged exchange rate against the US dollar are accumulating financial assets denominated in US dollars and supplying real resources to the US. The US, on the other hand, is supplying financial assets to such surplus countries and receives a net inflow of real resources. This can be viewed in two ways: (1) A group of comparatively low-income countries are using net savings to acquire financial assets in the US and, in the process, is effectively financing the financial deficits of the US household and government sectors, and (2) such external financing eases the pressure on American consumers to adjust the balance between their income and expenditure and moderate the pace of debt accumulation.

An issue to consider, given that (with the exception of Japan) the surplus countries tend to be fast-growing emerging-market economies and the US is the richest country in the world, is whether this apparent perverse transfer of real resources is sustainable. Does this represent a stable long run equilibrium?

The growth in international liquidity

Largely because of the reserve currency role of the US dollar and the large US external deficit, in the world economy as a whole foreign-currency reserves rose by close on \$1 500 billion between the end of 2001 and September of 2005. Over \$1 000 billion of this was accumulated by Asian countries.

In particular, there has been a sharp rise in foreign-currency reserves at central banks in Japan, China and newly industrialised economies. This group has increased its holdings of reserves (dominantly in US dollars) by over \$1 520 billion in the period 1997 – 2005. Over the same period, global foreign-currency reserves rose by \$2 780 billion. Gross foreign-currency reserves have never before grown at such a fast rate: In fact, the rise since 1997 amounts to around 60 per cent of the current total volume of reserves in the world economy.

The US has a pivotal role in the generation of international liquidity because of the reserve currency status of the US dollar. Leaving aside the current relatively small role of the IMF and gold production, international liquidity is generated predominantly through having a fixed (or pegged) exchange rate against the US dollar. If a surplus country intervenes in the foreign-exchange market to purchase US dollars to prevent its own currency appreciating, that country's foreign-currency reserves rise while those of the US do not fall. This has two immediate properties: (1) There is no pressure on the US to adjust its deficit if the rest of the world is willing to continue to accumulate US dollar assets, and (2) the US receives a significant seignorage advantage through, in effect, being able to create money. This asymmetric relationship between currencies means that the creation of international liquidity (in the form of foreign-currency reserves held by central banks) is a product of the exchange rate regime and the balance-of-payments position of the US. In a regime of fixed exchange rates, in the final analysis the growth of international liquidity reflects a failure of balance-of-payments adjustment between the reserve currency country and the rest of the world.

Dollar foreign-currency reserves are held predominantly in bank deposits, deposits held at the Federal Reserve and US government bonds. As a point of perspective, at the end of 2004 foreigners owned 40 per cent of all US Treasuries held outside the Federal Reserve System and the Social Security Administration Trust Fund. Equally, foreigners hold more than 30 per cent of the combined debt of Fannie Mae and Freddie Mac.

In a fixed exchange rate regime, the creation of international liquidity also has a potential counterpart in a rise in domestic liquidity in surplus countries. Thus central bank purchases of US dollars (sales of domestic currency) create domestic liquidity unless there is an equal amount of sterilisation which implies the central bank selling securities to the private sector to mop up the liquidity created through foreign-exchange market intervention.

The link between domestic and international liquidity may be yet more complex. One school of thought argues that the US deficit is itself a product of an excessively lax monetary policy in the US which implies that, if surplus countries maintain a peg against the dollar, excess money creation in the US is eventually reflected in a rise in liquidity in surplus countries. This was the origin in the early 1970s of Europe's complaint against the US that it was exporting its own inflation. The US response was that this was only because European central banks prevented their currencies appreciating in the foreign-exchange market.

Analytical framework

A standard set of national income and expenditure relationships relate to domestic and external financial imbalances because, in the final analysis, a country's current-account deficit (surplus) is the mirror image of its domestic consumption of world output being greater (less) than its contribution to world output of goods and services. This in turn means that the sum of domestic investment and government expenditure is greater (less) than the sum of domestic savings and taxation. Thus a current-account deficit reflects a country's net dis-saving.

It follows that international imbalances cannot be considered in isolation from domestic financial imbalances, and we find that this is the focus of the current debate about the origin of global imbalances. One school argues that the main "cause" is US profligacy (net dis-saving due to a large budget deficit and heavy borrowing by the household sector) which is contrasted with the alternative analysis (e.g. Bernanke, 2005) which focuses on alleged "excess saving" in surplus countries.

This can be illustrated by reference to national income and expenditure identities outlined in Identities 1 – 7 where Y is national income/output/expenditure, C , I , G , X represent consumption, investment, government expenditure and exports of domestically produced goods (i.e. excluding their import content) and the same variables with * represent total expenditure components including the import content. S , W and M represent savings, taxation and imports. E represents a country's total expenditure on world output ($C^* + I^* + G^*$), B represents the

current account of the balance of payments (X-M), K is the volume of net autonomous capital inflows and ΔR is the change in foreign-currency reserves or balance-of-payments financing transactions.

$$\begin{array}{ll}
 1. & Y = C + I + G + X \\
 2. & Y = C + S + W + M \\
 3. & (X - M) = (S + W) - (I + G) \\
 4. & (X - M) = (S - I) + (W - G) \\
 5. & Y = C^* + I^* + G^* + (X - M) \\
 6. & Y = E + B; \quad B = Y - E \\
 7. & (X - M) + K = \Delta R
 \end{array}$$

Several implications follow from this representation of national income and expenditure identities which can illuminate the analysis of global imbalances:

- A current-account deficit is a reflection of government expenditure and domestic investment being greater than savings and taxation (Identity 3).
- Put another way, and focusing on different sectors in the economy, an external deficit (X-M) is the sum of the private sector's surplus/deficit (S-I) and that of the government (W-G), i.e. the sum of internal surpluses and deficits (Identity 4).
- A current-account deficit is the difference between a country's output and its total expenditure (including on imports) on goods and services (Identity 6).
- By definition, a current-account deficit has to be financed externally by either autonomous capital inflows from abroad (including foreign direct investment, or FDI) or by central banks financing the deficit through intervention in the foreign-exchange market. This means that foreigners are financing deficit countries' net internal deficits, i.e. foreign net savings are used to finance deficit countries' internal deficits of the private and/or government sectors. In fact, the US is currently absorbing around 17 per cent of global savings.
- For given autonomous net capital flows, a current-account deficit lowers a country's external assets or raises its external liabilities (Identity 7).

There is, therefore, a complex interaction between internal and external surpluses and deficits, the pattern of international savings, and internal and external debt positions. Stocks and flows interact.

We also see from these identities that the concept of "twin deficits" (i.e. the view that the US current-account deficit is a reflection of the budget deficit) is the wrong focus because there is no unambiguous link between a country's budget deficit and its external deficit. It depends also upon the private sector's financial deficit/surplus. The current-account deficit can widen even if the budget deficit is falling as was the case during the investment boom of the 1990s. The current account will be in surplus if a private-sector surplus (S greater than I) exceeds a government's budget deficit. The focus needs to be on the financial position of all sectors. Indeed, we find that, after two decades of being in surplus, the US household sector moved into deficit in 1994 and the growing financial deficit of the US household sector since then has been a more significant counterpart to the US external deficit than has been the government deficit. As a point of perspective, between 1998 and 2001, the US Federal budget was in fact in surplus while the current account was in large deficit. "Net lending/borrowing" in Chart 6 represents the sum of internal surpluses and deficits and is equal to the current-account balance.

When President G W Bush first came to office in 2000, the budget was in surplus and he inherited a cumulative ten-year projected budget surplus of more than \$5,6 trillion. However, the government is now spending more than its income to the tune of over \$400 billion pa (equivalent to 4 per cent of GDP). At the same time, the country as a whole is spending more than it is producing and, as a result, is absorbing imports on an unprecedented scale. The world economy currently has massive net savings in some parts of the world economy which are financing a single enormous deficit in the US.

The sectoral pattern of US surpluses and deficits since 1970 is also important to consider. While the US current account has been in deficit for most of the period, the domestic counterparts have changed and, as argued above, there is no necessary link between the external deficit and the budget position. Since 2001, the substantial current-account deficit has reflected large financial deficits of both the household and government sectors. The private sector is typically in financial surplus. However, it has recently moved into deficit largely because the savings ratio of the household sector has fallen sharply as consumers have been borrowing on an unprecedented scale to finance consumption expenditure. Having declined steadily from 12 per cent in the 1980s, the US household savings ratio is now at an historic low level of less than one per cent. The result is burgeoning household debt relative to income which makes the sector potentially vulnerable to rises in interest rates and any fall in income. In this sense there is a parallel between the rise in domestic debt levels in the US and in the country's external debts.

Put another way, the burgeoning US deficit has to some extent been a mirror of domestic fiscal and monetary policy: The latter through the sharp cut in interest rates in 2003 which was partly responsible for the asset-price boom and consumer borrowing, and the former through the Bush administration turning an inherited budget surplus into a deficit.

By definition, current-account deficits have two counterparts: (1) External surpluses elsewhere in the world economy, and (2) internal financial deficits. In addition, internal deficits in external deficit countries have counterparts in internal financial surpluses in external surplus countries. In the case of China (a major surplus country) net domestic savings have been substantial and have risen sharply since 2000 as noted in Table 2. In particular, the savings of the corporate sector are exceptionally high due to profits being in excess of what can immediately be used to finance real investment. Household saving is also very high by international standards due in part to the absence of a social safety net.

It is axiomatic that if adjustments to external imbalances are to be made, there needs to be corresponding adjustment to internal imbalances. In the final analysis, whatever measures are adopted (whether they be expenditure switching mechanisms – such as exchange rate adjustments – or expenditure reducing/increasing measures, they will adjust the balance-of-payments deficit (surplus) only to the extent that they reduce/raise total expenditure in an economy (E) relative to output (Y). This means that an expenditure reducing adjustment might need to be substantial if the marginal propensity to import is low and this is also likely to lower output significantly.

This is why it is usually optimal to coordinate an expenditure reducing policy with exchange rate depreciation so that adjustment is made without lowering output. Equally, if adjustment measures are coordinated between surplus and deficit countries, the adjustment instruments adopted by any one country will be more effective. Put another way, adjustment to reduce an external deficit/surplus requires a reduction/increase in the level of (I+G) relative to (S+W) which amounts to a cut/rise in private and public sector financial deficits either through a rise/fall in savings or cut/rise in expenditure. These fundamental requirements are true for all balance-of-payments adjustment mechanisms.

Origins of global imbalances

In the context of all this, we now consider the origins of the current global financial imbalances and their domestic counterparts. As noted at the outset, there is no universal agreement about their causes, and several alternative paradigms have been suggested:

- One view (favoured by the Bush Administration) is that the external trade deficit reflects the attractiveness of the US economy to foreign investors which have been investing in the US on a massive scale because rates of return on real investment are higher in the US than elsewhere and notably Europe. This autonomous capital inflow puts upward pressure on the dollar which in turn creates a current-account deficit to match the capital

inflow. This school argues further that, as the US represents 25 per cent of the world economy, 50 per cent of marketable financial assets, and greater financial security than in many other countries, it is natural that foreigners will wish to accumulate dollar assets.

- A diametrically opposite view is that imbalances reflect US profligacy in that the dominant cause of the US external deficit has been the sharp rise in household spending and cut in savings and the rising Federal budget deficit due to tax cuts and expenditure increases. The sharp rise in consumers' expenditure is in turn partly a reflection of the wealth effect associated with the sharp rise in house prices, and the low level of interest rates which has induced the household sector to raise its debt:income ratio to an unprecedented level. The US household savings ratio has recently been at its lowest ever level.
- A third view (e.g. Bernanke, 2005) is that global imbalances and the US deficit are a reflection of "excess savings" in surplus countries and in China and other Asian countries in particular. This is also consistent with the emergence of very low bond yields since 2000. Bernanke argues, for instance, that in the context of excess savings in these countries and elsewhere, the US has acted as "consumer of last resort" and has been the main engine of global economic growth for several years.
- A variant of this approach is that, as emerging-market economies have been growing very fast, consumption has not been able to keep pace with sharply rising incomes. This suggests that imbalances might be transitory.
- A fifth view is that the problem is not so much excess saving in emerging-market economies but a failure to match these savings with high investment expenditure: The focus of the problem should be on investment. There are many possible reasons for this including relatively under-developed and inefficient domestic financial systems which are unable to efficiently transfer savings to investment or to select appropriate investment projects.
- Deliberate under-valued pegged exchange rates in some emerging-market surplus countries (notably in Asia) have also been held to account for global imbalances. This has often been directed at China in particular, and the US Administration has put pressure on the Chinese authorities to both revalue the renminbi and to adopt a more flexible exchange rate regime. A token move was made in this direction in 2005. However, as argued below, an undervalued exchange rate and accumulation of foreign-currency reserves in a pegged exchange rate regime (Bretton Woods 2) are major parts of the country's development strategy based on exports. The Chinese authorities also believe that the serious and prolonged recession in Japan was in part the result of the sharp rise in the value of the yen following the Plaza Accord in 1985.
- A further view is that imbalances reflect the creation of excess liquidity mainly by the US through its expansionary monetary policy and sharp lowering of interest rates by the Fed in 2003.
- The sharp rise in the oil price has clearly been a factor in generating the external surpluses of oil-exporting countries.

While there are elements of truth in each of these alternative paradigms, it is not particularly fruitful to focus upon a single cause: Surpluses and deficits are interdependent and the mirror image of each other, some of the identified "causes" are themselves related, and causality can operate in different directions. Clearly, ex ante causality cannot be inferred from the ex post identities outlined in the previous section. There is an echo between the current allocation of blame and developments towards the end of the Bretton Woods era in the early 1970s when surplus countries in Europe and Japan blamed the imbalances on US monetary policy, while the US countered that the problem was that surplus countries refused to adjust (revalue) their exchange rates.

Financing the US external deficit

It is axiomatic that a country has an overall balance-of-payments surplus or deficit only to the extent that its currency is pegged, or in some way the central bank intervenes to stabilise its value. The US is almost unique (with the minor exceptions of, to some limited extent, the UK and the euro area) in having its currency serve as a reserve currency. Many emerging-market economies (notably China and other countries in Asia) have chosen to peg against the US dollar and hold their international reserves in dollars. For any country (including the US) a current-account deficit is “financed” by either autonomous capital inflows (such as FDI or portfolio capital inflows) or through explicit financing transactions. In a fixed or pegged exchange rate regime the latter arises through surplus countries’ central banks purchasing dollars so as to maintain the fixed or pegged value of the currency against the dollar, and holding dollar denominated financial assets in, for instance, US Treasury bonds.

The recent pattern of US current-account “financing” is shown in Table 3. Since 2000, there has been a continuing net autonomous private capital inflow of \$2 236 billion (column 3 in Table 3). Against this, official financing transactions have amounted to \$1 081 billion. However, the proportion of total “financing” by foreign central banks (financing transactions) has steadily increased since 2001 from 7 per cent to 68 per cent in 2004. [The observed fall in the proportion in 2005 is largely illusory because there is evidence that OPEC countries have been intervening in the foreign-exchange markets indirectly].

There have, therefore, been significant changes in recent years in the pattern of financing the US current-account deficit: A relative decline in the importance of FDI inflows, a rise in the foreign purchase of fixed interest securities, a declining role of private-sector (autonomous) “financing”, a rise in the role of foreign central banks, and a decline in the relative importance of financing from Europe and a rise in the role of Asia and OPEC.

External asset and liability position of the US: A “free lunch”

Just as a banker would look at a company’s balance sheet as well as its financial deficit when judging the viability of a loan, equally it is instructive to consider the external balance sheet of the US as well as its balance-of-payments flow position. All balance-of-payments financing has implications for a country’s external assets and liabilities. The US is in some respects in a unique position again partly due to the reserve currency role of the dollar.

Foreigners have accumulated net US assets of \$2 600 billion which is equal to one quarter of US GDP. Gross external liabilities of the US amount to over \$10 000 billion, and the US has become the world’s biggest debtor by far. China alone holds over \$500 billion of US financial assets and mainly government bonds. Following current trends, net external liabilities of the US would rise by 25 per cent by 2007 and would come to represent 40 per cent of GDP.

As shown in Chart 7, there has been a sharp rise in both external assets and liabilities of the US most especially since the mid-1990s. As would be expected with the country’s large and rising balance-of-payments deficit, external liabilities have been rising more sharply than external assets. More graphically, Chart 12 shows that the net asset position of the US has deteriorated sharply over the same period thereby accelerating a trend evident since the early 1980s. In fact, a net asset position has been transformed to a large and rising net liability position. The largest and richest economy in the world has become a net debtor after having been a long-standing net creditor nation. The net external liability position of the US is close to an all-time high and is even higher than in 1894 when the US was in the stage of industrialisation and a net importer of development capital.

An examination of the structure of the external financial position (external balance sheet) is instructive. There are significant differences in the structure of external assets and liabilities in four major respects: (1) The US has short-term liabilities but long-term assets (mainly FDI by US companies), (2) the country’s external assets are predominantly in the form of equity whereas

its liabilities are predominantly debt, (3) the country's assets are predominantly in foreign currency while, reflecting the reserve currency role of the dollar, its liabilities are predominantly in US dollars a substantial proportion of which is held by foreign central banks, and (4) the rate of return on external assets is significantly higher than the rate of return to foreigners of US external liabilities. This means that, on a net position, the US has engaged in maturity transformation and has a substantial currency mismatch in its assets and liabilities.

Because of the differential between the rate of return on assets and liabilities, US investors have earned more from their external assets than foreigners have earned on their investments in the US, with the differential widening since 2002. This implies that, even without any dollar depreciation, the US can run balance-of-payments deficits without experiencing a major deterioration in its external position. Some analysts question whether a differential of this magnitude can be sustained in the long run in an increasingly globalised financial system. Lane and Lilesi-Ferretti (2006) argue, for instance, that eventually it would require a persistent dollar depreciation which would eventually be incorporated in inflation and inflation expectations and higher levels of US interest rates. However, a contrary argument is that, as noted above, the differential largely reflects the chosen composition of external assets and liabilities, and this choice may be sustained.

The currency mismatch has important implications with respect to changes in the value of the US dollar in the foreign-exchange markets. If the dollar depreciates the net external debt position improves because assets are denominated in foreign currency while liabilities are in its domestic currency (see Lane and Milesi-Ferretti, 2004 and Obstfeld and Rogoff, 2005). Again, this is a property of the reserve currency role of the dollar. For instance, at current levels, a 10 per cent depreciation of the dollar lowers the net debt position by 4,5 per cent of GDP and a 30 – 40 per cent depreciation (which some analysts have argued will eventually prove to be necessary) would eliminate it completely. This represents something of a “free lunch” property of the US reserve currency status. A second corollary is that, in terms of the external financial position of the US, a depreciation of the dollar has a leveraged impact and means that the necessary depreciation to improve the country's net financial position is dampened.

Overall, the structure of the US external balance sheet and the ability of US residents to earn net foreign income despite a net debt position equal to 20 per cent of GDP, means that the problem of the US deficit is at least partially eased.

The US is different: A global intermediary

There are several ways in which the US is significantly different from other countries in the global economic and financial system and which have a bearing on the emergence and adjustment of global financial imbalances:

- The US is the largest economy in the world (accounting for 22 per cent of world output), has the largest per capita income, has amongst the most efficient financial markets, instruments and investment opportunities in the world, and has the largest market in government debt.
- The dollar is the dominant reserve currency in the world implying an ability of the US to earn seignorage by financing its external deficit by issuing domestic currency instruments. This also means the US is less subject to financing constraints than most other countries though the willingness of foreigners (private and central banks) to continue to accumulate dollars may be limited.
- This also means that, for those countries whose currencies are pegged to the dollar, the US is effectively the (N-1)th country which means that, to some extent, it is able to pursue a policy of benign neglect with respect to its external position. If surplus and creditor countries become uneasy about their exposure to the US dollar, the only ultimate option is for their central banks to cease purchasing dollars which would imply an appreciation of

their currencies. This was, in effect, the ultimatum put by the US to the surplus countries in Europe in the 1970s and which eventually led to the abandoning of the Bretton Woods system and the move towards generalised floating exchange rates.

- Because its external liabilities are denominated in its own currency, a depreciation of the dollar against other currencies improves the net liability position of the US. This is one reason why, notwithstanding a continued large current-account deficit, the net external liability position of the US has improved over the past few years.
- The US effectively acts as a global financial intermediary in two major dimensions: It has short-term external liabilities but long-term financial assets, and it acquires equity assets abroad which in effect are financed by issuing dollar-denominated debt.

These unique characteristics have an important bearing on the role of the US in the world economy and important implications for the pattern and adjustment of global financial imbalances.

Alternative interpretations: Sustainability versus crisis

Two key issues need to be addressed: Whether the current global imbalances are sustainable in the long run and, if not, whether adjustment measures need to be adopted by policy-makers (either on an individual basis or through some concerted and coordinated policy strategy) or whether market adjustments (e.g. exchange rate movements) can be relied upon. If the US were not a reserve currency centre, there is little doubt that substantial adjustment pressure would have emerged some time ago. A third issue is over what time period any adjustment might be required.

There is no unanimity on any of these key issues, though the consensus with respect to the first is that it is not sustainable and especially that the US deficit of the current size cannot be sustained in the long run. Truman (2005) suggests that, with unchanged policies and exchange rates, the US deficit will rise to 8 per cent of GDP or even 12 per cent by 2010. The view that the US deficit is unsustainable has also been addressed by Cline (2005) and Mann (2004).

There are several specific reasons for doubting the sustainability of the current size of global imbalances:

- There is likely to be a limit to the extent that the US government can continue to finance its deficit at acceptable levels of bond rates.
- The US household sector will eventually reach a limit to its debt:income ratio and hence there will be a moderation in the credit-driven expenditure of the household sector. An alternative view is offered by Faulkner-MacDonagh and Muhleisen (2004).
- It is likely that, at some stage, the emerging-market economies that currently have substantial external surpluses will choose to reverse the pattern of financial and real resources flows and will not continue to substitute financial assets denominated in US dollars for goods and services.
- The current conjuncture of international imbalances may, to some extent, represent a transitory phenomenon in that domestic financial systems in some emerging-market economies are inefficient and unable to efficiently intermediate between domestic savings and investment.
- Some analysts question whether the positive differential between the rates of return on US external assets compared with external liabilities of the current magnitude can be sustained in the long run in an increasingly globalised financial system.

- There is a limit to the extent that foreigners will be willing to accumulate dollar assets given the exchange rate risk involved. Former Fed Chairman Greenspan has put it this way: “Net claims of residents against the US cannot continue to increase for ever in international portfolios at their recent pace ... it seems persuasive that given the size of the US current-account deficit, a diminished appetite for adding to dollar balances must occur at some point.” This implies that at some stage foreigners will cease to accumulate dollar assets and/or will demand higher returns.

In fact, some central banks have already begun to diversify their existing holdings of foreign-exchange reserves away from the dollar, and others (notably Indonesia and Russia) are known to be considering such a strategy. However, in some respects, central banks have become locked-in to the dollar. On the one hand, in order to limit the exchange rate risk, central banks might wish to diversify and switch some of their reserves from dollars to, for instance, the euro and sterling. However, if they were to diversify on a large scale the danger is that they would turn the market against themselves and reduce the value of their remaining holdings. In this way they bring about the very exchange rate loss they are trying to avoid.

Imbalances may be sustainable

On the other hand, some influential analysts argue that current global imbalances may be more sustainable, and for a longer period, than the above arguments might suggest. Several reasons are suggested for the sustainability view:

- It is a chosen part of the strategy of countries such as China to have an undervalued exchange rate as part of their development strategies.
- The assets supplied by the US are attractive in terms of the range of choice, liquidity etc.
- The increasing degree of international financial integration, and steady erosion of the “home bias” in asset allocations, means that some countries will continue to build up holdings of dollar-denominated financial assets. As a point of perspective, the proportion of official reserves held in US dollars is still less than the proportion of world output produced within the dollar bloc.
- Many emerging-market surplus countries have inefficient domestic financial systems which constrain the ability to transform savings into investment.
- In the absence of official social safety nets, it is likely that the household sector in some surplus countries will continue to maintain high levels of saving.

The essential argument of this school is that the current level and pattern of global financial imbalances are structural in nature and hence no immediate adjustment pressures are likely to emerge.

Caballero et al. (2006) offer an elegant model of the sustainability hypothesis. They argue that current imbalances are an equilibrium outcome of growth differentials and different capacities of countries to generate acceptable financial assets. Their central conclusion is that the imbalances have arisen for three main reasons. Firstly, growth in the US has accelerated and has been faster than in many other parts of the world and this has made expected rates of return on holding dollar assets attractive compared with alternatives. If growth is greater in the US than elsewhere it is likely that the US will attract a greater proportion of world savings. Secondly, growth in the euro area in particular has been very weak for several years. Thirdly, the supply of alternative financial assets in countries outside the US has been sharply reduced because of past financial crises, weak corporate governance arrangements in many countries, “crony capitalism” perceptions, weak property rights protection in some countries, and inefficient markets. In which case, it is argued, savers in many parts of the world have no alternative other than to hold dollar assets. In effect, the imbalances are a reflection of relative growth rates and

relative supply of financial assets which means that holding US dollar assets has been, and remains, attractive.

The authors of the paper go on to argue that while these differences remain, the global imbalances are sustainable, and that adjustment will occur when growth rates converge and financial systems in emerging-market economies become more efficient. Furthermore, unnecessary adjustment would impose avoidable costs if the imbalances were to prove to be sustainable. However, it must be said that the authors do not rule out the possibility that a forced adjustment will eventually be made. They simply argue that the imbalances may prove to be more sustainable than many analysts have been arguing.

The sustainability versus unsustainability issue is clearly important. In truth, we do not know whether the imbalances will prove to be sustainable or not although the consensus seems to be that they will not be.

Historical parallels: 1970s and 1980s

Although the current conjuncture of international economic and financial imbalances is unique (not the least because of their magnitude) there are certain historical parallels. In fact, there are such episodes going way back to the 19th century when, as now, the US was in substantial balance-of-payments deficit and this was financed by capital inflows from surplus regions. This, of course, was the period when the US was an emerging-market economy and it was natural that it would attract capital on a large scale. But this is where the parallel ends with the current position. More relevant is the parallel with the early 1970s and the 1980s.

For close to thirty years after 1945 the world monetary system was based on fixed exchange rates with the anchor being the US dollar which had a fixed price of \$35 per ounce against gold. All other countries pegged their currencies against the dollar in this Bretton Woods regime, and central banks held their reserves predominantly in US dollars. The US became a reserve currency centre in much the same way as the UK had become in the 1920s and 1930s. A corollary of this was that, as now, there was less pressure on the US to adjust its balance-of-payments position because it did not need to finance its deficit with foreign currency. This amounts to a significant seignorage gain to the US. A whole superstructure was created around this fundamental model including a powerful role for the IMF.

A corollary of a fixed exchange rate system is a commitment to support the value of currencies through central bank intervention in foreign-exchange markets. It also follows that an overall balance-of-payments surplus or deficit can emerge only with a fixed exchange rate as, with floating rates, the exchange rate adjusts to equilibrate the supply and demand for foreign currency. It also means that, unless a country is a reserve currency centre, if it has an overall balance-of-payments deficit (as the UK often did in the 1960s) it runs the danger of running out of foreign-currency reserves and is forced to borrow foreign currency (e.g. from the IMF). However, this does not apply to a reserve currency country because the deficit is effectively financed with domestic currency. This asymmetry became the source of major tensions towards the end of the 1960s and early 1970s.

In particular, concerns developed over the domestic monetary counterpart to foreign-exchange intervention by central banks. If a central bank is buying dollars to stop an appreciation of its currency, it also necessarily creates domestic money balances and the money supply rises. This can only be prevented if the central bank *sterilises* this monetary effect by selling government securities on the domestic market which might be problematic if the appetite for government debt is limited, or if markets are under-developed or inefficient. This came to be known as the Incompatible Trinity (Llewellyn, 1980) the system meant that countries could not simultaneously have freedom of international transactions, a fixed exchange rate, and independent control of the domestic money supply.

The parallels between that period and the current conjuncture can be briefly summarised as follows:

- Substantial (at the time) imbalances emerged towards the end of the 1960s with the US being the large deficit country (albeit due mainly to long-term capital outflows rather than a current-account deficit) with Europe (and notably Germany) having the counterpart surplus.
- The US had both a balance-of-payments deficit and a large budget deficit (in part associated with military spending on the Vietnam War). The term “twin deficits” was coined at the time to describe this.
- Europe became increasingly concerned that the reserve currency role of the dollar meant that, in effect, they were financing the US budget deficit by buying Treasury securities.
- Europe claimed that the US was exporting its own inflation and that, therefore, there needed to be more pressure on the US to adjust than was inherent in the reserve currency system.
- The US countered that European countries (notably Germany) should appreciate their currencies so as to reduce their surplus. In this way, as now, disputes emerged as to whether it was the behaviour of the deficit or surplus countries that lay behind the imbalances, and therefore whose responsibility it was to make adjustment. This has a parallel with the current position in that the US takes the view that the problem lies with excess savings in Asia while surplus countries argue that the problem lies within the US.
- Some emerging-market economies with large current-account surpluses currently apply a pegged exchange rate regime against the US dollar,

Towards the end of the 1960s and the early 1970s, tensions built up in the Bretton Woods regime. These were finally resolved in 1971 by the US making the dollar inconvertible into gold, imposing a temporary import surcharge largely to force the hand of Europe, and the eventual abandoning of the fixed exchange rate regime. In other words, the tensions that arose could not be resolved within the architecture of the time and the Bretton Woods regime of generalised fixed exchange rates was eventually abandoned as the world moved towards floating exchange rates. The conflicts within the regime, and the imbalances that developed, produced a massive regime change.

Although there are evident parallels between the position now and in the early 1970s, there are also clear differences between the two periods: The US deficit in the late 1960s and early 1970s was due mainly to the outflow of long-term capital; the surplus counterparts were industrialised countries whereas the counterparts now are emerging-market economies; the monetary order was of generalised fixed exchange rates pegged to the US dollar in the 1970s as opposed to different currency blocs now with major developed countries having, what are essentially, floating exchange rates; in the 1970s the counterparts to the US deficit were countries who were concerned about the inflationary implications of the continued accumulation of dollar reserves whereas now some of the counterpart countries see this as part of their development strategy because it holds down their exchange rate and fosters export-led growth; the size of imbalances was considerably smaller in the earlier period, and the degree of globalisation of financial markets and financial-market integration was lower in the 1970s than is the case now.

On the other hand, the 1980s experienced a more orderly adjustment. The dollar appreciated by 45 per cent in the period 1979-1985 (and became seriously over-valued) and the current account of the US moved from a small surplus to a large deficit (3,5 per cent of GDP). This was followed by a sharp depreciation of the dollar (by close on 30 per cent in a short period of four years (see Chart 14). The balance-of-payments deficit was sharply reduced until 1992.

Notwithstanding the evident differences, some analysts argue that the parallel between the current position and that of the 1970s is closer to the early 1970s than to the 1980s (Obstfeld and Rogoff, 2005). The two key questions are, therefore: (1) Are the current imbalances sustainable? and (2) if not, will the adjustment be orderly as in the 1980s or disruptive as in the 1970s when the problems inherent in large imbalances eventually led to a major change in the world monetary order?

A partial Bretton Woods 2 regime

The parallel between the current global position and that of the late 1960s and early 1970s is sufficiently precise that some analysts refer to the current regime as Bretton Woods 2 because major surplus countries (China, Hong Kong, Malaysia, Saudi Arabia, United Arab Emirates, Qatar, Oman, Kuwait, Jordan, Latin America, Korea and other countries in Asia) maintain a fixed currency peg against the US dollar and intervene in the foreign-exchange markets to prevent their currencies appreciating. Valgreen (2006) argues that there is also a quasi-dollar area comprising Singapore, Taiwan, India, Russia, Egypt, and Kazakhstan. In the process, they have acquired substantial volumes of foreign-currency reserves which, to date, are held predominantly in US dollars. Thus although the current international monetary system is usually described as a regime of floating exchange rates, there is a significant dollar bloc of countries for whom this is clearly not an accurate description.

This bloc's exchange rate regime exists out of choice for two main reasons: The countries choose to maintain a pegged exchange rate so as to sustain undervalued currency and hence export competitiveness, and this in turn is designed as part of a development strategy based on exports. In addition, some countries (notably China) are evidently concerned at the experience of Japan which, after the Plaza Accord, experienced a very sharp rise in the value of the yen which, some argue, was a significant factor in the fifteen years of serious recession in the Japanese economy. Thus the accumulation of dollar balances (via an undervalued exchange rate) is a strategic choice as a product of a chosen development strategy (Dooley, Folkerts-Landau and Garber, 2004). In other words, whereas in the 1970s the accumulation of reserves was a product of the exchange rate regime and the way it was operated, the current position is that the accumulation of reserves is a product of a chosen development strategy. It is for this reason that some analysts argue that current imbalances might be sustainable.

This also implies that these countries are required to sterilise the domestic monetary consequences of their chosen regime by selling securities and this is not always easy in comparatively underdeveloped financial systems. Many countries with pegged exchange rates have experienced money supply growth in the region of 15 – 20 per cent per annum.

Many of the countries identified as being in the dollar or quasi-dollar bloc have large current-account surpluses. This is significant because, as argued by Valgreen (2006), the global imbalances are predominantly within the dollar area and result from the chosen exchange rate regime of these countries. This is an important perspective suggesting that, if adjustment is to be made, it must be made within the dollar bloc rather than between the bloc and the rest of the world. Thus a sharp depreciation of the dollar against the euro and sterling would not be appropriate (though it would be against the yen) given that the problem lies within the dollar bloc.

Although the current regime could be described as Bretton Woods 2, there are significant differences with the original: It is not formalised by international agreement; there is no institutional superstructure linked to it; 50 per cent of the world is not part of it; the peggers are predominantly emerging-market economies rather than fully developed economies; it is a much looser arrangement; and the dollar is no longer fixed to gold. Nevertheless, the parallels are striking and significant.

Choice of financial assets versus real resources

Any country that runs a persistent current-account surplus, and intervenes in the foreign-exchange market to acquire dollars, is effectively substituting financial assets for real goods and services. As a point of perspective, China's foreign-currency reserves currently amount to \$1 000 billion (40 per cent of GDP) and have risen by \$100 billion between 1997 and 2005. This has been due to a combination of a substantial current-account surplus and capital inflows in a pegged exchange rate regime. As well as running a substantial current-account surplus, China also has long-term capital inflows of around 3 per cent of GDP and, at times, has experienced speculative short-term capital inflows.

However, there are significant income and resource implications in this, and there is an issue about whether what has effectively been a substitution of financial assets for real resources, will be sustained. Thus, an appreciation of a surplus country's exchange rate would have significant real income and real resource implications: (1) By changing the terms of trade (a rise in export prices relative to import prices) real incomes rise in the country as imports become cheaper, and (2) as a smaller volume of exports is needed to achieve given foreign-currency earnings, there are more real resources available within the country for a given current-account position. In effect, a revaluation of a currency in order to reduce a current-account surplus has real resource advantages: Imports are increased and the foreign-currency value of given exports also rise. As the current-account deficit falls, and there is corresponding less foreign-exchange market intervention, the net result is that a substitution is made between the acquisition of dollars, financial assets and real resources. On the other hand, and unless compensated by a rise in domestic demand, domestic output is likely to be lower as exports become less competitive and imports rise. This again illustrates the requirement for expenditure switching and expenditure increasing policies to be coordinated.

A further implication of such a strategy is that there are less domestic monetary pressures associated with foreign-exchange market intervention and hence less need for, sometimes difficult, sterilisation measures. There is some concern, for instance, that excess liquidity is being generated in the Chinese economy (partly as a result of foreign-exchange market intervention by the People's Bank of China) and that an asset-price bubble might materialise. Since 2002, rises in the monetary base in China have been generated by the domestic monetary counterpart of foreign-exchange market intervention by the central bank which has been partly offset by sterilisation through the sale of short-term government debt to the private sector and mainly banks.

International bond yields

Global financial imbalances also have a bearing on one of the structural features of the world economy outlined at the outset: The low level of real and nominal bond yields. Chart 1 gives the trend in real bond yields. Chart 15 shows the movement of US and UK government nominal bond yields since early 2001. Three obvious patterns emerge: Yields have been volatile, they have fallen to very low levels especially in the US in 2002 and 2003 and also towards the end of last year, and the yield curve has flattened considerably both as between short-term interest rates and bond yields and across maturities in the bond markets.

Yields worldwide are comparatively low for the current phase of the business cycle. The reasons why low bond yields are something of an enigma in the US in particular is that the American economy has been growing strongly for several years with the result that there has been a strong demand for all forms of credit, and strong growth in an economy is usually associated with rising bond yields. At the same time, the Federal government has been running a large budget deficit, and short-term interest rates have been raised from 1,0 per cent to 5,25 per cent. All of these factors would normally cause bond yields to rise and certainly to be higher than their current levels.

Nominal long-term yields have two components: The real yield and a measure of expected inflation. The former component is determined by the demand for credit and the balance of global savings and investment. The major demand factors are the size of the government's borrowing requirement, and the demand for bond finance in the corporate sector. The supply of funds in international bond markets is determined by six main factors: The level of global savings, short-term interest rates, the expected risk-adjusted rate of return on alternative financial assets and most especially equities, inflation expectations, the pattern of demand by institutional investors, and expected changes in bond yields (often a self-fulfilling prophecy). In the case of the US, there is also a special dimension with respect to the appetite of foreign investors to hold dollar assets, and treasury bonds in particular.

As already noted, real yields (i.e. after allowing for inflation) have been on a declining trend in the world since the mid-1980s and have declined by around 6 percentage points (pp) to around their present level of 2 per cent. Indicative of this is the yield on the recently introduced US TIPS of 1,5 per cent. In the US, real yields are currently more than 2,5 percentage points lower than the average over the past 20 years.

Two broad explanations are offered for the low level of bond yields and both have a bearing on the size of global financial imbalances:

- (1) Low yields are a reflection of excess saving in the world economy; and
- (2) low yields are a reflection of global excess liquidity conditions.

The first group of explanations focuses on the global savings-investment balance. In these models low bond yields reflect that, in many parts of the global economy, savings have substantially exceeded investment opportunities and, combined with a fixed exchange rate, external surpluses have been invested in US government bonds. There has been strong demand for dollar-denominated bonds from Asian central banks that have been purchasing dollars and financing the US deficits. In this way, the behaviour of a few central banks in Asia may be a central explanation for low bond yields.

The second general explanation (not inconsistent with the first) gives greater emphasis to liquidity conditions in the global financial system. In this model, bond yields are low because, around the world and for different reasons, central banks have created excess liquidity. In some countries (notably China and other surplus countries in Asia) ex ante domestic liquidity has been created on a large scale as the counterpart to central banks' intervention in the foreign-exchange market to maintain currency stability. In recent years, the external component of the monetary base in China has been the engine of money supply growth which has been partly offset by sterilisation measures with the central bank selling mainly short-term securities and bills to banks and the private sector. For some years, the external component of the monetary base has been positive while the domestic component has been negative.

For the past few years, global liquidity has expanded at its fastest pace for three decades or more. If liquidity is created in this way it has to be invested somewhere. This provides the link with the first set of explanations. The Bank for International Settlements (BIS) has recently argued that the rise in bond prices is partly a reflection of investors getting rid of excess liquidity.

However, the position remains vulnerable as several of these factors may prove to be transient. Firstly, as argued above, there is probably a limit to the extent that foreign investors (including central banks) will continue to accumulate dollar assets and accept the exchange rate risk. Secondly, if the dollar were to depreciate it is likely that a higher risk premium will be needed in bond yields. Thirdly, some central banks have begun to diversify reserve holdings away from the dollar. Fourthly, the US budget deficit is likely to remain high and it is likely that the markets will soon appreciate to such an extent that the President's declared intention of halving it in his second term of office is not credible. Any rise in inflation will also widen the inflation premium built into bond yields.

Nature of risks in global imbalances

Some analysts (including former Fed Chairman Greenspan) argue that an adjustment to imbalances will be made, and will almost certainly be necessary at some stage, but that it will be smooth and benign and without causing serious disruption. There are several reasons for this including that, given the nature of the US external balance sheet, comparatively small exchange rate depreciation would restore a more viable external balance sheet position. It is also the case that, unlike some foreign private holdings of dollar assets, central bank holdings are not volatile and, in any case, central bank holders have no interest in causing instability in the markets. It is also the case that, if they were to switch out of the dollar into, say euro, sterling, or yen on a large scale, this would likely cause a significant dollar depreciation which would effectively reduce the domestic currency value of their foreign-currency reserves.

However, this benign scenario is not a unanimous view and so alternative scenarios need to be considered. If adjustment is to be made, the key issue is at what level of world real income will it be made given that some adjustment routes (e.g. a cut in US consumers' expenditure) would have negative impacts on real income and output if they are not balanced with offsetting measures. This, in turn, may in practice be determined by whether the adjustment is forced by market pressures or by concerted and coordinated policy action by both deficit and surplus countries. There are six broad alternative routes of adjustment to global financial imbalances:

- (1) American households reduce their expenditure substantially and, as a result, imports decline sharply;
- (2) the American government cuts the budget deficit;
- (3) a sharp rise in growth outside the US so that American exports rise;
- (4) the imposition by the US of direct protectionist trade controls on imports;
- (5) key countries (notably China, Japan, India and other countries in South East Asia) revalue their pegged exchange rates against the dollar; and/or
- (6) a sharp market fall in the US dollar in the foreign-exchange markets.

The preferred options in terms of maintaining world economic growth would be (3), (5), and a moderate version of (6). The most serious outcome would be (1) and (4) because the former might cause the US economy to move into recession, and the latter because of its potential to spark a self-defeating trade war. There is a precedent for this in 1971 when President Nixon imposed an import surcharge.

The central risk for the world economy is serious because, if policy action is not taken, a forced adjustment might be made in destructive and destabilising ways. If, as the consensus view argues, adjustment will eventually be needed, the issue is whether this will be planned or determined by market pressures. As already suggested, when the adjustments are made (and dependent upon how they are made and over what time period) financial markets could become volatile. This could imply a sharp fall in the dollar and a rise in bond yields. If a particular market is affected in a significant way, it is unlikely that this will be restricted to a single market: Pressure is likely to spread to several markets thereby causing potential systemic instability.

The issue has recently been addressed by several central bankers including the Deputy Governor of the Bank of England who has recently warned of the risk that global imbalances could produce "disruptive market adjustments". In particular, if the imbalances were to be reduced by American consumers cutting back substantially on their spending, a major engine of world economic growth would be reversed with potentially serious consequences for economies around the world. Equally, if the adjustment were to be made by a precipitous fall in the dollar, this would almost certainly produce a rise in bond yields in the US which would in turn impact on consumers' expenditure. Either outcome would introduce potentially serious deflationary pressures in the world economy.

The key risk, therefore, is that adjustment will be forced in ways that could cause real incomes and output in the world to fall, and cause substantial volatility in financial markets (and not only

the exchange market) with a concomitant rise in risk premia. The IMF has argued in its 2005 *Global Financial Stability Report* that a precipitous decline in the value of the US dollar could pose serious stability problems for banks given the increased diversity and lower opacity of banks' counterparty risks.

A particularly serious risk is that the US could be induced to take protectionist measures as, for a short while, it did in 1971. There is some pressure in Congress already to make such moves if major surplus countries (notably China) refuse to take adjustment measures. While there is undoubtedly an element of sabre rattling in this, the prospect needs to be taken seriously.

A further particular risk is that, given their high exposure to the dollar, central banks might be induced to change the composition of their foreign-currency reserves by switching into other currencies. Given the record size of central bank holdings of dollar assets, any such portfolio shift could have a marked impact on the dollar exchange rate.

The IMF takes the view that "The issue is not whether but how the adjustment will be made". The Bank of England has similarly argued that "Global imbalances constitute further risks to activity (and they are) likely to correct at some point." Our argument has been that it is fruitless (and potentially destabilising) to focus the debate on which countries are responsible, and therefore which countries need to take action. A more constructive approach is that all countries play their part. To argue that it is *either* the deficit *or* the surplus countries that should take action is both unrealistic and dangerous. Nevertheless, irrespective of who is to adjust, experience suggests that the longer the adjustment is delayed, the greater is the probability of a hard landing. The BIS puts it this way: "While many would doubtless dispute the likelihood of a sudden market 'bang', the possibility also remains of a real side 'whimper'". That is, the various imbalances ... might well work themselves off gradually over a long period. Not least is the potential for record low household savings ratios to rebound in many countries, particularly in the United States" (BIS, 2006).

Risk analysis and disaster myopia

If imbalances are in fact sustainable, there is no requirement for either surplus or deficit countries to take adjustment measures. Indeed, were they to do so, avoidable costs would be incurred through unnecessary adjustment. On the other hand, if the imbalances were to prove not to be sustainable, the issue arises as to whether adjustment measures should be taken or whether the final outcome should be left to the operation of financial markets. The potential danger in the latter strategy is that adjustment could prove to be disruptive and volatile and create instability in financial markets most especially if financial markets "overshoot" as they often do in an uncertain environment where it is not clear where equilibrium values lie.

There is, therefore, a trade-off to be made: Valuing the costs of adjustment in the event that they would prove to be unnecessary versus the costs of a disorderly adjustment in the event that no policy action is taken though the imbalances prove to be unsustainable. This again means that policy-makers face both risk and uncertainty and this is never the easiest environment in which to formulate optimal policy strategies.

There is some evidence that in such circumstances policy-makers become subject to disaster myopia: What are judged to be low probability but high-seriousness risks are ignored altogether and no action is taken. Disaster myopia is particularly likely to occur when a long time has passed since the risk last occurred. This tendency is accentuated when there is no institutional architecture in place to make necessary policy responses, and where such responses involve costs that, in the event that they proved to be unnecessary, could be avoided. History suggests that correct policy responses are often not taken. The Organisation for Economic Co-operation and Development (OECD) (1988) offers eleven case studies of major macro policy changes which were recommended much earlier but were only carried out in the event of an exchange rate crisis. The key issue is whether history will repeat itself in the context of current global imbalances.

In this context standard risk analysis can fruitfully be applied. Given an element of uncertainty about their sustainability, and most especially the balance of probabilities that they will prove not to be sustainable, if risk analysis (probability versus impact) is applied, the optimal strategy would be to make orderly and coordinated adjustments early. This is because, in the event that they would prove not to be sustainable, the costs of an eventual disorderly adjustment could be very high in terms of world income and financial instability. On the other hand, the costs of making what might prove to be unnecessary adjustments (because the imbalances might be sustainable) are likely to be less than the costs of a disorderly adjustment in the event that they prove not to be sustainable.

Exchange rate implications

There are inevitably exchange rate implications to the global imbalances and possible adjustment mechanisms. Several questions arise: Can exchange rates adjust the imbalances?, which exchange rates need to be adjusted?, are exchange rate adjustments to be made by policy intervention or are they to be a product of market developments, etc. A central issue focuses on the US dollar and the extent to which there needs to be (or will be) an adjustment to exchange rates against the dollar.

Trends in the US dollar effective exchange rate since the early 1970s are given in Chart 14. There was a sharp depreciation following the Plaza Accord in 1985 with the dollar declining by around 25 per cent between 1985 and 1989. After a six-year period of stability, the dollar subsequently appreciated by 15 per cent between 1996 and 2004 since when it has depreciated.

As with other aspects of the debate about current global imbalances, there is no clear consensus about the role of exchange rate adjustments in the current environment. Blanchard, Giavazzi and Sapa (2005), for instance, argue that the imbalances must be adjusted and that, as the exchange rate is the only realistic equilibrating variable, the dollar is likely to depreciate from current levels. Others argue that not a great deal can be expected from a dollar depreciation and that the focus needs to be on adjusting the counterpart internal financial imbalances (deficits in the US and surpluses in Asia, etc).

In a series of recent papers, Obstfeld and Rogoff (e.g. 2000, 2004 and 2005) develop complex models which indicate that the required dollar depreciation to significantly reduce the US current-account deficit is likely to be substantial and in the order of 30 per cent. However, their focus is exclusively on the current-account position rather than the net external balance sheet of the US. Other analyses suggest that a 30 per cent decline in the external value of the dollar would be required to eliminate the current-account deficit and a 17 per cent depreciation to halve the deficit.

A further issue is that, if adjustment is to occur via exchange rate adjustments, against which currencies should the dollar depreciate? Valgreen (2006) argues correctly that the main imbalance is within the dollar bloc and hence, if exchange rate adjustments are needed, it is within this bloc. In other words, according to this view the “problem” arises within the dollar bloc which implies that the central requirement is for Asian countries (notably China) to shift their currencies’ peg upwards. However, as already noted, an under-valued currency is part of these countries’ development strategy.

The BIS has voiced concern about global imbalances and the adjustment process. In its 2006 *Annual Report* it argued:

“Our concern ... is that this process [of adjustment] might turn disorderly, particularly in the main currency markets where the bulk of trading is carried out. The probability of such an outcome would be reduced if the burden of upward currency adjustment were to be broadly shared in line with the size of current-account surpluses. In particular, this implies that Asian currencies must appreciate further.” (BIS, 2006)

There is also the question of the time period of adjustment. Given that there are constraints in shifting resources, a slow depreciation of the dollar would give time for markets to adjust and resources to be shifted from non-trade to traded sectors of the US economy. Truman (2005) argues that even a small exchange rate adjustment would demand significant reallocation of real resources in the countries concerned because factor inputs are not immediately fungible. On the other hand, the market might induce a sharp depreciation in which case an element of “overshooting” could occur. This would prove to be destabilising in foreign-exchange and other financial markets.

The upshot is that there is no consensus about the role of exchange rate adjustments in the adjustment process of reducing global financial imbalances. Our conclusion is that the optimal adjustment strategy would involve exchange rate adjustments *within the dollar bloc*. However, there is something of a “prisoners’ dilemma” in this in that no Asian country will accept an appreciation of its currency against the US dollar unless all other Asian countries do likewise. This is because a major concern, for competitiveness reasons, is not to allow their currencies to appreciate against each other.

Avoiding the risk: Concerted and coordinated policy responses

In the context of risk and uncertainty faced by policy-makers, one strategy to avoid the various risks is for a concerted and coordinated adjustment strategy to be adopted to lower the size of global economic and financial imbalances. The coordination mechanism has two components: (1) A combination of expenditure reducing/increasing and expenditure switching policies, and (2) coordination between all major countries with large surpluses and deficits. An optimal strategy is likely to involve both expenditure reducing and switching policies so as to minimise the ultimate cost of adjustment, and to ensure it occurs at a high level of world income. This should avoid the danger that single policy mechanisms have the effect of deflating the world economy. For instance, a sharp cut in the US budget deficit or rise in household savings is likely to be deflationary if other measures are not adopted. On the other hand, if these are accompanied by exchange rate depreciation, the negative impact on US output could be avoided providing that internal resources can be switched to the export or import-substitution sectors of the American economy. This could prove to be a demanding requirement. Similarly, if there were to be a substantial adjustment to external surpluses, this could impact on US bond yields to the extent that there will be less external financing of the US budget deficit. However, in principle, this could be offset by measures to reduce the Federal budget deficit. The objective of the exercise would be to minimise the net effect on US output.

From the tautological link between internal and external imbalances, the requirement is for adjustments to be made to internal imbalances in surplus and deficit countries, in that gross internal financial surpluses in current-account surplus countries, and gross internal financial deficits in current-account deficit countries, need to be reduced. Whatever specific adjustment mechanisms are adopted, they must work in terms of adjusting internal imbalances.

What is likely to be optimal, therefore, is a concerted and coordinated global adjustment strategy involving all major countries and not exclusively the US although the US certainly needs to make adjustments to the savings ratio and the budget deficit. If the responsibility for the correction of global imbalances is placed solely on the US, it is difficult to see how this could be engineered without imposing a deflationary bias in the world economy.

The risks and dangers have now become significantly serious that concerted action of all major players (including emerging-market economies) is needed. The longer such action is delayed, the greater the risks become and the greater are likely to be the eventual adjustment costs. The position has been put in this way by William White of the BIS:

“Given the complexity, mutual dependence and international scope of the problems being addressed, a cooperative policy approach might have more appeal than each country simply acting in pursuit of what it seems as its own self-interest”. (White, 2005)

Similarly, the BIS *Annual Report* argues as follows:

“What is needed is a cooperative solution through which, for the common good, the main countries would each make domestic compromises in return for similar compromises made by others. Most of the policies required are not hard to identify”.
(BIS, 2006)

In effect, adjustment mechanisms of individual countries need to recognise the externalities involved in their action. In a nutshell, an optimal coordinated approach to adjustment is likely to involve a combination of the following:

- A rise in the national savings ratio in the US.
- Decisive measures to reduce the Federal budget deficit. The Fed is anxious that the budget deficit position is addressed with urgency. The BIS has also argued that “the need for fiscal restraint is particularly great in the US ... ” (BIS, 2006).
- A rise in aggregate demand in Europe and Japan.
- Structural reform in the euro area.
- A further depreciation of the US dollar.
- More exchange rate flexibility in Asia. This requires changes in exchange rates against the dollar by several countries in the dollar bloc and not exclusively by China. The Asian Development Bank has argued that if China alone were to revalue against the dollar by 20 per cent, the US deficit would fall by only 0,05 per cent because lower US imports from China would be offset by increased imports from elsewhere in Asia. In any case, China would seek to avoid appreciating against other Asian countries for competitiveness reasons. In 2005, China made a minor adjustment by indicating that it would allow more flexibility in its exchange rate regime. Nevertheless, there has been only a 2 per cent appreciation.
- The creation in China of a social safety net would act to lower the exceptionally high savings ratio of Chinese households.
- Reform of the financial sector in many Asian countries including China to enhance the potential of the domestic financial system to intermediate domestic savings and investment.

None of these measures alone would be sufficient, though a combination should enable the necessary adjustments to be made at reasonable cost. In particular, too much should not be expected from a decline in the US dollar. A large depreciation would be needed to significantly reduce the current-account deficit. This in itself could cause disruption to the world economy. The key aspect of the problem is not so much an over-valued exchange rate but an unsustainably low level of US savings combined with chronic excess savings elsewhere in the world and notably China, India and other emerging-market economies. Furthermore, an appreciation of the renminbi might have only a limited impact on China’s external surplus because in many sectors of the economy China is only assembling imported parts and components manufactured elsewhere. In some areas the local value added amounts to only around 15 per cent. This means that an appreciation of the currency would lower import costs on such components.

It is difficult to avoid the conclusion that an appreciation of the renminbi must be part of any coordinated adjustment strategy. Indications of an overvalued renminbi include: A substantial and sustained current-account surplus, the required and persistent intervention in the foreign-exchange markets that is needed to maintain the peg, and a basic balance of the balance of

payments (current account plus net autonomous capital inflows) of over 10 per cent of GDP. The US and the G7 countries have put pressure on the Chinese authorities to adjust the exchange rate of the renminbi: A significant revaluation, and more flexibility in the exchange rate. The World Bank has argued in addition that the currency should be pegged to a basket of currencies rather than the US dollar alone. There is, nevertheless, a clear problem with a revaluation in that China has accumulated massive foreign-currency reserves. The dilemma is two-fold: A small rise would induce further speculative capital inflows, while a 30 per cent revaluation would inflict a capital loss on the reserves equivalent to around 10 per cent of the country's GDP.

The danger if such a concerted strategy is not adopted is two-fold: The correction of the imbalances could impose a deflationary bias in the world economy and instability in financial markets, and the emergence of more wide-spread protectionist sentiment that has already surfaced in the US. The danger is that the longer the adjustment is delayed, the greater are the risks and the greater are likely to be the eventual costs of the necessary adjustment.

An institutional deficit

The problem with the type of coordinated policy strategy being recommended is that there is no robust existing architecture or set of institutions to facilitate it. Although several multilateral institutions could, in principle, perform a coordinating role (such as the OECD, IMF, BIS, G7) their membership does not include several countries or areas that would need to be part of the coordinated strategy if it were to be successful. Furthermore, there would need to be a recognition of the risks in the current conjuncture, and that a coordinated strategy is preferable to each country pursuing policies deemed to be in their own interests. This implies recognising the externalities in the pursuit of independent policies.

A previous example of a concerted and coordinated adjustment strategy is the Plaza Accord agreement in 1985 when the US agreed to reduce its budget deficit and other countries agreed to sell the US dollar in the foreign-exchange market in order to reduce the exchange value of the dollar.

In order to address the institutional deficit for coordinated strategies, it has recently been agreed that the IMF will have a multilateral surveillance role with respect to global imbalances and will monitor the spillover effects of national policies. It may also be able to broker policy adjustments on a coordinated basis. It has been agreed that five groups will engage in IMF multilateral surveillance exercises: US, Japan, China, the euro area and Saudi Arabia. The IMF has defined the mandate as "how to address global imbalances while maintaining robust global growth". The IMF has argued publicly that cooperative actions can play a major role in the orderly unwinding of these imbalances and in sustaining global growth as savings, consumption and investment patterns adjust (IMF, 2005). The immediate context is that the IMF has argued publicly that an adjustment to global economic and financial imbalances will eventually prove to be necessary.

Assessment and conclusions

Our starting position was that the size of global economic and financial imbalances is a significant issue for the world economy and has financial stability risks attached. The analysis has identified significant aspects of structural change in the world economy and financial system with a central one being the increased integration of financial markets. This in turn has made it easy for large imbalances to be financed without causing disruption to trading patterns. However, it might also mean that the adjustment (if, as seems likely, it is eventually needed) will be greater and this could prove to be disruptive and to threaten financial instability in a wide range of markets.

It has been argued, however, that there is no unanimity that substantial adjustments will be needed as some analysts argue that the US deficit in particular is sustainable and that large

surplus countries are content to maintain their surpluses (and continue to exchange goods and services for financial assets) as part of their economic development strategy.

A central theme has been that, therefore, policy-makers face a difficult conjuncture of both risk and uncertainty.

For these, and other reasons, we have argued the case for standard risk analysis to be applied to the policy process taking into account the risk that financial markets might become unstable and that growth in the world economy could be seriously threatened if adjustment is eventually forced in a particular way. A particular strategy to be considered is a concerted and coordinated combined strategy involving both expenditure switching (exchange rate) adjustments and expenditure reducing/increasing policies, and that these should be applied in a coordinated manner involving all major regions in the world economy.

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Table 1
Global current-account balances
(in billions of US dollars)

	Average 1991-2001	2002	2003	2004	2005	Memo 2005¹
United States	-178	-475	-520	-668	-805	-6.4
Euro area ²	13	39	32	74	-16	-0.2
Germany	-21	41	41	102	115	4.1
Spain	-12	-23	-32	-55	-83	-7.4
Japan	105	112	137	171	168	3.7
Other advanced industrial economies	-3	34	55	48	44	0.8
China	14	35	46	69	161	7.2
Other emerging Asia	15	92	120	115	82	2.6
Latin America	-49	-16	7	18	30	1.2
Central and eastern Europe	-13	-24	-37	-59	-65	-5.4
Oil-exporting economies	5	87	143	239	417	9.6
Norway	9	24	29	35	49	16.7
Russia	12	29	35	59	84	11.0
Saudi Arabia	-6	12	28	52	91	29.5
Oil-importing economies	-101	-239	-210	-304	-515	-1.3
Advanced	-67	-328	-338	-431	-683	-2.2
Emerging	-34	89	128	127	168	1.8

¹ As a percentage of GDP.

² Sum of the balance of individual euro area economies

Sources: IMF; national data.

Table 2
Savings ratios in China
(% of GDP)

	2000	2005
Gross savings	37.9	49.5
Corporate sector savings	22.1	30.2
Household savings	12.9	16.8

Table 3
Foreign central banks finance an increasing share of the US current-account deficit
(billions of US dollars)

	Δ foreign private assets in US	ΔUS private assets abroad	Net private capital inflow	Δ Foreign official US assets*	Official share of inflow
2000	1004	559	445	43	0.09
2001	755	377	378	28	0.07
2002	678	291	387	116	0.23
2003	611	330	281	278	0.5
2004	1046	860	186	395	0.68
2005	1072	513	559	221	0.28

* Increasingly, foreign CBs' purchases of \$ are not recorded as such.

Source: US BEA and Treasury

Chart 1
World and US real interest rates

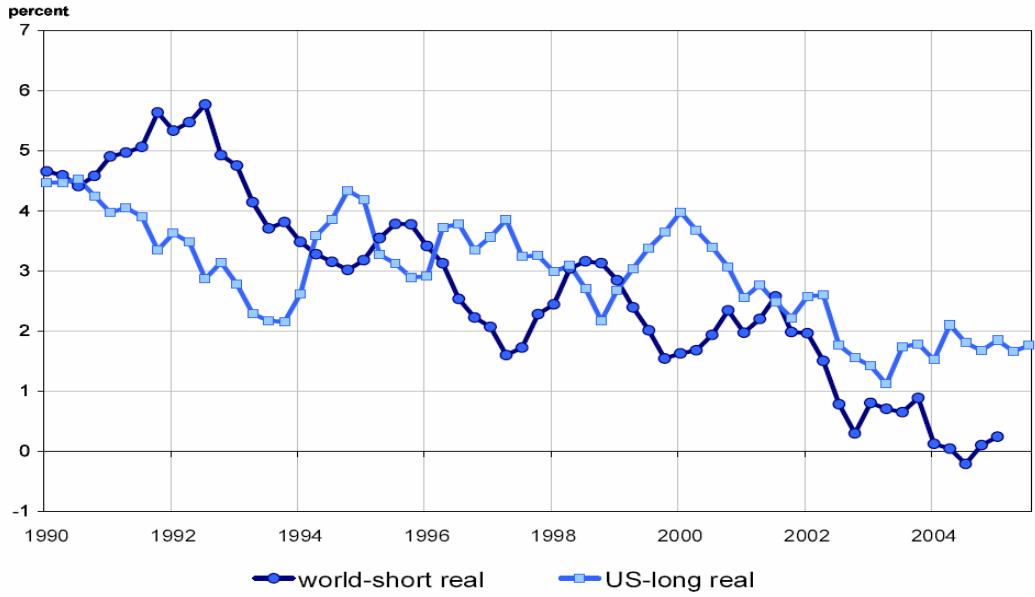


Chart 2
Gross external assets and liabilities of OECD countries

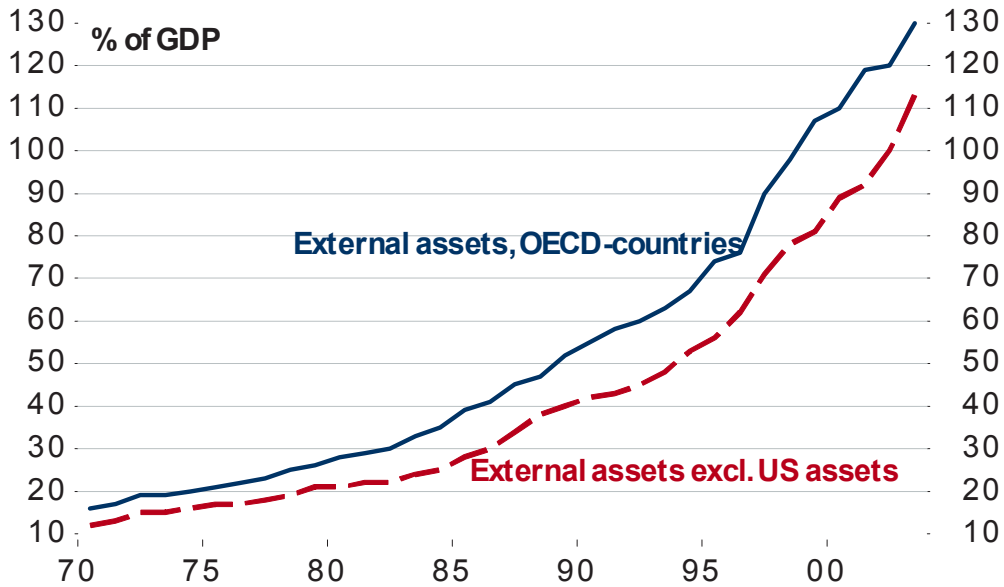


Chart 3
US dollar share in world portfolios

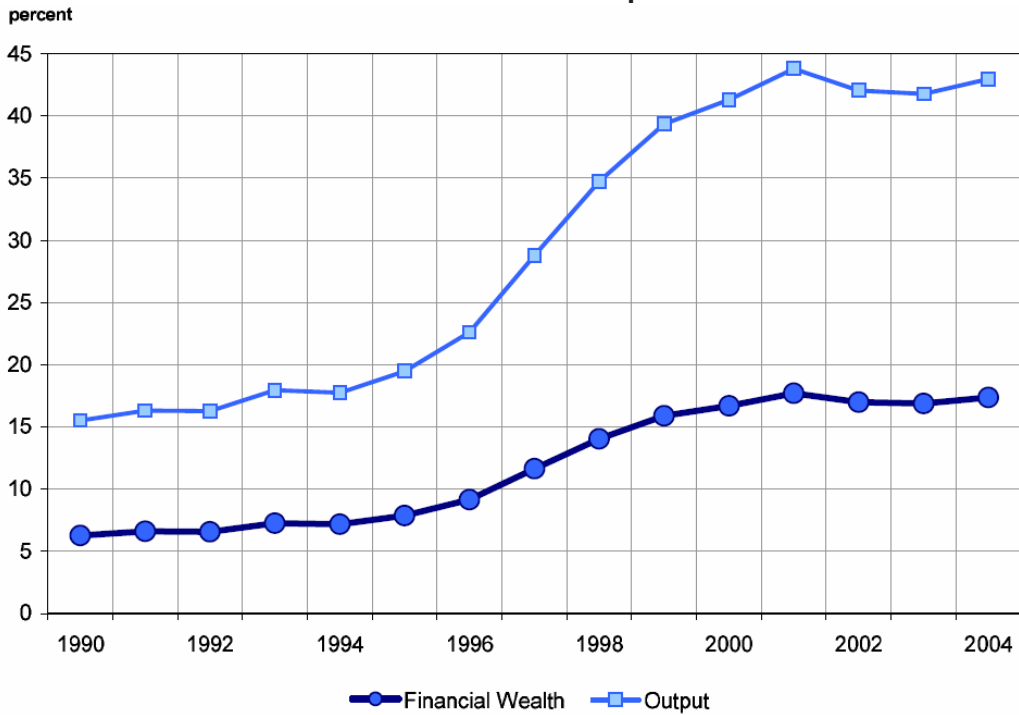


Chart 4
The US current-account deficit and its counterparts

(1997 - 2005, USD billions)

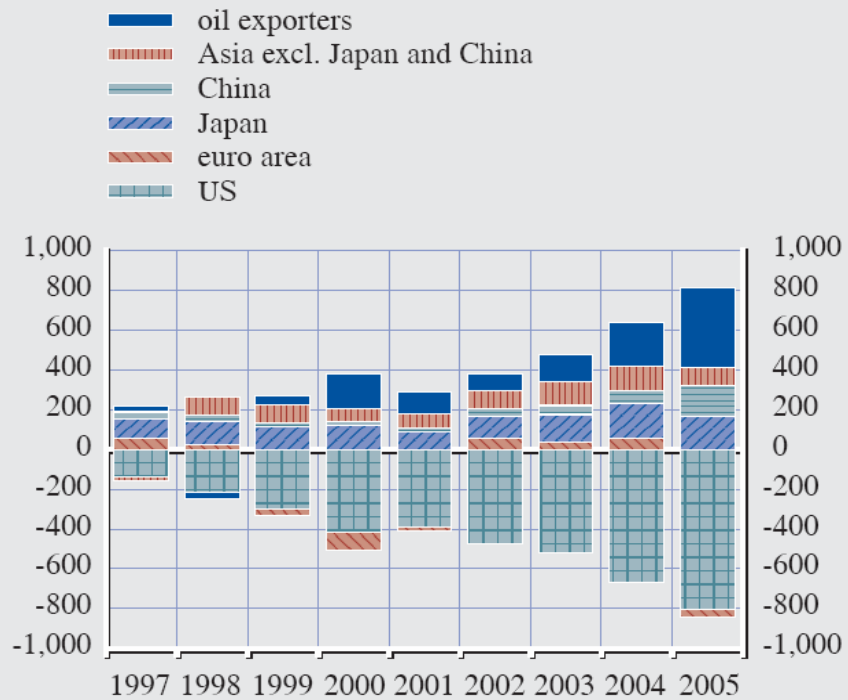


Chart 5
US current-account deficit

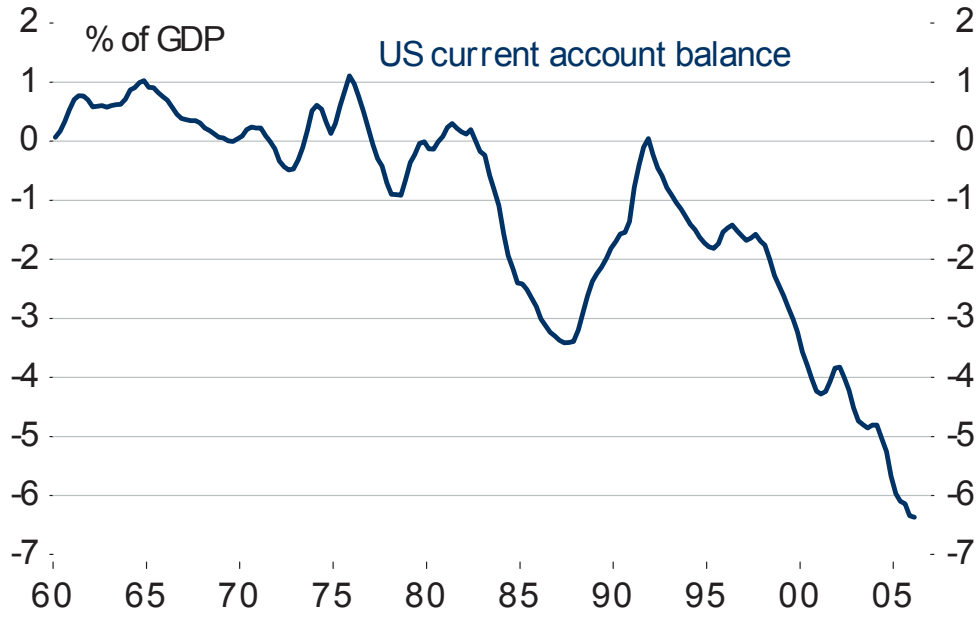


Chart 6
Net lending/borrowing of the US economy

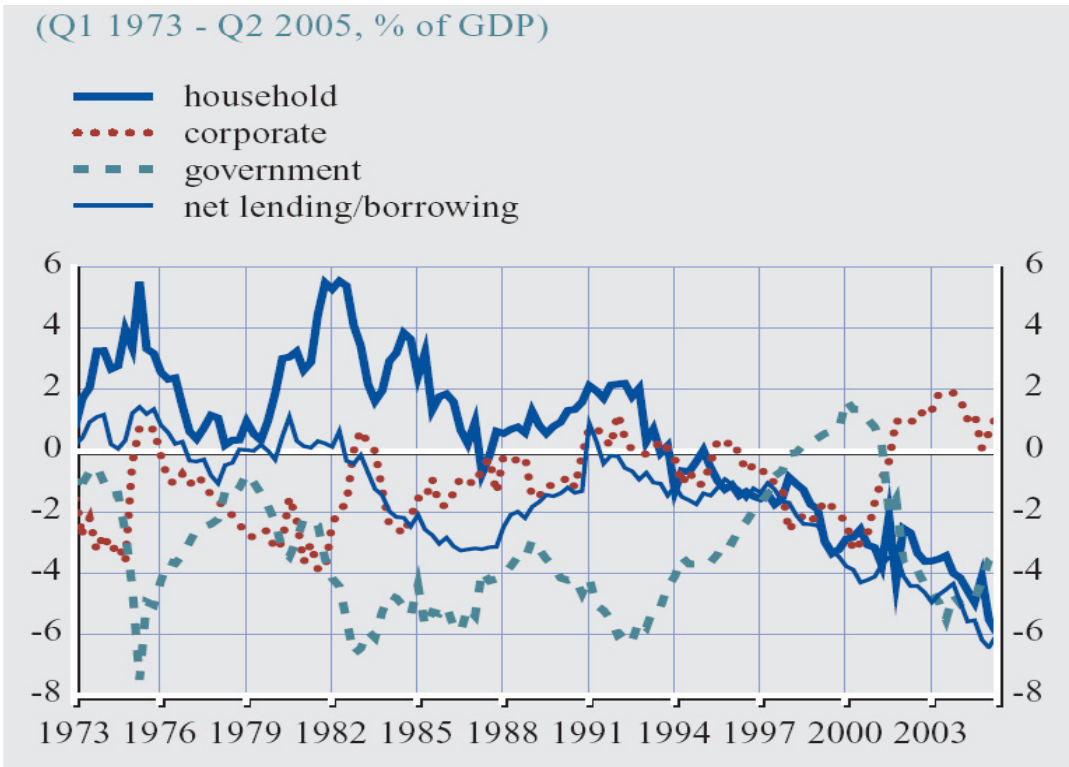


Chart 7
US external assets and liabilities relative to GDP

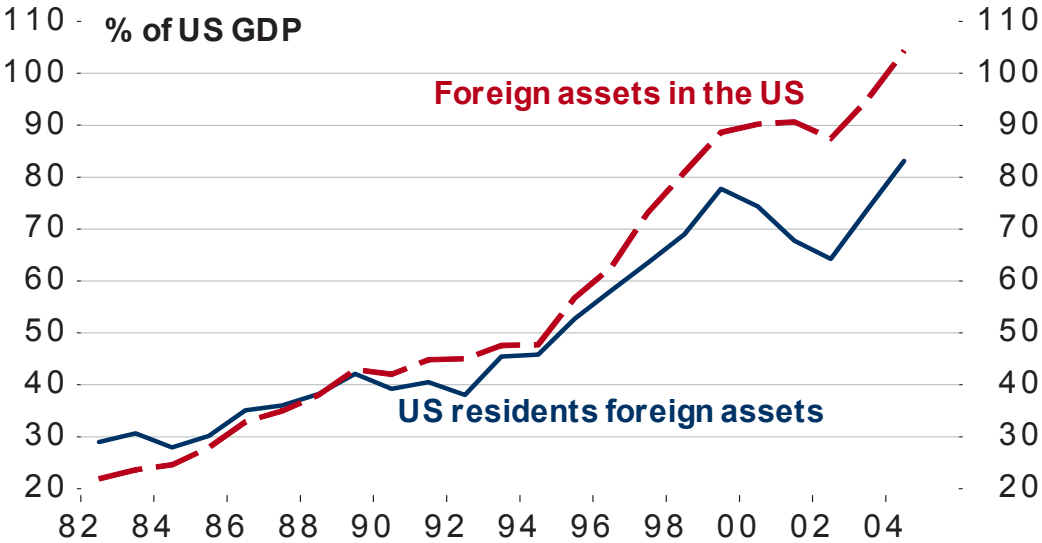


Chart 8
US net external debt

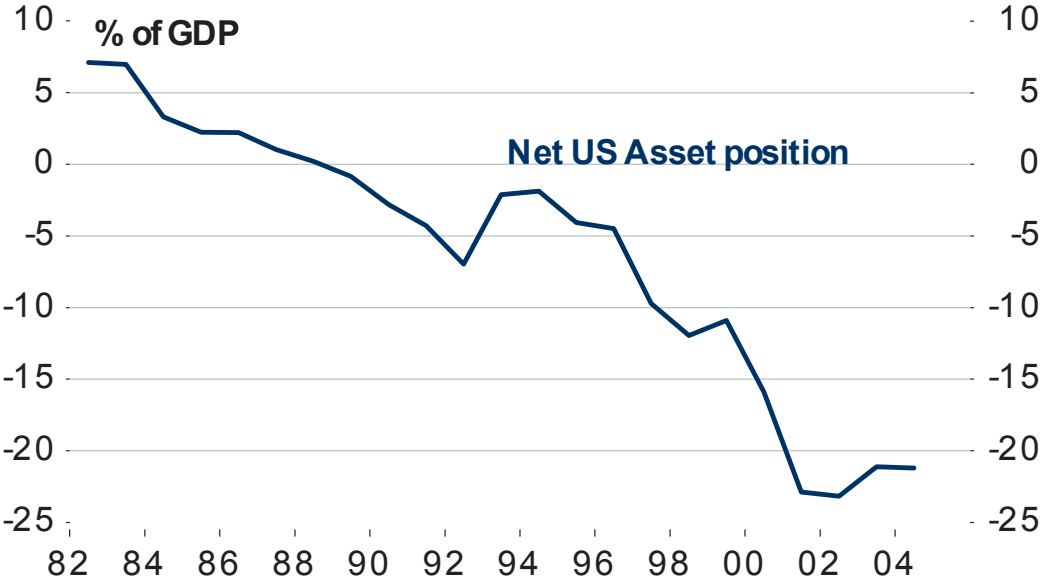


Chart 9
US dollar real exchange rate 1973 – 2003



Chart 10
US 10-year bond yields & Fed Funds rate: January 2001 to present

