World Economic Imbalances and the Impact of Adjustment

1. Introduction

Current-account balances are at present very unevenly distributed across the world economy. Many economists, including Obstfeld and Rogoff (2004) and Blanchard, Giavazzi and Sa (2005), have expressed their deep concern about the situation and expect adjustment to take place with a large probability. This process would be associated with large movements in exchange rates as shown in many empirical papers examining the current account adjustment periods, see. E.g. Croke et al (2005) or Debelle and Galati (2005). We share this view, and in this paper we aim to study the nature of the imbalances and the consequences of their adjustment with the aid of a global macroeconometric model. To that end, we employ the National Institute Global Econometric Model (NiGEM), which describes the economy in a more detailed way than the models used by the aforementioned authors; see, e.g., Barrel et al. (xxxx). This approach allows us to determine possible consequences of global rebalancing from a European perspective in a detailed way.

The US currently has the world's largest current-account deficit, the financing of which requires around two thirds of the cumulative current account surpluses of all world's surplus countries (Summers 2004). This uneven distribution in international current-account balances reflects, in principle, low saving in the US and very high saving elsewhere on average. The Euro Area, Japan, Russia and OPEC countries are very good examples of high-saving regions. In China, the national savings ratio is as much as 41 per cent.

The current U.S. saving-investment situation differs from the difficult "twin deficits" case of the 1980s characterized by large current-account and budget deficits. The situation today is one of "triple deficits," with households, the government and the current account all in deficit. This setting serves in defining plausible shocks that could potentially impact the economy, and the various adjustment paths that may result in a more balanced global situation.

Before engaging in the simulation exercises, we seek to present a more precise picture concerning the risks behind the imbalances by closely examining trends in debt accumulation across different sectors.

2. The Nature of the Global Imbalances

2.1. External Imbalances Mirror Internal Ones

Consider the basic identity of open economy macroeconomics, i.e., the saving-investment balance,

$S - I = X - M$.

Adding a government sector, we obtain the twin deficit identity:

$(S_p - I_p) + (T - G) = (X - M)$,

where the subscript p denotes a variable for the private sector and T and G are general government income and expenditures in all forms.

If we divide the private sector into enterprises (e) and households (h), we get

$(S_h - I_h) + (S_e - I_e) + (T - G) = (X - M)$.

Here the difference between national saving and investment has been disaggregated into the household, enterprise and general government sectors. In calculations throughout this paper, we have defined residential investment as household investment. The enterprise sector's balance $(S_e - I_e)$ is calculated as the difference between the private sector balance $(S_p - I_p)$ and the household balance $(S_h - I_h)$. All balances are expressed as a percentage of GDP.

2.2. Global Imbalances Highly Reflected in US Current-Account Deficit

Global savings imbalances are reflected especially strongly in the large and deepening US current-account deficit. The deficit last year is estimated to have widened to around 5.5 per cent of GDP, which is alarmingly large from a single country's perspective. Large and recurring current-deficits have had a substantial impact on the indebtedness of the US economy since end of 1990's. This effect has in recent years been cushioned by the depreciation of the USD. In contrast to most other countries during currency depreciation, a fall in the USD would reduce the United States' net external debt since liabilities are priced in dollars while most assets are

priced in foreign currencies (Tille 2003 and Cavallo 2004). However, the ratio of net foreign debt to GDP reached record levels for the U.S. by the end of 2003, climbing to

around 25 percent. In addition to impacts from exchange rate movements, asset valuations can also change if the prices of assets like equities or bonds change.

The external situation is, however, more risky than can be seen from the US perspective as such. The USA accounts for around 25 per cent of world GDP measured at current exchange rates. Thus, a current-account deficit of five percent of GDP means an absolute gap of approximately USD 650 billion. In other words, financing the US current-account

Current Account in Selected Countries
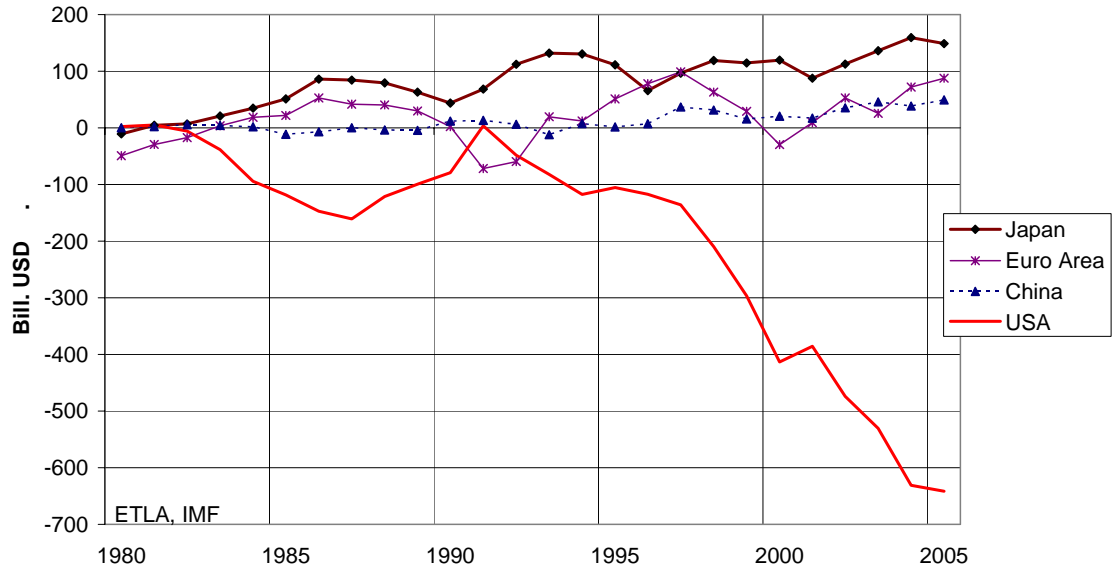
US Real and Nominal Effective Exchange Rates and the USD in Euros (ECUs up to 1999)
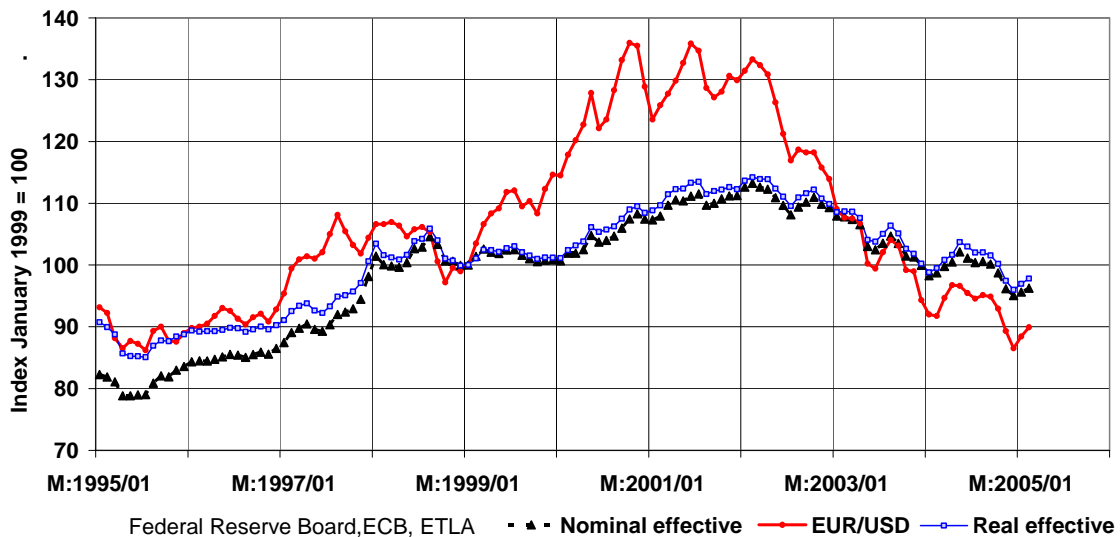
deficit requires about two-thirds of the rest of the world's current-account surpluses (Summers 2004). The USA has the largest bilateral trade deficit vis-à-vis China. China, on the other hand, has a surplus in its overall current account as do the Euro Area and Japan. The financing of the US current account has in recent years shifted from private investors towards central banks that peg their currencies to the USD. (see e.g. Higgins and Klitgaard 2004)

The most obvious risk concerns how long the current account can be financed without substantially higher interest rates. The revaluation of the Chinese renminbi (floating would be very harmful in the short run due to, e.g., the fragility of the Chinese financial sector) would according to Blanchard et al. (2005) lead to a substantial revaluation of the euro as the preferences of the average investor would shifts towards that currency. However, as shown by Al-Eyd, Barrell and Pomerantz (2005), it appears that exchange rate movements, caused by, for example, changes in risk premium or monetary policy stance, would not correct the U.S. external imbalance permanently as" the price level induced has no real effects o the domestic economy" (Al-Eyd et al. 2005). A permanent reduction in external balances requires adjustment in international saving patterns. The depreciation of the USD is in most cases an important byproduct of the adjustment process.

In the next section, we look at the US imbalances more carefully and study the implications of global rebalancing using the NiGEM model. Special emphasis is placed on impacts on the Euro Area economy.

2.3. U.S. Sectoral Imbalances
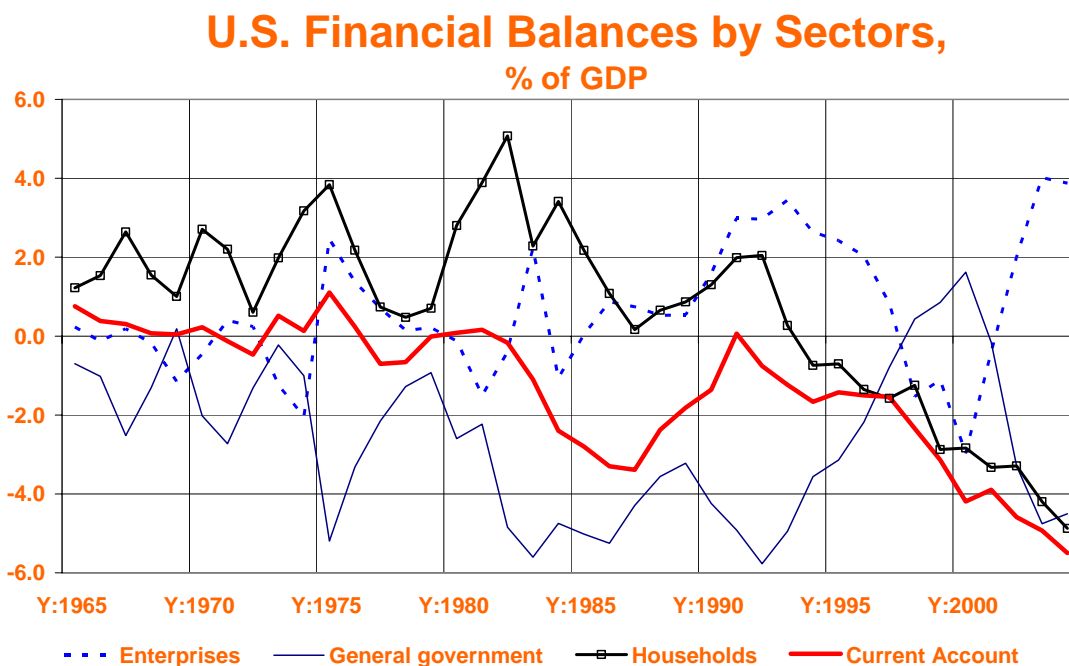
The recent US recovery which started at the end of 2001 has been very exceptional in many respects. Growth has been clearly weaker compared to previous recoveries. Economic growth has been driven particularly by consumer spending, while employment

gains have been modest. Inflation has been subdued until recent months, when underlying inflationary pressures began to strengthen.

USD Trade Balance by Selected Countries or Areas

Total Deficit 2003: 547.6 Billion USD, 5 % of GDP
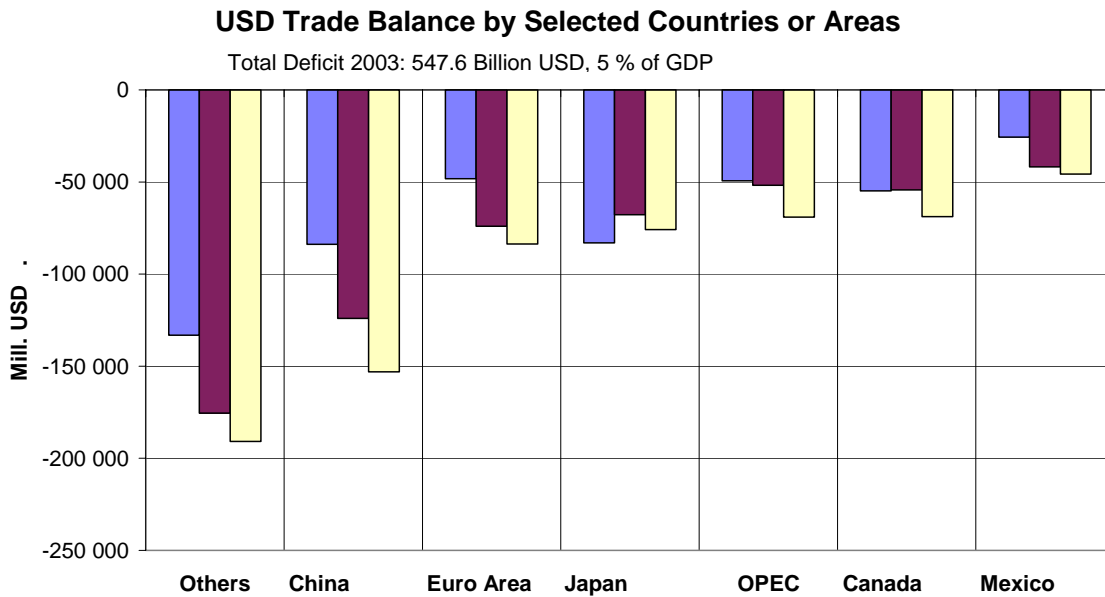
Economic Report 2005, ETLA   □ 2000 ■ 2003 □ 2004*   * First 3 quarters at annual rate

The current-account deficit improved only slightly when the economy reached its most recent trough in 2001 and has deepened with alarming speed during the current recovery.

U.S. Trade Balance by Major Component

Percent of GDP
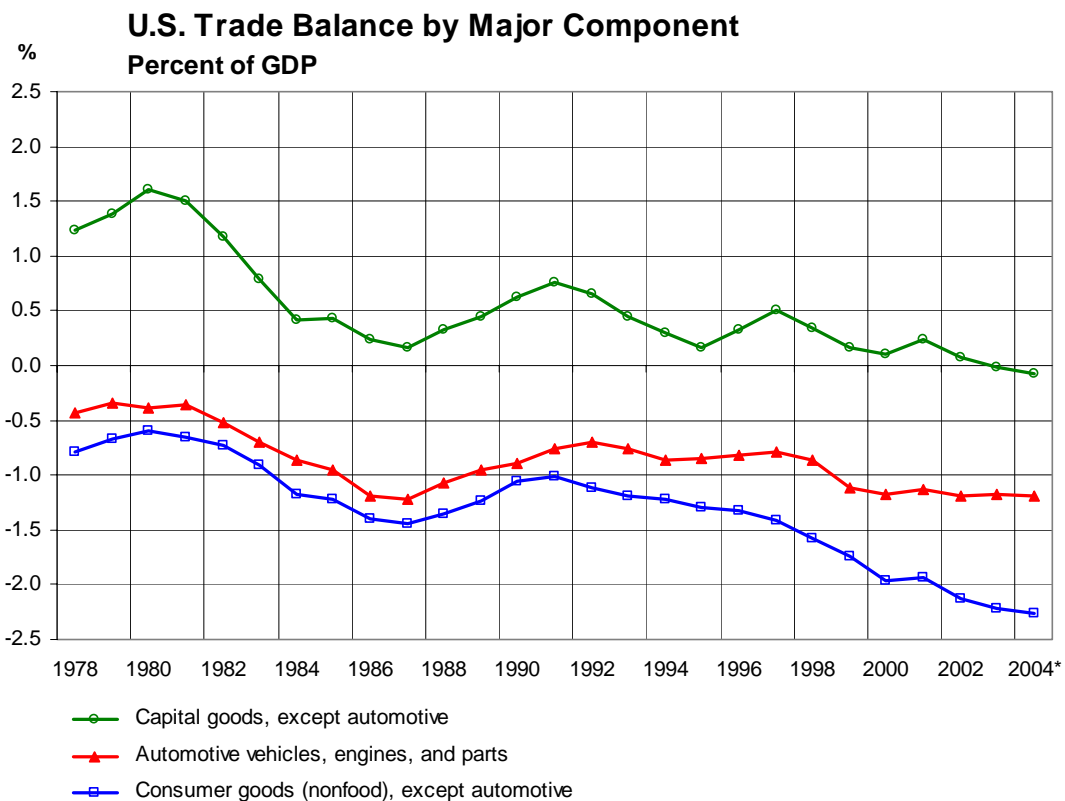
- Capital goods, except automotive
- Automotive vehicles, engines, and parts
- Consumer goods (nonfood), except automotive

One third of the deficit is according to Farrell et al (2005) due to the rising internal trade of US multinationals. This trend is expected to continue as multinational firms opti*mize* their global production in a globalizing world.

A closer look at the US saving-investment balance shows triple deficits rather than twin deficits. More specifically, although the deficit of the private sector as a whole (households and businesses) is currently small, this hides wide differences existing between household and business financial positions. Decomposing the private sector into households and enterprises shows that the household sector is now in deep financial deficit, in stark contrast to the situation of the 1980s. Private consumption has obviously played a very important role in the current-account deficit. While the deterioration in households' aggregate financial balance, which began in the early 1990s, has continued unabated during the current expansion, the business sector has implemented measures to bring its financial balance into considerable surplus in recent times.

The US Nonfinancial Debt per GDP
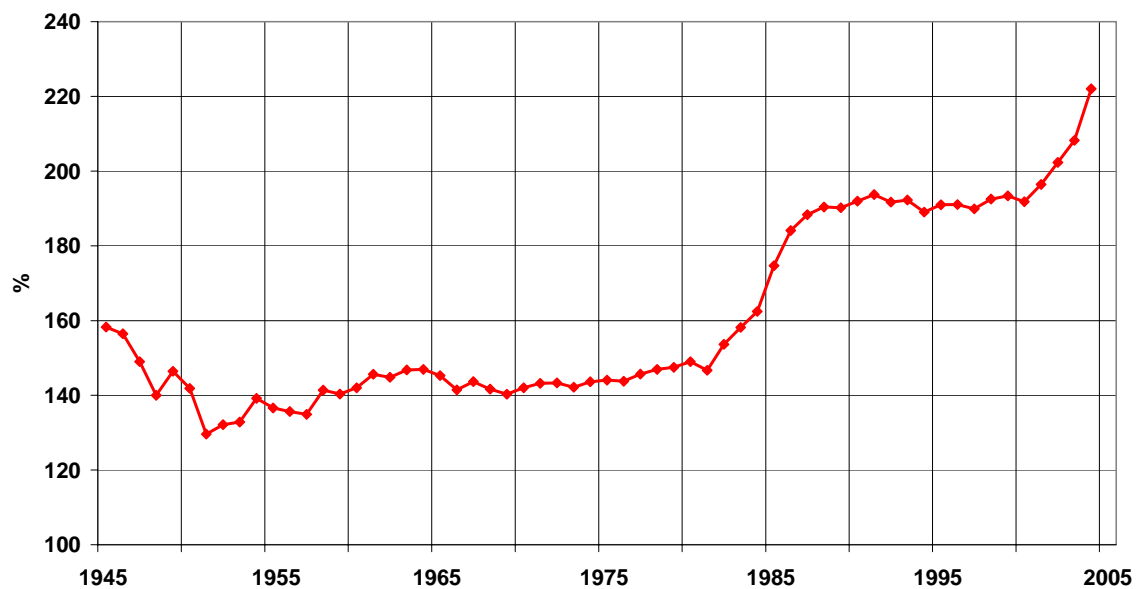
US growth since the last recession in 2001 has been debt-driven as was the case in the 1980s. Total nonfinancial sector debt as a share of GDP remained on a rather stable level from the beginning of the 1950s up until the early 1980s. In the 1980s, the debt ratio rose by around 45 percentage points as general government debt rose substantially. Following a pause in the 1990s, the debt ratio has started to rise strongly again in the 2000s, climbing by more than 30 percentage points between 2000Q1 and 2004Q3. This development has been led by rapid accumulation of consumer debt. Government debt, which declined in late 1990's and early 2000's has also started to increase notably, while the growth of debt in other sectors has been more modest in relation to GDP.

Though rising debt per se is not necessarily problematic, it cannot rise indefinitely relative to income. Moreover, the source of debt growth does appear problematic in the sense that it stems primarily from consumption at the expense of investments, the latter of which would generate the income needed to repay the debt. The share of consumption

Debt by US Nonfinancial Sectors, % of GDP

Federal Reserve, BEA, ETLA

Households — Nonfinancial business — General government — Rest of the world
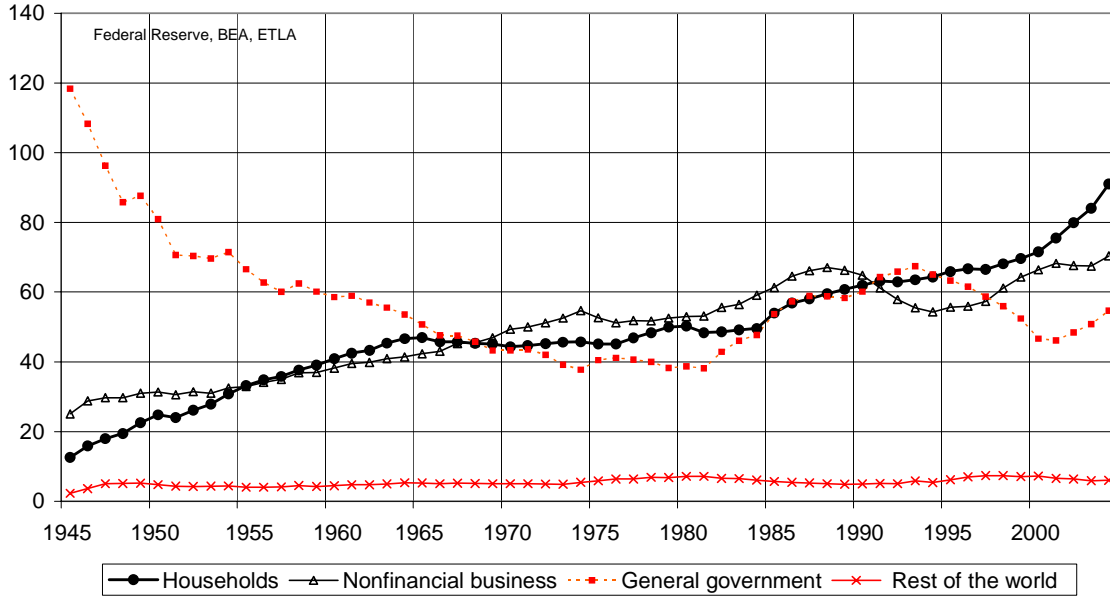
(private and public) in GDP has jumped to around 70 per cent of GDP from approximately 65 per cent in the mid-1980s. Investments have typically rebounded during economic upturns. During the current upswing, however, investment has been relatively weak.

US Debt by Nonfinancial Sectors

% of GDP

Household sector

Nonfinancial corporate business

Federal government

Nonfarm noncorporate business

State and local governments

Rest of the world

Farm business
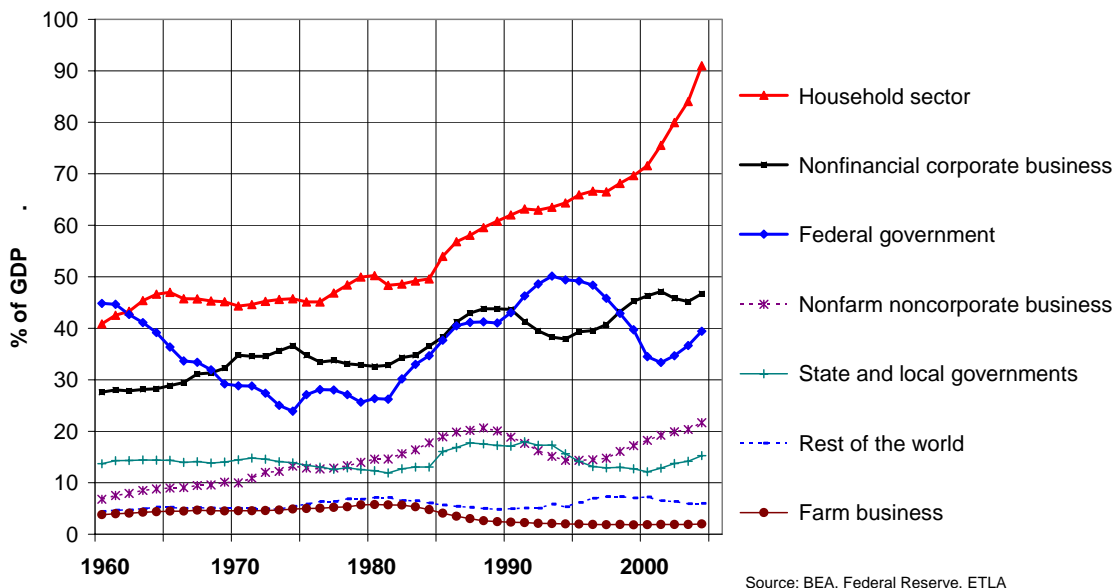
Source: BEA, Federal Reserve, ETLA

Households

Consumer spending has been strongly debt-driven since the 1980s. The personal saving rate has dropped to near zero and debt in relation to disposable income has risen rapidly at least since the early 1980s. This debt ratio has risen steeply during the past five years, reaching a level just shy of 120 percent by the end of 2004. The strong increase in debt witnessed since 2000 has been led primarily by mortgage borrowing, while consumer credit debt has increased more moderately, in response to stimulatory monetary policy.

Value Shares of the US Consumption and Gross Investments, % of GDP

Consumption, axis to the left — Investments, axis to the right
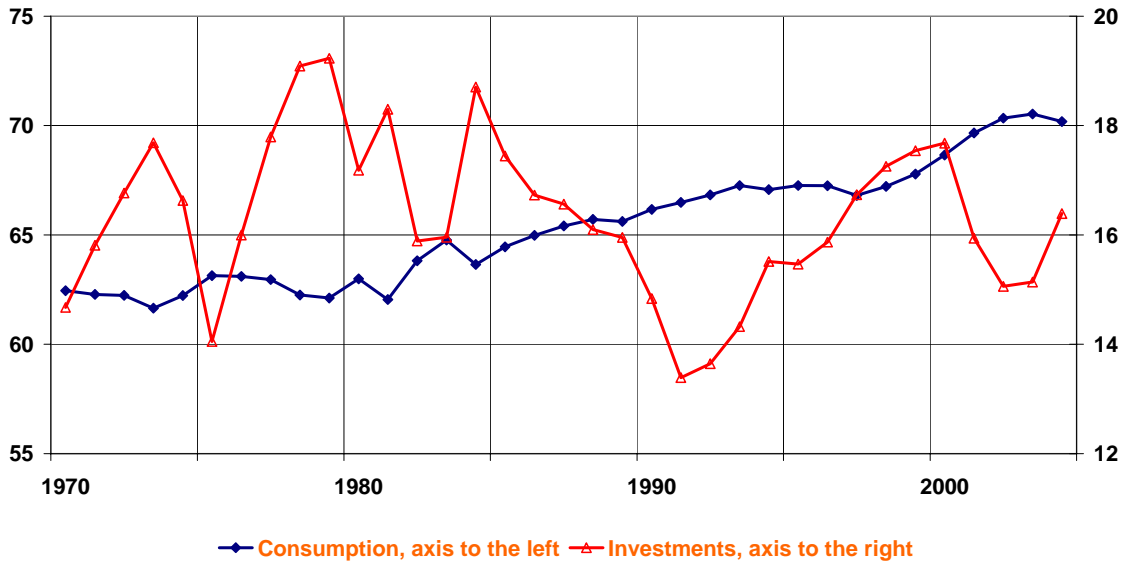
At the same time, debt-service ratios have remained rather stable on a high level. This is

U.S. Debt of Household,
% of disposable income

Sources: BEA, Federal Reserve, ETLA

Total debt, scale to the left — Debt services, narrow — Debt services, broad
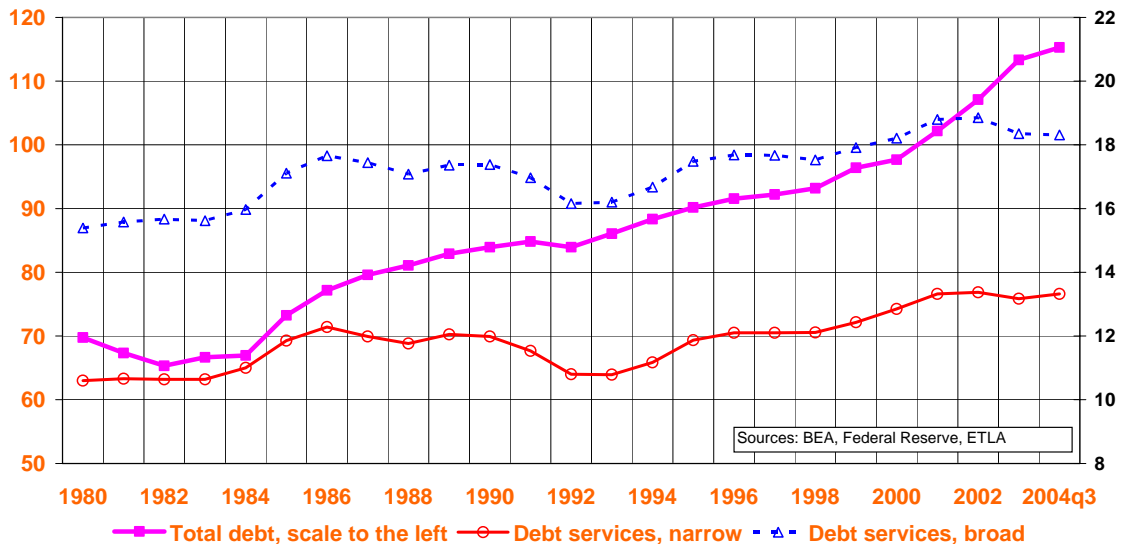
due to lower interest rates, which reduced the cost of new debt and the restructuring of old loans. Since the summer of 2004, these effects have been much more difficult to achieve, and debt-service burdens are slowly turning upwards.

The Value of Households' Real Estate and Corporate Equities*

* Real values derived using the deflator for private consumption expenditures
Source: Flow of Funds (Federal Reserve Board), and BEA
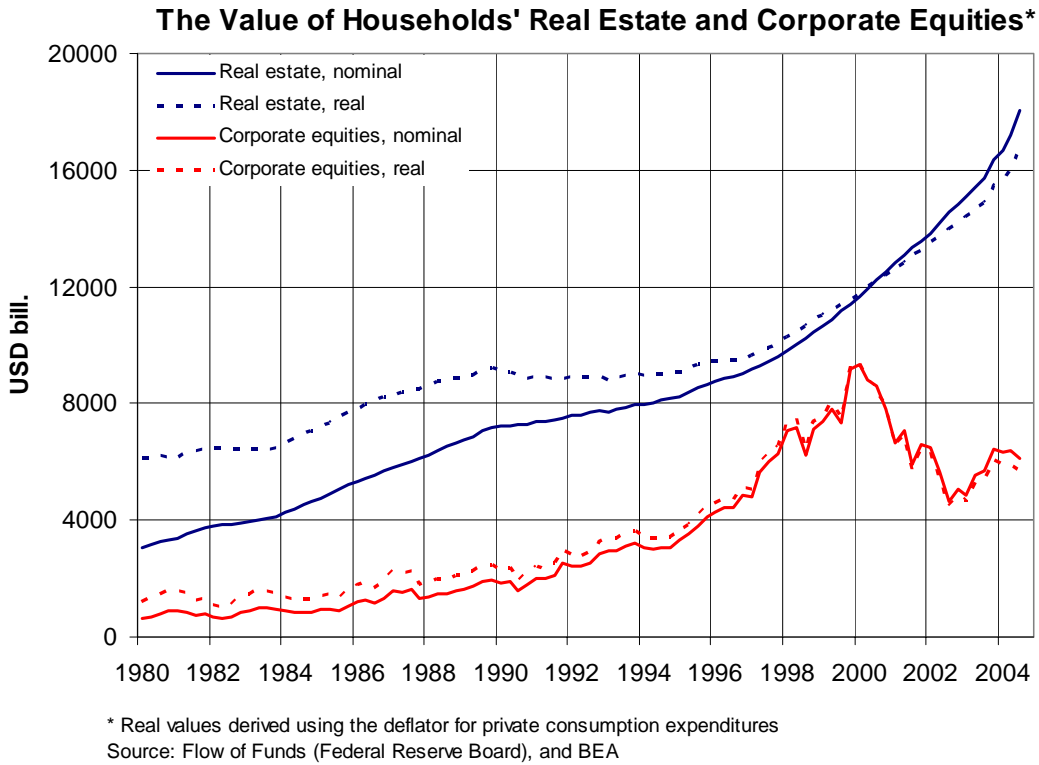
The financial position of households, measured by the debt-asset ratio, deteriorated

U.S. Household Debt to Assets Ratio

Federal Reserve, ETLA
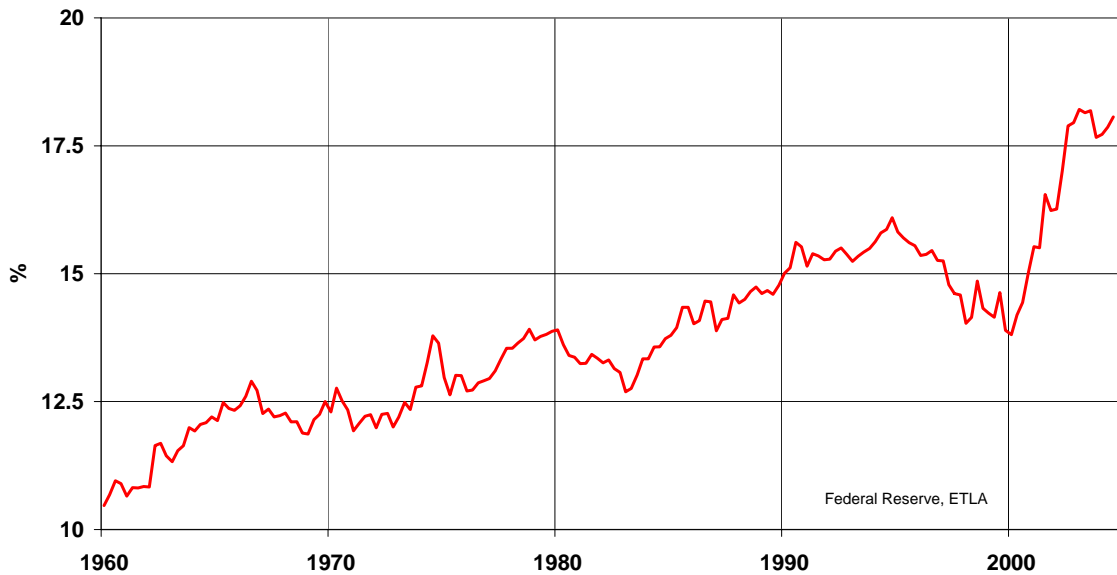
rapidly in 2000-2003 in spite of the strong rise in housing prices and households' real

estate values. One reason for this was the sharp decline in stock prices, which reduced corporate equity values, and the simultaneous rapid increase in debt. The debt-asset ratio has more or less stabilized at a high level over the last two years, supported by generally rising corporate equity values in addition to sustained rapid growth in real estate values. Households have been a driving force behind developments in foreign trade imbalances. Consumer goods (excluding food and automotive vehicles) are estimated to have accounted for approximately 50 percent of the trade deficit in 2004 (available data cover the first three quarters only). The trade deficit in automotive vehicles and parts alone stood at USD 140 billion, explaining about a fourth of the deficit that year.

General Government

While the widening deficit of the federal government has raised general government debt, the level is not yet alarmingly high in relation to GDP. A pronounced decline in the debt ratio was observed during the long and robust growth period of the 1990s. The recent steep upward trend is, however, worrisome because the aging population and related future obligations will spawn immense pressure on government expenditure.

The government is planning to reform the pension system and also to reduce the deficit quickly. How well these plans proceed is still unclear as many of them are politically difficult to achieve and the costs of security are rising to a high level. Most states are required by law to balance their budgets. Following virtually stagnant growth in state expenditure during 2002-2003, spending appears to be picking up again, financed primarily by increases in tobacco and sales taxes, and to a lesser extent in personal income taxes.

US General Government Debt and Deficit

BEA, Federal Reserve, IMF, ETLA
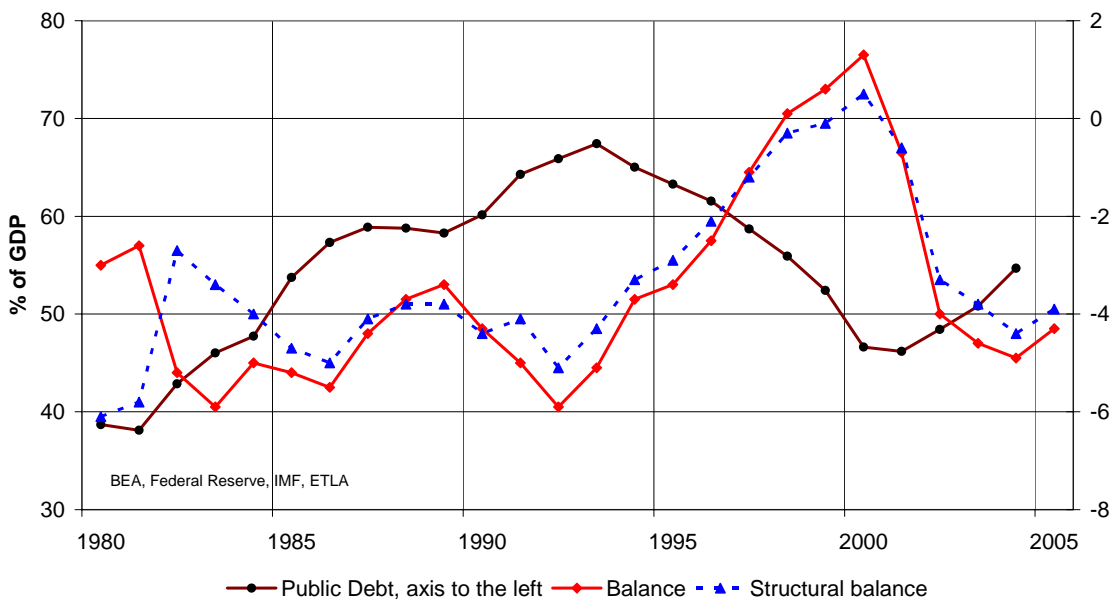
Nonfinancial Business or Enterprises

The debt of the enterprise sector, which includes also noncorporate nonfarm business and farm business, is dominated by nonfinancial corporations. This sector has improved its financial balance considerably during the current weak upturn as can be seen from the chart on page 4. The improvement in the sector's financial balance reflects comparatively low investment activity, slow employment growth and rising profits.

The US business Cycles by Troughs: Private Investment
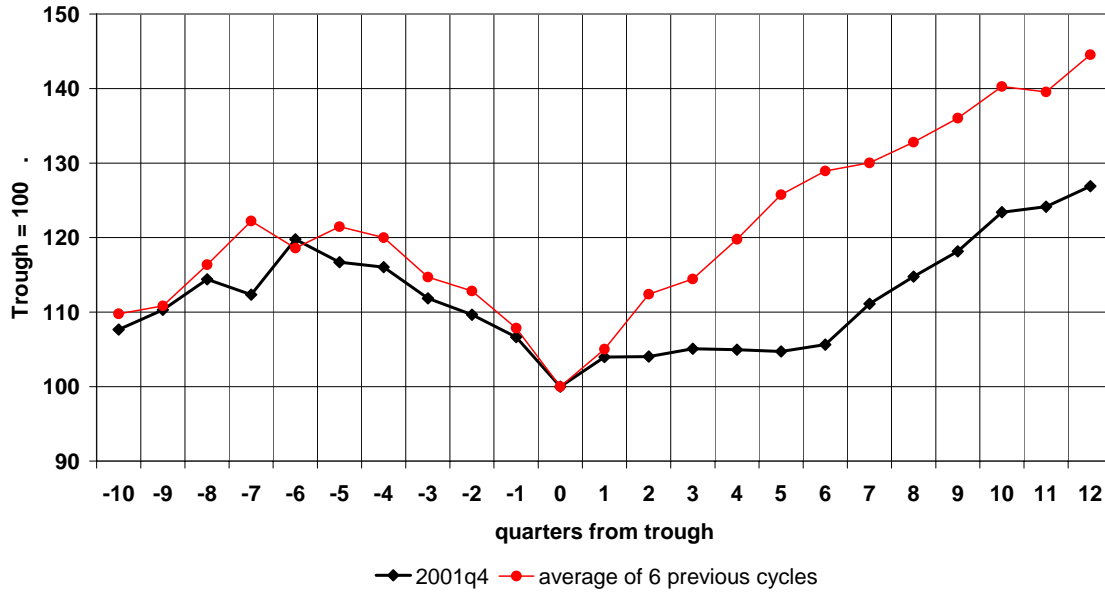
The restrained pace of business investment is somewhat surprising, given that interest

The US business Cycles by Troughs: Private Non-Residential Investments
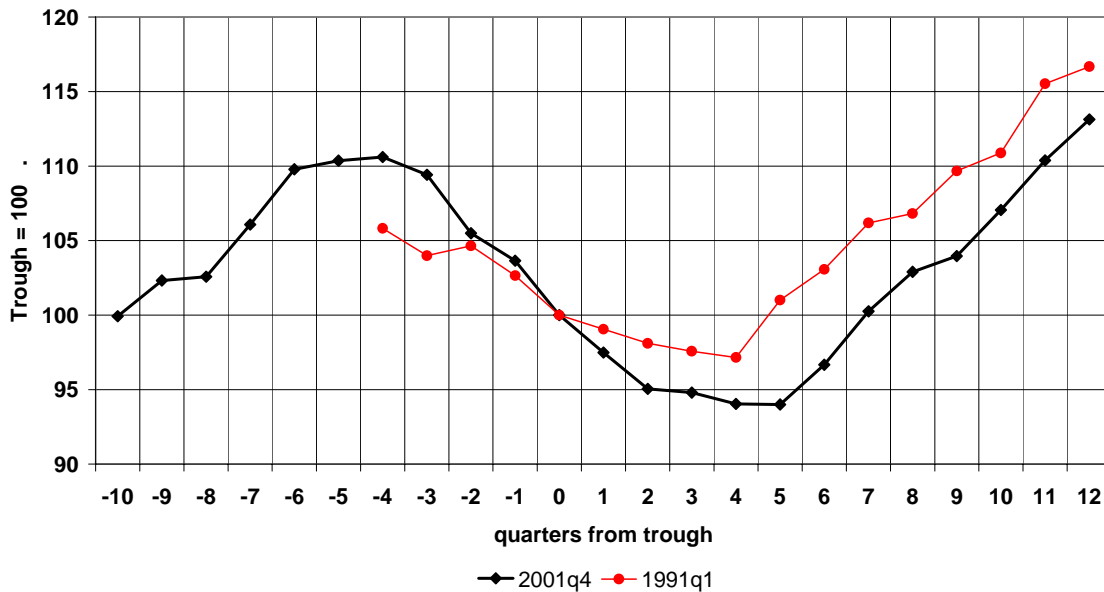
rates have been very low. The behaviour of investments in the current cycle has been very similar to that in the previous cycle of the early 1990s. Investment activity in the business cycle of the early 1990s was also more moderate compared to investment patterns seen during the previous five expansions. The investment recovery solidified considerably last year, which is a promising sign in favour of the "muddling through" perspective embedded in the baseline forecast.

The US business Cycles by Troughs: Employment

3. Effects of Global Balancing May Be Substantial

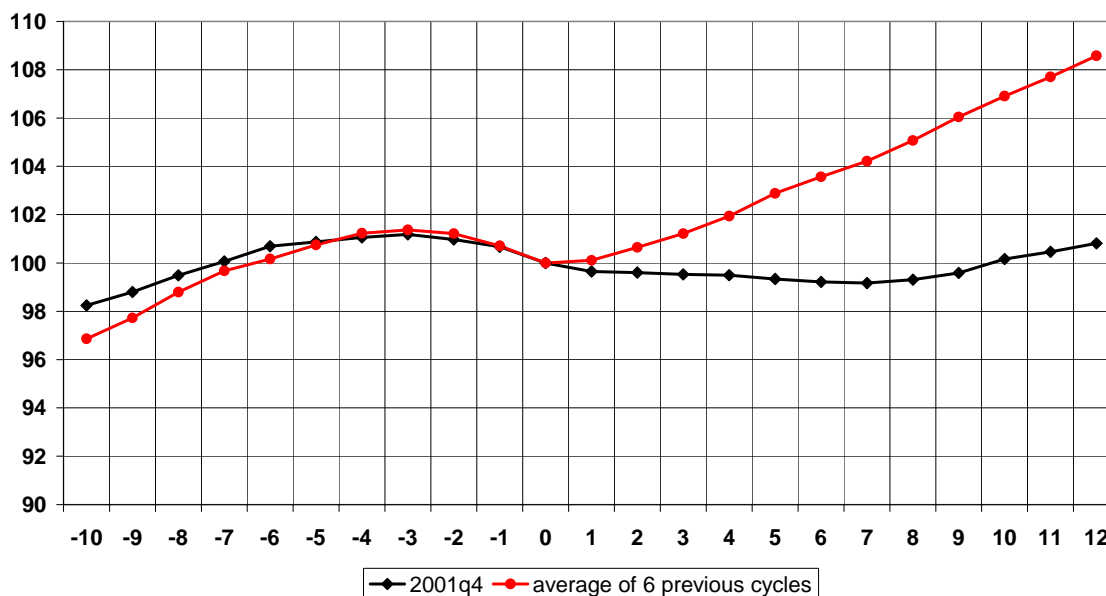The current global imbalances and their consequences can be reviewed with many different frameworks. We apply here a global macroeconomic model, NiGEM, but pay also attention to the interesting frameworks presented recently by Blanchard, Giavazzi and Sa (BGS, 2005) and Obstfeld and Rogoff (O&R 2004).

3.1. Framework of Blanchard, Giavazzi and Sa: A Dollar Depreciation of 40-90%

Blanchard, Giavazzi and Sa (2005), henceforth BGS, build a portfolio balance model for exchange and current account determination in the tradition of the early 1980's. It is a general equilibrium model with two countries, two goods and assets. Domestic (U.S.) and foreign (rest of world) goods as well as assets are assumed to be imperfect substitutes. As a consequence of this home bias, neither the purchasing power parity nor the interest rate parity hold. A decrease in wealth (in equilibrium equal to the current account balance) of a country leads to decrease in the demand for domestic assets, which calls for the decrease in the exchange rate.

The current account balance in a certain period is the sum of the return on the net foreign debt, the trade deficit and a valuation effect. The valuation effect takes into account the exchange rate change effect on the value of the stock of assets. This effect differs substantially between the USA and other country as the US dollar dominates the central bank reserves and it is the main denomination currency in foreign trade, debt and assets. This means that a depreciation of the US dollar increases the value of the US international assets in USD, while the value of the liabilities stays rather stable (See e.g. Cavallo 2004).

In equilibrium, the US trade balance should equal US savings as there is no investment in the model. Thus, when savings decrease to reduce the trade deficit, the exchange rate must depreciate. If not a correction of trade deficit would lead to a decrease in output.

Applying the model to the US and global data gives as result that a percentage point decrease in trade balance calls for 15 % depreciation of the dollar if valuation effects are not taken into account and a smaller depreciation if valuation is taken into account. The authors stress also the net interest rate payments, which favours the U.S and growth as factors that could further diminish the need for depreciation. Their estimates for these effects are 8 and 10 per cent, respectively.

In the current situation, the depreciation required to balance the current account or keep the deficit constant on a sustainable level would range from 90 to 40 % (!) depending on the assumptions and the assumed required adjustment in the current account.

Blanchard et al are not able to discuss much about the effect on the other countries as they are still developing their model to include more countries. However, they tentatively discuss the effects on euro and yen. The implied exchange rate changes depend on the changes of wealth. In the current situation, the main change of wealth is from the USA to Asia as the main US current account deficit is vis-à-vis Asia. Thus, Asian currencies, which currently peg their currencies to the USD, would revalue the most. The implications for the euro depend on the US and Asian asset preferences with respect to euro (i.e. the size of home bias). If they are similar, then euro should not face a large pressure to revalue. However, if one of the main alternative to the US bonds are euro assets, then euro will feel the pressure to revalue. Floating of the renminbi as such would not diminish the pressure on the euro if it would mean a shift of preferences towards euro. In case of a revaluation of the renminbi, the euro would appreciate as relative demand for euros is increasing due to the fact that "the investor with extreme dollar preferences exits the market".

The message of BGSA is clear: the dollar will depreciate still rather significantly especially vis-à-vis currencies of countries that have accumulated substantially USD denominated wealth while pegging their currencies to dollar.

This is not necessarily catastrophic for the USA as it "leads to higher demand and output in the USA and offers an opportunity to reduce the public deficit without recession. However, the Euro Area and Japan are vulnerable for this kind of shock. The policy response there should include looser monetary and fiscal policies, which would be difficult given low interest rates and problems in the public sector balances.

3.2. Obstfeld and Rogoff: A Dollar Depreciation May Rise to Two-Thirds

Maurice Obstfeld and Kenneth Rogoff (2004)(O&R) rectify their previous assessment of the fall of the dollar needed to bring the US current account back into equilibrium. They utilise a new two-country two sector general equilibrium model. The sectors are tradables and non-tradables.

O&R calculate how much the dollar has to depreciate in order to restore balance in the current account, while keeping the non-tradables goods market in equilibrium. To reduce the US current account deficit to zero, two relative prices have to change to induce demand by US consumers for US produced tradables to fall and the demand for US produced tradables by foreign consumers to rise. Because O&R assume that US consumers have a relatively large preference, "home bias", for US produced tradables, less US produced tradables are available for export. Since US consumers prefer to consume US produced tradables the price of US-produced tradables has to fall relatively more than the price of foreign produced tradables in order to induce the rest of the world to shift to the consumption of US produced tradables. This fall in terms of trade may happen through a nominal depreciation of the dollar (likely), but also through changes in relative export prices measured in local currency. Because goods markets react slower than financial markets (including the foreign exchange market) in the short to medium run a real depreciation of the dollar results. In the (very) long run the nominal exchange rate change will be equal to the change in the relative price levels of the two blocks such that the real exchange rate is unchanged. However, in the end, the US produces relatively more tradables and sells these to the rest of the world. The deficit on the US current account declines.

O&R regards as most reasonable scenario includes the rise in relative US saving to balance the current account, which will also lead to a large reduction in US consumers' demand for non-tradables. There will also be significant increase in the demand for foreign non-tradables. The effect on the real exchange rate of changes in relative prices of non-tradables is reinforced by the fall in the US terms of trade.

O&R conclude in their base scenario that the potential real effective depreciation of the dollar needed to bring the US current account back into balance will be about 34%, which would imply nominal depreciation of around two thirds. If the substitution-effects between tradables and non-tradables and between US and foreign produced tradables are bigger (smaller) than in the base scenario, the potential real effective depreciation of the dollar will be the smaller (bigger).

Nominal Exchange Rates Depreciate Significantly

The size of the nominal effective dollar depreciation depends on the degree to which exchange rate changes are passed through to consumers and the elasticity of substitution between tradables and non-tradables. O&R themselves think of a pass-through in final goods prices of 50%. In that case the nominal effective dollar depreciation will be double the real effective dollar depreciation (67% as its highest). Note that it matters in which currency the exchange rate is expressed. For example, during the period February 2002-December 2004 the euro per dollar declined from 1.15 to 0.75, a percentage decline of

35%; the dollar per euro increased from 0.87 to 1.34, a percentage increase of 54%. An effective nominal depreciation of the dollar of 68% implies a tripling of the value of the trading partners' currencies against the dollar: (1/(1-0,68))*100%=312,5%). What does this mean for the bilateral dollar per euro exchange rate? If the euro has to carry the whole burden of the exchange rate change, then this would imply that the euro exchange rate additionally has to be multiplied by a factor five (the weight of the Euro area in the effective exchange rate calculation of the dollar according to a broad index is 18.8%).

3.3. Several Factors May Buffer the Dollar's Fall

There are several factors that could reduce the implied magnitude of depreciation. Some of these factors will be included in the models in the future, while others are difficult to handle with these models. Different assumptions of, for example, the size of the parameters can also yield different conclusions with respect to the potential magnitude of dollar depreciation. One of the biggest drawbacks from our point of interest is, however, that these models concentrate mainly on the USA and the rest of the world and leave out the Euro Area as a separate entity. These issues are tentatively discussed.

First, the euro does not have to carry the full burden of the dollar depreciation even if the Chinese renminbi is not revalued. There are also other currencies which are not pegged to the dollar or their peg is loose like the British pound and Japanese yen. Second, if labour and capital are mobile across sectors and across countries, the dollar depreciation needed to clear the markets for tradables and non-tradables will be smaller in the longer run. Third, according to O&R, the more the rest of the world can raise productivity vis-à-vis the USA in non-tradables, the lower the need for a fall in dollar exchange rates. Similarly, a catching up in the rest of the world's productivity in tradables production would worsen the U.S. deficit, while a productivity increase in U.S. tradables would reduce the deficit.

There are other factors that could moderate the size of the necessary dollar adjustment. A current-account deficit of 2.5 to 3% of GDP would already be sustainable. Thus, the deficit does not need to be fully eliminated, a factor which also implies smaller depreciation of the dollar. Fifth, changes in expectations, which are not included in either of the models, could lead to higher interest rates, which would discourage domestic expenditures, raise domestic savings and speed up the reduction in the current-account deficit. Sixth, to the extent that the increase in the US current-account deficit has been caused by transitory factors such as a rise in oil prices, the need for the depreciation of the dollar is probably overestimated. Seventh, as the dollar has already appreciated substantially, the so-called J-curve effect, i.e., import prices react more quickly than volumes, should diminish the need for depreciation of the dollar. Eighth, the pass through of the very large exchange rate movements considered in the base scenario would be faster and larger were such sizeable exchange rate movements to occur. Consequently, the nominal effective depreciation of the dollar will then be smaller. Finally, in the BGS model a decrease in portfolio preferences among international investors with respect to dollar would lower the dollar depreciation needed to make the current-account deficit sustainable.

4. Simulations Indicate Large Changes in Allocation of Global Savings

In the literature examining the adjustment of the US current account deficit, e.g., Blanchard et al (2005) and Obstfeld and Rogoff (2004), emphasis is placed on the importance of adjustment in the domestic saving-investment imbalance. These studies show that a substantial adjustment is very probable and would be associated with large exchange rate changes.

In this context it is not clear-cut that the dollar/euro exchange rate has much further to fall even if the effective exchange rate would fall to ensure sustainability of the US current account. However, if the Chinese renminbi and other Asian currencies are not revalued, the euro exchange rate may come under greater pressure as demand for euro-based assets could easily rise as they are the main alternatives to assets denominated in the US dollars.

The current account balance is as such only a reflection of economic processes in the global economy. The balancing of world current accounts calls for a rise in domestic saving in the US relative to saving elsewhere. The US saving-investment balance shows triple deficits. In addition to deficits in the current account and general government finances, the financial balance of households (i.e. household savings can finance only a small part of residential investments) is also deeply in deficit. On the other hand, the business sector has implemented measures to bring its financial balance into considerable surplus in recent times. The large stock of debt accumulated by the external, government and household sectors with current large deficits make the US economy very vulnerable to shocks, and thus represent one of the key risks to the forecast. The asset liabilities ratios are to a large extent driven by changes in valuation, i.e., changes in equity and housing prices, which may change rapidly.

The role of economic policy is crucial in the adjustment processes. Policy makers may try to formulate polices in advance which ease the adjustment or they may only react to the possible and probable shocks. According to Al-Eyd, Barrell and Pomerantz (2005), using NiGEM results as a reference, policymakers can easily halve or double the effects depending on the policy assumption used. Assumptions and the forecast baseline is described in the EFN forecast (EFN 2005).

4.1. Effects of Balancing Greatly Depend on the Source of the Shock and on the Policy Reactions

We analyse the balancing using the NiGEM model and extend the analysis of Al Eyd, Barrell and Pomerantz (2005). They argue that an exchange rate shock alone or, more generally, a monetary shock would have sizeable short-term effects, but would not significantly improve the imbalances over the longer term. Shocks to the US such as tax increases, a decrease in housing prices or a sustained rise in the risk premium have permanent effects by changing behaviour. Naturally, a strong recovery in the Japanese and Euro Area economies would also balance the global situation in a favourable way.

It should be emphasized that the exchange rate is an endogenous variable (both in the model and the real world). It is not possible to give a simple answer to the question – what are the effects of a fall in the dollar? Effects will depend on the reasons for the fall.

For instance, it is possible that a monetary expansion in the US will cause the dollar to fall, but will expand world demand so much that Euro Area output could even rise. On the other hand, a fall in the dollar associated with weak US demand would be accompanied with a decline in output growth in the Euro Area.

According to Al Eyd et al., fiscal contraction in the US would reduce output growth and improve the current account. An autonomous rise in US saving would also reduce US output growth and have negative spill-over effects on the Euro Area. Monetary loosening in the US and a temporary rise in the risk premium on US assets would generate a fall in the exchange rate, with an immediate worsening of the trade balance due to the J curve effect, and the US current account would improve only temporarily.

The current exchange rate is an endogenous variable in a forward looking model, and the impact of a change in the risk premium, for instance, depends on the monetary response in both the US and the Euro Area. The effects of a given premium shock can be double or half those given here depending on the monetary policy responses of the FED and the ECB.

In the case of monetary easing in the USA, the Euro Area might experience an increase in growth, whilst in the case of risk premium shock the negative impacts of the appreciation of the euro would be offset by a fall in real interest rates.

## 4.2. The Effects of Changes in Domestic Savings

We have argued above that savings imbalances in the US are a major part of the imbalances problem, and thus we focus on changing the level of private sector saving in the US. Using NiGEM, we analyse the implications of a 10 per cent fall in house prices, and then a 10 per cent fall in both housing and equity prices. Finally, we simulate the effects of a rise in consumption in Japan and Europe.

In all three cases the US current account improves, but in the first two Euro Area output falls below its baseline trajectory because world demand is lower. The size of these effects depends on changes in (long-term real) interest rates and their impact on investment which partly offsets the fall in consumption.

The most important part of the model for the transmission of saving shocks is clearly consumption, especially in the US as shown in Barrell and Davis (2004). Changes in house prices feed into tangible wealth, and have five times the impact of a change in equity prices in the short run, but the same in the long run. A one per cent fall in real house prices reduces consumption by 0.15 per cent in the short run and by more in the long run even before the feed through effects on the rest of the economy are taken into account.
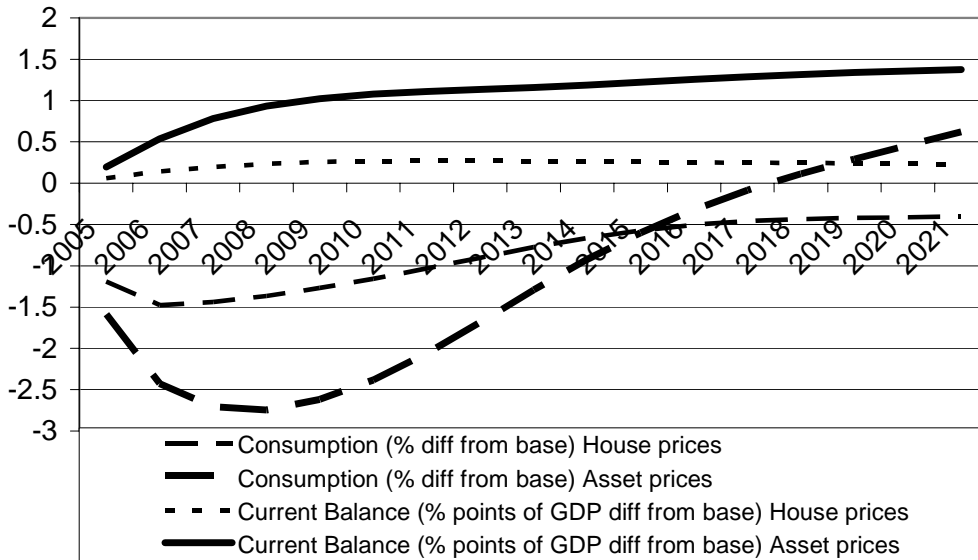
Effects of 10 per cent drop in the US housing prices on output in the USA and the Euro Area, (% difference from base)		
	Euro Area	US
2005	-0.1	-0.5
2006	-0.1	-0.6

During the last five years real house prices in the US have risen 25 per cent and household debt has expanded substantially by around 40 per cent in real terms. Both have reached levels which could lead to correction. We analyse a simulated fall in house prices of 10 percent at the beginning of 2005. A decline of this magnitude would reduce consumption by more than 1 per cent in the first a year and slow growth markedly, see chart on page 19. If it were accompanied by a similar fall in equity prices, the impacts on the US economy would be much larger, as we can see from the Chart below. A fall in

**Impacts of US Asset Price Falls on GDP**
(% diff from base)
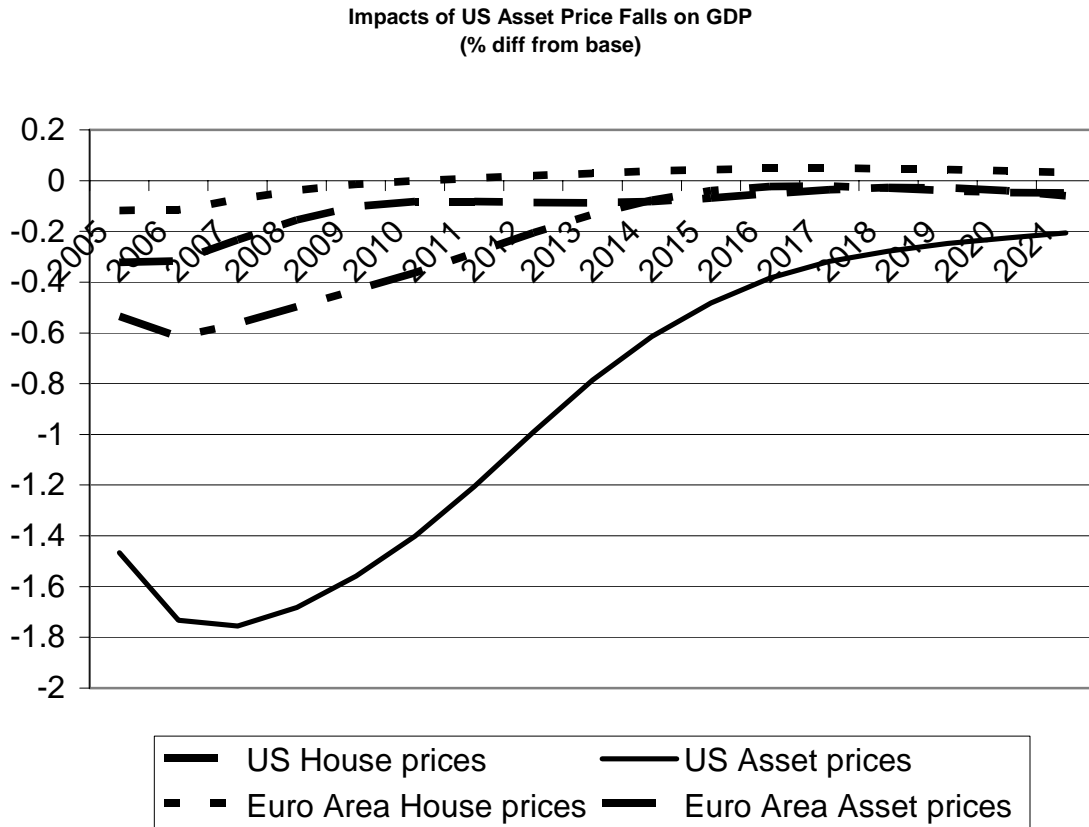
equity prices reduces both real financial wealth and the ability of firms to raise finance and hence would rapidly impact investment. Equity prices are a forward looking variable in our model, and we engineer a 10 percent fall by raising the equity premium, and hence the discount rate on future profits. A fall in saving in the Euro Area and Japan would have an expansionary impact on these economies, which in turn would reduce the current account imbalances between these areas and the US. The simulation is done by changing the intercept in the consumption equation for each Euro Area country. In the first year the saving rate falls by one percentage point. Falling saving rates lead to a reduction in wealth accumulation, which impacts the future path of consumption. Higher demand

Impacts of Asset Price Falls

- – – Consumption (% diff from base) House prices
- —— Consumption (% diff from base) Asset prices
- ···· Current Balance (% points of GDP diff from base) House prices
- —— Current Balance (% points of GDP diff from base) Asset prices

induces a rise in interest rates which would put upward pressure on exchange rates, and higher long rates would reduce wealth. These factors would help offset the initial expansionary effects on consumption and demand. Output growth would rise markedly in the Euro Area and Japan, but a stronger dollar and higher interest rates would weaken growth in the US. Chart a5 plots the impacts of these increases in consumption on the US current account.

Inrceased Consumption in Japan and the Euro Area
Impact on Current Balances
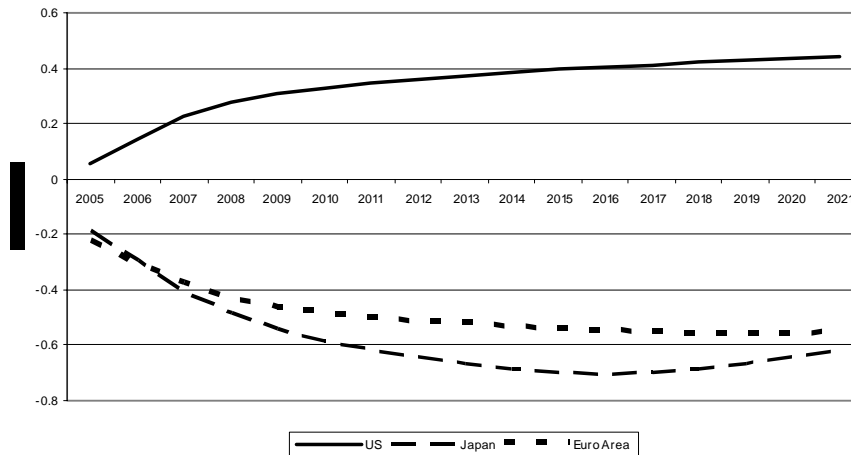
—— US   – – Japan   ···· Euro Area

Effects on Output of higher consumption in Japan and the Euro Area (% difference from base)			
	Japan	Euro Area	US
2005	0.9	0.3	-0.1
2006	0.6	0.4	-0.2

5. Conclusions

The current-account balance is as such only a reflection of economic processes in the global economy. The balancing of world current accounts calls for adjustment inside various economies: a rise in domestic saving in the US relative to saving elsewhere. The US economy faces the most severe economic imbalances due to the debt-driven nature of economic growth. In the USA it is the household sector that bears the main burden of adjustment, though the public sector also plays an important role.

The process of economic balancing will also entail adjustments in exchange rates. While some authors such as Blanchard et al. (2004) and Obstfeld and Rogoff (2004) expect huge depreciation of the dollar, our view is more modest. However, if the Chinese and other central banks continue to peg their currencies to the USD, the euro could appreciate substantially vis-à-vis dollar as euro-denominated assets are the main alternatives to dollar-priced assets.

If the adjustment process is triggered by higher household saving in the US caused by a decline in housing prices, the effect on euro area growth is large. This effect could be reinforced by the probable simultaneous decline in equity prices. A positive, though improbable, outcome would be one in which private consumption in the Euro Area and Japan rises suddenly.

The effects of balancing on the Euro Area can either be doubled or halved by the policy of the ECB. The optimal reaction of the central bank depends on the shock. A suitable reaction to an asset price decline in the USA would be to reduce the policy interest rate.

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