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**Article**

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## THE US CURRENT ACCOUNT DEFICIT: NO REASON TO PANIC!

BERNHARD GRÄF\*

While the dramatic widening of the US current account deficit in the last ten years gave rise to heated discussions in the market and in academic circles and resulted in a large number of publications on its long-term sustainability, people paid little attention to the recent improvement. After all, the US current account deficit fell by one percentage point to 5.5 percent of GDP in Q2 2007 from its previous peak in Q2 2006. And it is currently no less than 1<sup>1</sup>/<sub>4</sub> percentage points lower than the historic record of 6.8 percent of GDP in Q4 2005. For the full year of 2007 a US current account deficit of nearly USD 770 bn, i.e., 5.6 percent of GDP, is expected, falling from USD 811 bn, i.e., 6.2 percent of GDP, in 2006. In the medium to longer term, the decline in global imbalances is set to continue, thus reducing the risk to the international economy. Furthermore, it should ease the pressure on the single European currency. Thus there is no reason to panic.

In the following, the reasons for the change in the US current account will be examined using a model. On this basis, it is argued that the short-term improvement derived from the model is set to continue in the longer term, due to shifts in the investment/savings balance both in the United States and in the surplus countries.

### A model for explaining the pattern of the US current account

What are the major drivers of the US current account deficit and what needs to happen to bring it down? To answer this question, Deutsche Bank Research has developed a model to shed light on the US current account. We use the following variables that are standard in academic literature:

1. the growth differential (and thus an explanation from the trade theory perspective),
2. the USD exchange rate (representing an explanatory approach from the capital flows perspective), and
3. the oil price which, owing to the low price elasticity of demand, has a strong short to medium-term impact on the current account.

#### *Variable I: Growth differential*

If an economy's growth exceeds that of its main trading partners, the import pull exceeds exports, generally resulting in a current account deficit. In the US case this is accentuated by the Houthakker-Magee asymmetry (Houthakker and Magee 1969). The import elasticity of the United States is higher than that of its main trading partners, with the result, that the US trade balance deteriorates even if the rates of growth are the same.

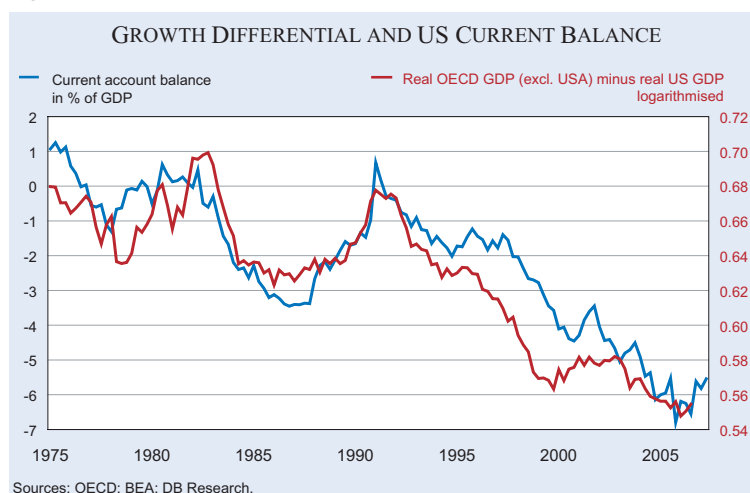
#### *Houthakker-Magee asymmetry: many causes*

The higher import elasticity in the case of goods can largely be attributed to demographic factors, the age structure and the proportion of immigrants in the United States (Brook, Sedillot and Ollivaud 2004). In their consumption patterns, younger generations favour a higher proportion of imported goods than older generations, while national services, such as healthcare, tend to play a less-than-proportional role. Additionally, immigrants usually prefer goods from their home countries. Another explanation is the dynamic growth of the country's most important trading partners. It has been demonstrated, for instance, that countries with strong economic growth boast a broader range of export products and their exports are of higher quality, which boosts demand for them in the United States. This effect is said to be the chief factor behind the Houthakker-Magee asymmetry. The transfer of production abroad and the vertical integration of US companies as well as the structure of US external trade have probably also been contributing factors. A reduction of the US import elasticity of goods, and thus a contribution towards narrowing the US current account deficit from this side, is unlikely.



\* Deutsche Bank Research.

Figure 1



Although the emerging economies are becoming increasingly important, we have based our study on the growth differential between the US and other OECD countries in order to simplify matters – and to permit estimates on a quarterly basis. For such purposes, the log difference between countries' real GDP is adopted to measure the growth differential. OECD countries account for nearly 60 percent of US imports and 70 percent of US exports. Figure 1 clearly shows the close correlation of the net growth differential between the US and its OECD partners with the US current account balance.

#### Variable II: USD exchange rate

While the development of the US current account balance tracked the US dollar with a time lag of about two years in the twenty years from 1975 to 1995, this correlation appears to be less pronounced from around the mid-1990s and no longer seems to have applied since the beginning of the 2000s. Other things being equal, currency depreciation makes a country's imports more expensive and exports cheaper – improving the country's current account balance once J-curve effects disappear. From its last high in early 2002, the US dollar fell by over 12 percent on a trade-weighted basis in each of the following two years, depreciating overall by 30 percent to date. Common rules of thumb for the US current account's reaction to exchange rate changes assume an improvement of

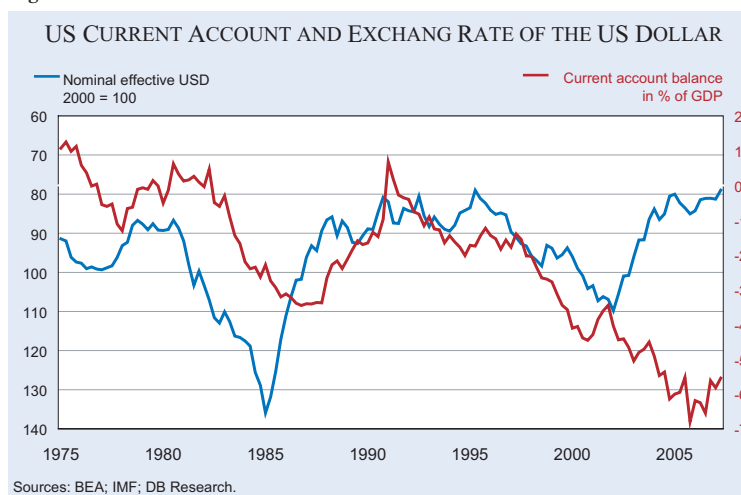
roughly USD 50 billion in the US current account for each ten percent dollar depreciation. On this assumption, the US current account ought to have improved by approximately USD 150 bn. However, the opposite happened: the US current account deficit rose by USD 65 bn in 2003 and by roughly USD 120 bn each in 2004 and 2005. If the correlation between the current account and the US dollar remained intact since the beginning of the 2000s, then other factors must have affected the current account more than offset-

ting the improvement triggered by the weaker exchange rate (Figure 2).

#### Variable III: Oil price

One explanation for the opposite development of the US dollar and the current account deficit is the drastic rise in oil prices in recent years. Between 2002 and 2006 the average US import price for oil and energy climbed from USD 23.7 to nearly USD 60 per barrel. While the volume of imports has increased only modestly, the US bill for imported energy has tripled since 2002 to almost USD 300 bn. If oil prices had stayed at their 2002 level, US bill energy imports would have amounted to only just over USD 110 bn in 2006 and would have been lower by more than USD 180 bn, or 1.4 percent of GDP. Other things being equal, the US current account would then have posted a deficit of only USD 630 bn, or 4.8 percent of GDP, in 2006. As a

Figure 2



consequence, since 2002 over half of the growth in the US current account deficit has been oil-price induced. This is the reason why we have decided to include the oil price in our estimate of the US current account alongside the conventional variables of economic growth and the US dollar.

#### Two-step error correction model

Our estimate is based on a relatively straightforward, two-step error correction model. To begin with, we estimated the equation for the long-term correlation between the US current account balance as a percentage of GDP and the three explaining variables of the growth differential, the US dollar and the oil price as absolute, log metrics.

#### (a) The long-term equation

The estimate is based on quarterly data from Q1 1980 to Q3 2006. The equation is:

$$(1) \\ CAB\% = \alpha_0 + \alpha_1 * [\ln(USGDP) - \ln(OECDrGDP)] + \alpha_2 * NEUSD + \alpha_3 * \ln(OIL) + \varepsilon$$

where

<i>CAB%</i>	<i>US current account balance as % of GDP</i>
<i>USGDP</i>	<i>Real US GDP in 2000 USD</i>
<i>OECDrGDP</i>	<i>Real GDP of the other OECD countries in 2000 USD</i>
<i>NEUSD</i>	<i>Nominal effective USD exchange rate</i>
<i>OIL</i>	<i>Price of Brent Blend oil in USD per barrel</i>
<i>ln</i>	<i>Logarithm</i>
$\alpha_0$	<i>Intercept</i>
$\alpha_1, \alpha_2, \alpha_3$	<i>Coefficients</i>
$\varepsilon$	<i>Error term</i>

The regression results are as follows:

<i>R</i> <sup>2</sup>	0.90		
<i>Adj. R</i> <sup>2</sup>	0.90		
<i>D.W.</i>	0.45		
<b>Variable</b>	<b>Coefficient</b>	<b>Value</b>	<b>Lag (quarters)</b>
<i>GDP</i>	$\alpha_1$	-39.20	1
<i>NEUSD</i>	$\alpha_2$	-4.24	8
<i>OIL</i>	$\alpha_3$	-0.97	3
<i>Intercept</i>	$\alpha_0$	-4.53	-

All the variables are integrated at degree 1, and are thus not stationary. In addition, they are co-integrat-

ed. A coefficient of determination ( $R^2$ ) of 0.90 is therefore not surprising. The residual variables arising from this estimate ( $\varepsilon$ ) were then used to estimate the short-term dynamics which was done in first differences and additionally contains a dummy variable for Q1 1991. The transfers of around USD 40 bn from the Iraq war allies were posted at that time, which resulted in a surplus of the US current account and cannot be explained by the three variables used in our model.

#### (b) The short-term dynamics

In the second step of the error correction model, the model was then estimated in the form of first differences:

$$(2) \\ \Delta LB\% = \beta_0 + \beta_1 * \Delta[\ln(USBIP) - \ln(OECDrBIP)] \\ + \beta_2 * \Delta(NEUSD) + \beta_3 * \Delta[\ln(OIL)] + \beta_4 * DUMMY \\ + \beta_5 * ERROR + \varepsilon$$

where

<i>DUMMY</i>	<i>Dummy variable for Iraq war transfers in Q1 1991</i>
<i>ERROR</i>	<i>Error correction term = residual variables from the long-term equation</i>
$\Delta$	<i>First differences (difference vs previous quarter)</i>
$\beta_0$	<i>Intercept</i>
$\beta_1, \dots, \beta_4$	<i>Coefficients</i>
$\varepsilon$	<i>Error term</i>

The regression results of the short-term dynamics are as follows:

<i>R</i> <sup>2</sup>	0.37
<i>Adj. R</i> <sup>2</sup>	0.34
<i>D.W.</i>	2.13

Variable	Coefficient	Value	Lag	T-value	P-value
<i>GDP</i>	$\beta_1$	-13.60	1	2.81	0.006
<i>NEUSD</i>	$\beta_2$	-1.28	6	1.42	0.154
<i>OIL</i>	$\beta_3$	-0.46	0	1.98	0.047
<i>DUMMY</i>	$\beta_4$	1.26	0	3.86	0.000
<i>ERROR</i>	$\beta_5$	-0.18	1	3.37	0.001
<i>Intercept</i>	$\beta_0$	-0.07	-	2.19	0.029

The first differences of the variables used are all stationary. In addition, all the variables have the expected signs: stronger growth in the US than in the other

OECD countries leads to a deterioration in the US current account, an appreciation of the US dollar on a trade-weighted basis also leads to a higher US deficit, as does a rise in the oil price. The error correction term also has the required negative sign. All variables except the exchange rate are significant at the 5 percent level.

### Houthakker-Magee asymmetry fulfilled

The absolute term in our short-term equation has a negative sign. Our estimate therefore confirms the Houthakker-Magee asymmetry, i.e. US import elasticity is higher than that of its main trading partners. As a result, the US current account deteriorates even if growth in the US is the same as that of other OECD countries, and exchange rates and oil prices are constant. As mentioned earlier, this would offset the relief from a one-time USD devaluation if the US and its main trading partners grew at the same pace. Consequently, if a one-time USD devaluation is to help improve the US current account on a sustained basis, US growth needs to be lower than that of other OECD countries.

### Model shows good fit with reality

Figure 3 suggests that our model produces a relatively good fit with reality. The estimates for the quarter-on-quarter change in the US current account (as a percentage of GDP) derived from the short-term dynamics were added to the figure of the US current account in Q1 1981. Only in recent years does the model solution deviate somewhat more

strongly from the actual development. However, it still lies within the 90 percent confidence range and at the end of the period more or less matches the actual value.

### Effects on US GDP

From the annualised coefficients of the short-term dynamic we derive the following adjustment effects:

1. If economic growth in the US is one percentage point higher than that of other OECD countries, the US current account deteriorates by about  $\frac{1}{2}$  percent of GDP per annum. In absolute figures this is about USD 65 bn.
2. A depreciation of the US dollar by 10 percent on a trade-weighted basis at the same time improves the US current account by about  $\frac{1}{2}$  percent of GDP.
3. If the oil price rises by 10 percent, the US current account deteriorates by almost 0.2 percent of GDP.
4. If all variables remain constant, the US current account deteriorates by about 0.2 percent of GDP per annum (Houthakker-Magee asymmetry).

### Contributions of individual variables to the change of the US current account

With our US current account model we can also ascertain the contributions which the individual variables make to the change in the US current account deficit. The results show that the expansion of the deficit since 2003 is attributable to the growth differential and the rise in oil prices. These two factors therefore more than offset the dampening effects which the US dollar depreciation has had on the current account. Without the dollar depreciation, the US current account deficit would have grown more by about 1.2 percent of GDP and would have stood at almost  $7\frac{1}{4}$  percent of GDP in 2006.

### US current account to improve in 2007 and 2008

After economic growth in the United States was still a good

Figure 3

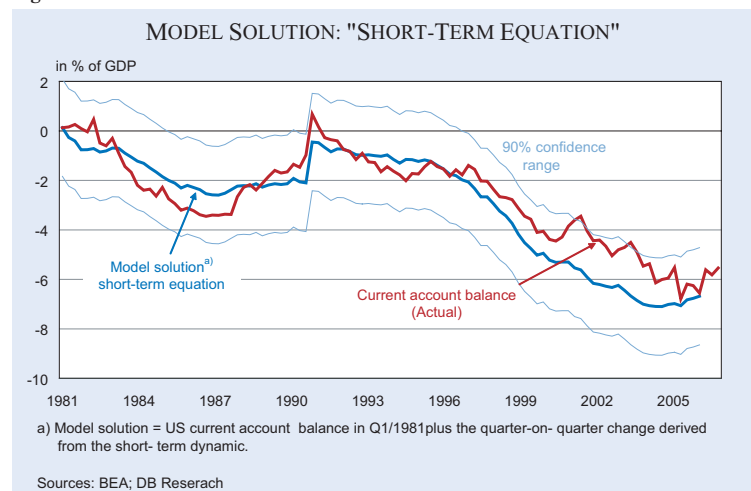
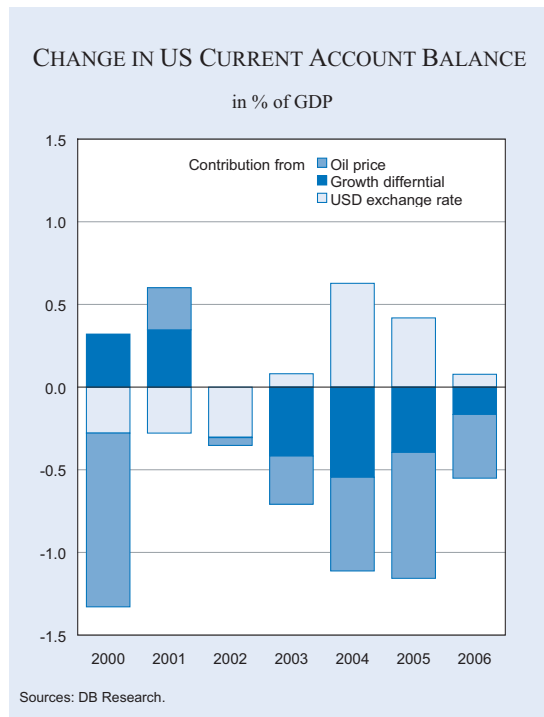


Figure 4



$\frac{1}{4}$  percentage point higher than in other OECD countries last year, we expect the growth differential to reverse this year. We forecast US economic growth at  $1\frac{3}{4}$  percent in 2007 while other OECD countries should average growth of a good  $2\frac{1}{2}$  percent. The negative difference of  $\frac{3}{4}$  percentage points would, according to our model, improve the US current account by 0.4 percent of GDP. The growth differential will probably narrow in 2008 but should still be just under  $\frac{1}{4}$  percentage point in other OECD countries' favour. This would mean a further 0.1 percent of GDP improvement in the US current account in 2008.

As to the outlook for the US dollar, we expect a further depreciation of 5 percent on a trade-weighted basis in 2007 and 2008 each, improving the US current account by a good  $\frac{1}{4}$  percent of GDP each year. We assume the oil price to remain at an average level of USD 70 per barrel in 2007 and to fall slightly to USD 68 per barrel next year (minus 3 percent), which would relieve the US current account by 0.1 percent of GDP.

Allowing for the negative absolute term in our short-term

equation (2), the US current account deficit would narrow to a good  $5\frac{1}{2}$  percent of GDP this year and come down further towards  $5\frac{1}{4}$  percent of GDP next year. This would be a tangible improvement of almost one percent of GDP versus the level reached in 2006 and might be a first step on a long-term path of correction.

#### Longer-term adjustment scenarios: orderly return to balance

What form can an orderly reduction of the US current account deficit take without major disruptions to the global economy?

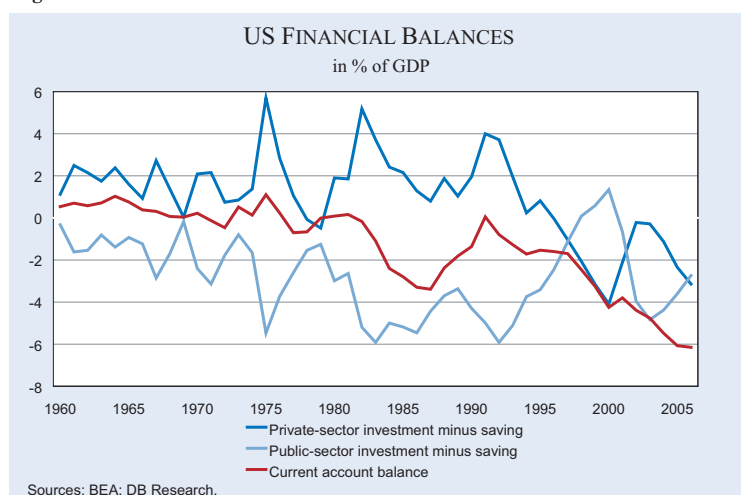
$$S - I = X - M$$

A country's current account balance corresponds to the difference between exports and imports (of goods, services and investment income) plus transfers. Since, in an open economy, there is an identity of investment and savings – supplemented by the external balance – the current account ( $X - M$ ) is the difference between national savings and investment ( $S - I$ ). Since both the public and private sectors can invest and save, the current account balance must be equal to the sum of the financial balances of the private and public sectors.

*US savings-investment balance ...*

Weaker US economic growth can be caused by shifts in the savings-investment balance. For instance, growth of the US economy can be slowed down by a higher household savings-income ratio. Higher pri-

Figure 5





private savings improve the financial balance of the private sector (saving minus investment) and hence improve – *ceteris paribus* – the US current account. We expect to see this process already starting in the current year. The private savings ratio, which fell sharply in the wake of the US property boom to 0.4 percent of disposable income in 2006, should pick up again in 2007 and 2008. This is indicated by the recession in the housing sector and falling house prices, which is causing consumption financing via the so-called mortgage cash-outs to dry up. The upshot is weaker growth in private consumption and thus in the economy as a whole. The adjustment process outlined could also be supported by fiscal consolidation that improves the financial balance of the public sector and thus the current account. This process is also underway already. The central government budget deficit improved from 1.9 to 1.2 percent of GDP in fiscal year 2006/07.

*... and elsewhere*

If the US current account deficit is indeed due only to some extent (and possibly only to a small extent) to developments within the country itself and is more the result of investment decisions by international investors as suggested by the theory based on capital flows, an important key to solving the US current account problem would lie outside the US (Dovern, Meier and Scheide 2006). The savings glut in the surplus countries would need to decline. Less capital would then flow abroad (to the US) and the US current account would improve correspondingly. There are signs today that the high savings in some countries with current account surpluses are already on the decline. And the process should accelerate in coming years.

*Oil-producing countries: Focusing more on diversifying their economies*

The oil-producing countries, for instance, are no longer investing their revenues only in the US capital market but are using a growing share to diversify their economies and thus reduce their dependence on oil revenues. Given that oil reserves are on the wane, this process is likely to gather momentum and domestic investment in this area should rise. Together with stronger growth in consumption spending, this will lead to lower savings and thus less capital invested in the United States and, on the other hand, to stronger economic growth and higher imports from the United States.

*Asia: Strengthening the domestic markets*

The savings glut is also likely to decline in the Asian countries with high current account surpluses. Investment activity there lost appreciable dynamics in the wake of the Asian crisis. Investment as a percent of GDP is down by over ten percentage points from its previous peak. This process should gradually reverse. It is also likely that households there will adjust their spending to rising incomes and therefore cut back on their high savings. This is likely to happen – albeit to a lesser extent – in China, too, where private-sector savings are equivalent to about half of GDP. A small growth difference in favour of the main trading partners of the United States appears plausible in coming years. Such a development would present no problems for the world economy since it would take the form of more moderate US growth (without recession) and stronger growth in the other countries.

#### **Further 30 percent USD depreciation needed as well**

Assuming a negative growth differential of  $\frac{1}{4}$  percentage point p.a., the US dollar would need to depreciate, too, by around 30 percent overall, or just over five percent p.a., on a trade-weighted basis over the next five years to bring down the US current account deficit to  $3\frac{1}{2}$  percent of GDP. This appears to be a quite realistic possibility considering the development from 2002 to 2004 when the US dollar fell in value by about 25 percent on a trade-weighted basis. However, the US dollar would have to depreciate primarily against the currencies of those countries which have correspondingly high surpluses in bilateral trade with the United States. If the devaluation were to be concentrated on the USD/EUR rate, the global imbalances would merely shift from the US to Euroland, which would not make economic sense. As a result, it is above all the Asian currencies which need to make the necessary exchange rate adjustments. At the top of the list is China, which has by far the biggest surplus with the United States (2006: approx. USD 250 bn) and whose currency has appreciated by only 9 percent against the US dollar since 2005, and Japan. The yen has even depreciated by about 6 percent against the US dollar since 2005 despite Japan's trade surplus of over USD 90 bn at last count with the United States. A 30 percent depreciation of the US dollar on a trade-weighted basis should imply the following changes in relation to the

key currencies for US current account purposes: Against the Chinese renminbi – 40 percent, Japanese yen – 35 percent, the euro – 5 percent, Saudi rial – 45 percent, Mexican peso – 20 percent, etc. (see also Cline 2005).

### A further ray of hope: Trade in services

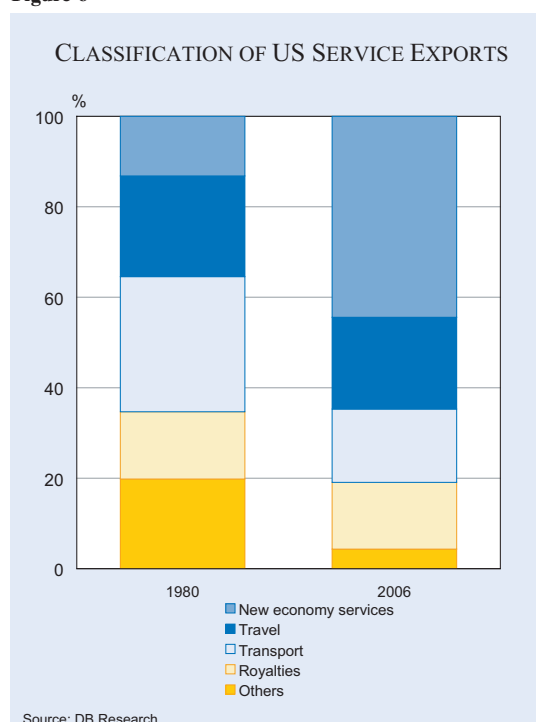
However, aside from possible growth and exchange rate shifts, trade in services provide another ray of hope that might facilitate a reduction of the US current account deficit and do so in two ways:

Firstly, a further intensification of global trade in services could provide tangible support in narrowing the US current account deficit. The United States has been able to benefit strongly from the fast expanding international trade in services in the past few years. Since 1980, global services trade has grown a good deal faster than merchandise trade. This is true especially for corporate services, referred to in the literature as “new economy services”, for instance in the areas of IT, finance and insurance, patents, licenses, engineering documentation and the like and other corporate services.

The United States is a very strong international player in this field. While the country’s total exports of services (roughly 30 percent of total exports of goods and services in 2006) have grown eight-and-a-half-fold since 1980, leading to a surplus in the services account of USD 80 bn at last count, whereas exports of miscellaneous corporate services (approximately 12 percent of total exports of goods and services in 2006) have risen twenty-eight-fold over the same period, trebling their share of total exports of services to 43 percent and boosting the surplus in this sub-segment from USD 3½ bn to around USD 71 bn over the past 26 years (Figure 6). Although the importance of the services account for the current account has tended to wane in recent years, the fact that the surplus has been on the rise again for three consecutive years could mark a turn-around here.

Secondly, no evidence of a Houthakker-Magee asymmetry has been found in the case of US imports of services (Hooper, Johnson and Marquez 1998; Mann 2004). While studies reveal that in the case of goods the US import elasticity exceeds export elasticity by ½ to one percentage point, in the case of services it is ¼ to ½ percentage point lower (Box 1).

Figure 6



The reason for this probably lies in the “new economy services“, where the United States plays a leadership and first mover role and which therefore were, and are, in strong demand abroad. The United States could well benefit more than proportionally, as it did in the 1990s, from continued fast-growing international trade in services. The “new economy services” could therefore help reduce the US current account deficit in coming years.

### US current account: On the right track

In our view, a dismantling of the international trade imbalances is possible over the longer term, barring a rapid and sharp slide in the value of the US currency and a deep recession. Firstly, the relationship between saving and investment in the United States will shift towards saving, a process which, in view of the recession in the housing sector, should have already started in 2007 and which, above all, is of a cyclical nature. An upturn of US households’ savings-income ratio also appears probable in the longer term. Secondly, adjustments in the surplus countries, especially in the oil-producing countries and the Asian economies, should set in motion a countervailing process there. Together, the two developments will bring down the US current account deficit. In addition, the United States is benefiting strongly from fast expanding international



## Box 1

## Selected estimates of US income elasticities

	Data period	Exports of		Imports of	
		Goods	Services	Goods	Services
Pain & van Elsum (2004)	1987–2000		1.7		
Mann (2003)	1976–2000		2.1		1.5
Wen-Lewis & Driver (1998)	1980–1995	1.21	1.95	2.36	1.72
Houthakker & Magee (1969)	1951–1966	0.99		1.51	
		Export of goods and services		Imports of goods and services	
Mann (2003)	1976–2000		1.4		2.2
Hooper, Johnson & Marquez (1998)	1960–1996		0.8		1.8
Cline (1989)	1973–1987		1.70		2.44

Source: Brook, Sedillot and Ollivaud (2004).

trade in services, which should continue and likewise help reduce the US current account deficit. The country is the frontrunner especially in the so-called “new economy services”, which are the real drivers of the growth in services. Thus, there is much to suggest that the necessary adjustments to bring down the US current account deficit are starting. They will not happen rapidly but gradually. Therefore there is no reason to panic!

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