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National savings and the international investment position: what does the current account tell us?*

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Abstract

This article discusses the relation between the balance of payments and the international investment position of countries. It starts with the observation that the net international investment position of many countries is developing independently from their current account balances. This phenomenon can be explained by value changes of cross border assets and liabilities that are not registered on the balance of payments. These value changes have impact on the net external investment position of a country as soon as the returns on its external assets and liabilities start to diverge. Such divergent developments can be attributed to currency developments, differences of composition of external assets and liabilities and performance effects. These mechanisms are discussed, followed by two case studies, viz. the case of the 'black hole' (the Netherlands) and the case of 'dark matter' (the US). Understanding the relation between the international investment position of a country and its balance of payments becomes more and more relevant as countries prepare for ageing of the population. Some countries explicitly aim at the creation of a national savings surplus in order to create a net international asset position. The consequences of the failure of such a policy are discussed in a concluding paragraph.

Key words: *balance of payments, current account, international investment position, ageing*

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1. Introduction: the challenges of ageing

Many European countries are slowly awakening to the challenge of ageing of the population. Ageing will affect the European economies in many ways. It will lead to higher public expenditures on healthcare and pensions [Canton et al. (2004)]. Moreover, as a result of ageing the ratio between the workforce and the retired will deteriorate, which will result in a higher burden for the working population and a relative decline of the economic basis of the countries involved.[3]

Many countries have pension systems that are organized on a pay-as-you-go (PAYG) basis, which means that the pensions of the retired are paid by the working. In Europe, only the Netherlands and the United Kingdom have an extended capital based pension system, which has translated into the creation of huge pension funds.[4]

However, the creation of a capital based pension system only solves part of the problem. In a closed system, the difference between a PAYG system and a capital based pension system is much smaller than usually supposed. This is because ageing of the population not only brings higher expenditures, but also erodes the supply side of the economy. Higher spending of the retired in combination with an absolute decline of the labour will lead to increasing national savings deficits (deficits on the current account of the balance of payments).

If countries want to prevent to build up net external debt positions due to ageing, they can try to build up a strong net international asset position before the ageing process begins to bite. In the Netherlands, this is more or less official policy. However, as it turns out the creation of saving surpluses is not a guarantee for such an asset position, as for many countries other forces co-determinate the development of their international investment position.

In this article, I will start with a short summary of the theoretical considerations behind the ratio of the creation of a national savings surplus. Next, chapter 2 will discuss the determinants of the external position of countries and confront the question whether or not a savings surplus will attribute to the creation of a net international asset position. After this theoretical exercise, I will discuss two case studies, viz. the Netherlands (chapter 3, the case of the "black hole") and the United States of America (chapter 4, the case of "dark matter"). The US case is treated less

[3] A comprehensive discussion of the process of ageing and the possible policy reactions can be found in Balling et al. (2007), in which a selection of articles (including a number of country studies) on the subject is published.

[4] Note, however, that the capital based part of the old-age provision in the Netherlands only concerns the supplementary pensions. The basic general old age provision, the so-called AOW, is still organized on a PAYG basis.

extensively than the Dutch case, as there already is a broad literature on the external position of the American economy. Chapter 5 concludes.

2. The buffer function of a net external asset position

In a closed economy, a capital based system of old-age provisions is only marginally better than a PAYG system, because in such a situation all gross savings have to be reinvested in the domestic economy. This can be seen if one does not look only at the financial consequences of ageing, but also at the real effects. The basic difference between both systems lies in the fact that in a PAYG-system the pensioners are dependent on the working part of the population. The premiums paid by the last group form the income of the retired. In a scenario of an ageing population, a decreasing group of workers will have to pay for a growing number of pensioners. For the working part of the population, this will lead to a growing financial burden and sooner or later they may no longer be prepared to pay the bill.

From a financial point of view, the creation of a capital based system solves most of the problems of a PAYG-system. Working people save for their own old-age provision, leading to savings surpluses and a build-up of pension wealth in the years in which the working group is at its largest. Once the non-working part of the population takes the upper hand, pension funds will start to distribute their wealth to the pensioners, who pay for their own non-productive years. From this point of view it is clearly a superior system.

In a closed economy high pension savings may lead, via high gross private savings, to lower interest rates and higher investment, and thus to a higher production capacity in the future (plus more capital per worker in the future, leading to higher wages and leaving everybody better off) [Canton et al. (2004)],[5] However, ageing itself results in declining savings which also translates into declining investment [Kaufmann (1993), Duisenberg & Wellink (1993)]. Therefore, once the population starts to age, ultimately the expenditures of the retired would be matched by a relatively shrinking economic base. Ageing leads to a relative decline of the productive potential of a country, which will be even more pronounced in a scenario in which the active part of the population starts to shrink not only in relative, but also in absolute terms. The combination of increasing expenditure by pensioners and a shrinking real economic base will result in higher inflation. The distribution question between workers and

[5] However, in a system of obligatory participation in a collective pension system, it may be expected that voluntary private savings decline, as the system 'automatically' takes care of the old age provision. The resulting decline in voluntary savings reduces the upward effect on the gross private saving ratio. As a result, an increase in compulsory savings is partially neutralized by a decline in non-compulsory savings [Duisenberg & Wellink (1993)].

pensioners returns in a different shape than in a PAYG-system, although basically it is the same problem [Boonstra (2007-a)].

Traditionally, there has been a strong relation between domestic savings and investment ratios [Feldstein & Horioka (1980)]. However, in a world that is increasingly characterized by huge free cross border financial flows, one may expect that this link may become looser over time. This makes it possible for countries to create net savings surpluses and invest them abroad.

Therefore, for a capital based system to be effective, cross border investments need to play a role in this system [Börsch-Schupan et al. (2006), Canton et al. (2004)]. Countries can aim at the creation of national savings surpluses (surpluses on the current account of the balance of payments) in order to create a net international asset position. Once a country successfully builds up net international assets with the aim of saving for the ageing of the population the situation can improve considerably. First, net foreign assets may be expected to result in a positive flow of capital income, adding to domestic income. When the increase in the number of retirees results in an increase in spending relative to production, the merchandise trade balance may be expected to gradually deteriorate, turning from positive into negative during this process. A net positive income flow on foreign assets can for a period prevent the current account from turning into the red as well. Once the current account goes into deficit, this can be financed by eating into the net foreign assets.

This reasoning traditionally forms the basic justification for the large Dutch national savings surplus. In a recent report by the CPB, the Dutch National Institute for Policy Analysis, it advises to create even larger surpluses on the current account in the future [Van Ewijk et al. (2006)]. It argues that a structural national savings surplus will create a financial buffer for future deficits on the trade balance.

The implicit assumption is, of course, that other countries such as developing or emerging economies are prepared to run savings deficits and build up foreign debt. The productive employment of the savings surpluses of industrial countries in emerging economies helps to expand their economic potential. Once they start to repay their debt they will have savings surpluses themselves, which creates the space for the ageing industrial countries to run current deficits. One important observation here, however, is that many industrial countries actually run deficits on their current account, while many emerging economies have huge surpluses. In many ways it looks like a situation in which 'the poor are financing the rich'. This issue is already extensively discussed in the literature. It can be explained by a number of factors, such as capital markets imperfections, greater risks on investment in emerging economies (neutralizing the higher potential marginal returns) and lack of absorption capacity in emerging countries, that force their own savings to go abroad to countries with better developed financial systems [Bernanke (2005), Caballero (2006), Gourinchas & Jeanne (2007), Lucas (1990), Prasad et al. (2007)]. Moreover, an exchange rate policy that aims at preventing

its currency to appreciate sharply against the US dollar forces an emerging country like China, that in addition to its savings surplus receives huge inflows of foreign investment flows, to invest heavily in US assets itself [Dooley et al. (2003) (2004)].

A second, more explicit assumption is that a surplus on the current account automatically results in a net external asset position. It is this last assumption we will deal with in this article.

3. The international investment position and the balance of payments

The international investment position of a country is a balance sheet that reflects the stocks of a country's foreign assets and liabilities at a point in time. The balance of payments of a country reflects the flow of (trade and financial) transactions between this country and the rest of the world during a certain period.

Naturally, there is a link between the balance of payments and changes in the stocks of foreign assets and liabilities. Many textbooks explain changes in the international investment position of a country from its balance on the current account [Pugel & Lindert (2000), chapter 15 and Sawyer & Sprinkle (2006), chapter 11]. A country with a savings surplus builds up international assets (or runs down debts), while deficit countries run down reserve assets or build up foreign debt.[6]

[6] The balance of payments statistics are fully compliant with the systems of national accounts. That a current account surplus reflects a national savings surplus follows from the following set of identities: Y=C+I+G+(X-M) and Y+C+S+T, in which Y stand for gross national income, C (G) = private (public) consumption expenditures, I = gross investment, S = gross savings, T = taxes, X = exports (goods, services, transfers and income from abroad) and M = imports. Combined these two identities result into (X-M) = (S-I) + (T-G), in which (X-M) equals the balance on the current account, (S-I) is the net savings balance of the private sector and (T-G) equals the net savings of the public sector. As a result, (X-M) equals total net national savings. For the sake of simplicity we do not take the capital account into consideration. This is a relatively minor balance which includes a.o. capital transfers, migrants transfers and debt forgiveness. In the context of this exercise we can treat these transactions as if they are part of the current account. The direct link between the current account balance and the international investment position of countries emerges from the financial account and the changes in reserves. When a country has a surplus its the current account balance, it receives foreign currency, that either is added to the official reserves (part of the international assets) or is added to the net foreign assets of its banking systems. In the real world, its residents will acquire foreign assets (such as direct investments or portfolio investments), which are recorded as a gross outflow on its financial account. At the same time foreign investors will acquire assets in a country (adding to its liabilities), which will be recorded as a gross inflow on the financial account. The net acquisition of foreign assets (measured as a net outflow on the financial account) plus the changes in net reserves is the direct link between the balance of payments and the international investment position.
As the overall balance of the balance of payments by definition equals zero, we can work from the identity that CA + NFA +RES + EO = 0 (which equals CA = -FA – RES –EO), reflecting the balance on respectively the current (CA) and financial (FA) accounts and the changes in reserves (RES). EO are the errors and omissions, reflecting statistical inaccuracies. Note that a negative sign at FA and

In formula:

$$NIIP_t = \Sigma\ CA \qquad (1)$$

in which NIIP stands for the Net International Investment Position of a country and CA is its current account of the balance of payments. Formula (1) is identical with:

$$NIIP_t = NIIP_{t-1} + CA_t \Leftrightarrow \qquad (2)$$

$$NIIP_t - NIIP_{t-1} = CA_t \qquad (3)$$

For many developing countries and emerging economies this equation still holds. Most countries that have run into debt problems in the past, such as Mexico and other Latin American countries but also the UK in the 1970s, first experienced a long period of current deficits [Williamson (ed., 1983), part III (country studies)].

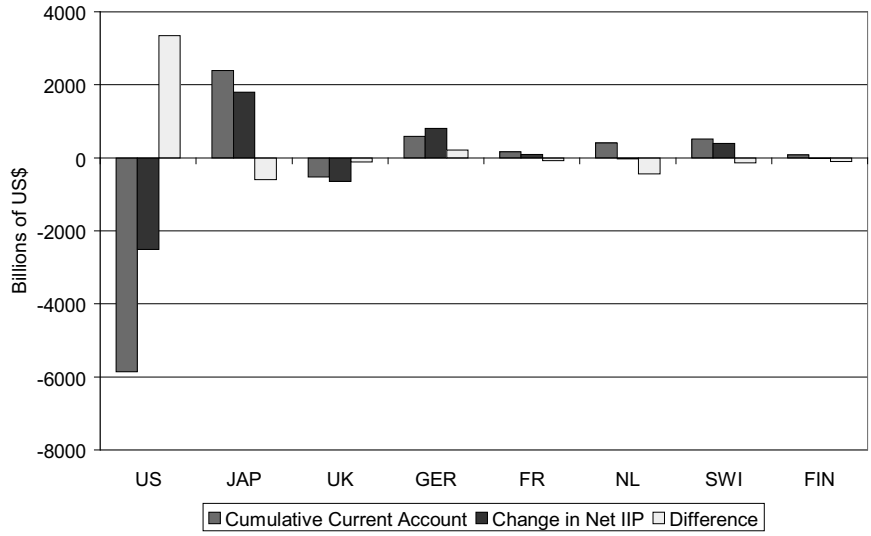
For countries that are fully integrated in the world economy and having well-developed financial sectors, such as most industrial countries, however, the current account balance is no longer the only or even the most important explaining factor for the development of the international investment position [Lane & Milesi-Ferretti (2005-a) (2005-b) (2006), Boonstra (2007-a)].

Figures 1a and 1b illustrate this effect for a number of industrialized countries. In this figure the change in the net international investment position (as reported by the IMF and measured in billions of US dollars) between 1980 and the end of 2006 is compared with the cumulative current account balance over this period. The variable 'difference' reflects the part of the change in the net international investment position of these countries that can not be explained by the current account. It appears that especially for small open economies the cumulative current account balance is dwarfed by these other changes in the international investment position.

The most important reason behind this phenomenon is the emergence of large cross border holding of assets between countries. In the process of globalisation, companies have invested in other countries, both by establishing new plants and by buying foreign companies. Investors have diversified their portfolios over currencies and countries. Today, these investment flows are larger than trade flows and are certainly much larger than current account balances [Kindleberger (1985) (1993); Schularick (2005)]. For example, even today the US, already by far the largest debtor in the world, is borrowing heavily abroad, not only in order to finance its current account deficit but also to finance a net outflow of direct and equity portfolio investment [Gourinchas & Rey (2005-a) (2005-b), Boonstra (2008)].

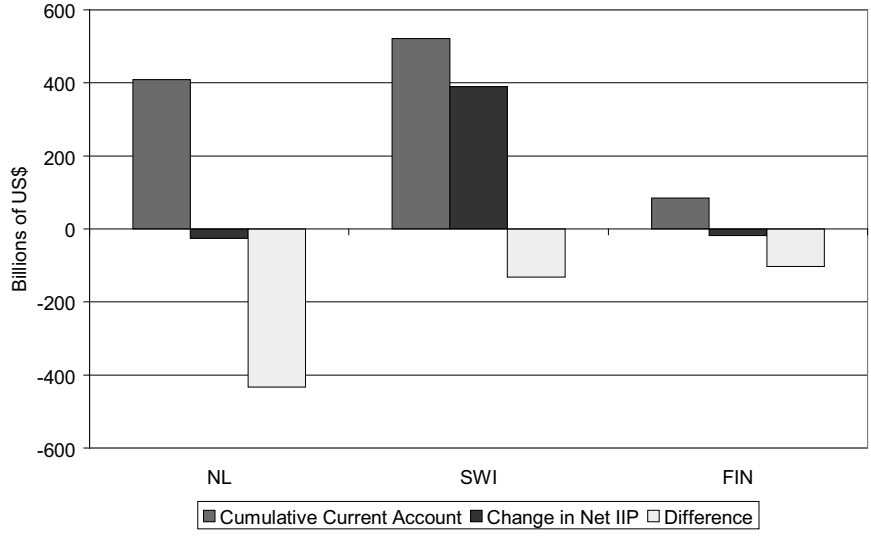
RES reflect a net increase in foreign assets. See IMF (1993), chapter III.

Figure 1a: Cumulative current account balances and changes in net external investment position (1980 – 2006)



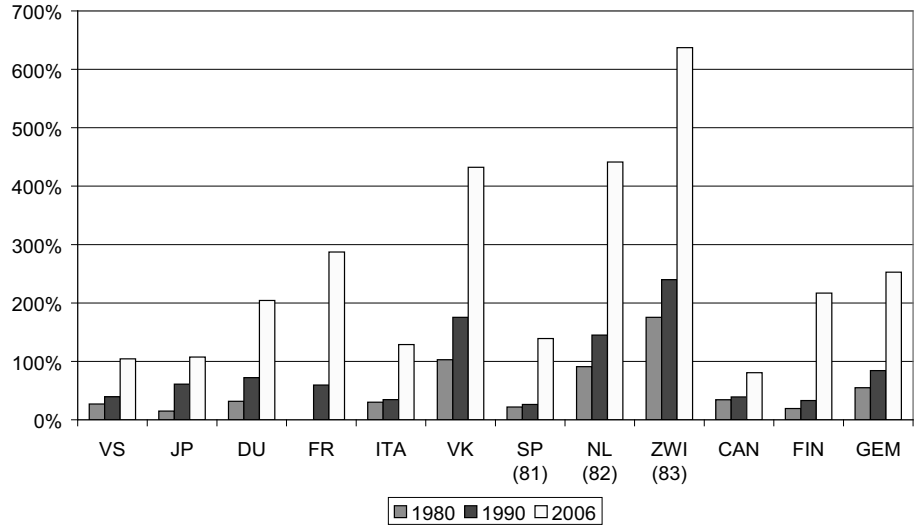
Source: IMF, International Financial Statistics

Figure 1b: Idem, small countries only



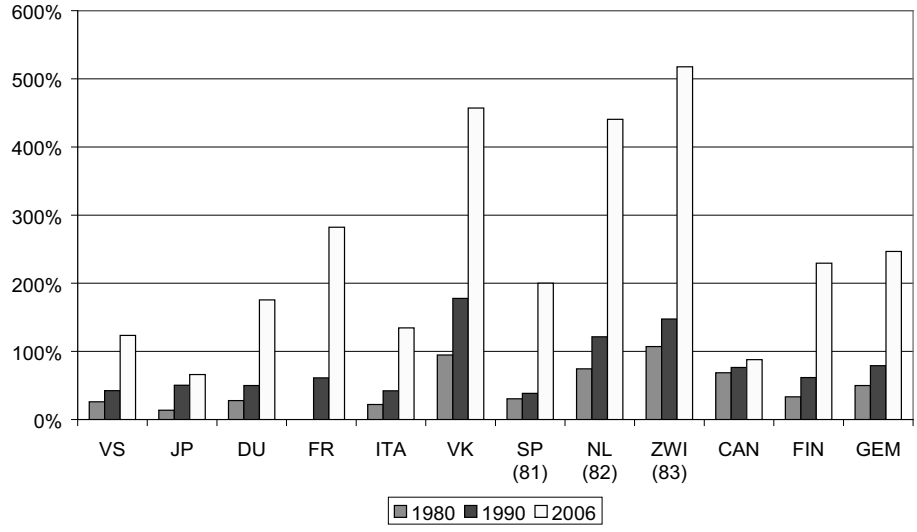
Source: IMF, International Financial Statistics

Figure 2a: External assets as a % of GDP (1980 – 2006)



Source: IMF, International Financial Statistics

Figure 2b: External liabilities as a % of GDP (1980 – 2006)



Source: IMF, International Financial Statistics

This process has led to a situation in which most industrial countries are connected with huge gross cross-border investment positions. Figures 2a and 2b illustrate how the international assets and liabilities of a number of industrialized countries have grown substantially in comparison to their GDP. Today, the net international investment position of many countries is only the tip of the iceberg of much larger cross border gross asset and liability positions.

As a result, the return on these gross positions becomes increasingly important. It is essential, however, to realise that a large part of these returns is not registered on the balance of payments. Flows of dividends, interest payments and repatriated profits are usually registered on the income account (a component of the current account) of the balance of payments, and efforts are being made to register reinvested profits as well on the income account. But there are important sources of income from cross border holdings that are not registered on the balance of payments. Examples are adjustments of the book value of foreign direct investment, gains and losses on cross-border holding of securities and currency gains and losses. These returns increasingly explain the movement of the international investment position, overshadowing the importance of the balance of payments. To gain insight in the development of the international investment position of a country, it is necessary to analyze (in addition to balance of payments flows), the value changes of both gross external assets and liabilities [Lane & Milesi-Feretti (2002), IMF (1993), chapter XXIII and Appendix I].

This leads to the next formula, in which value changes are included:

$$NIIP_t = NIIP_{(t-1)} + CA_t + (k_{At} * A_{(t-1)}) - (k_{Lt} * L_{(t-1)}) \qquad (4)$$

in which A are the gross external assets, L are gross external liabilities and k_A (k_L) is the value change of external assets (liabilities).

The determinants identified

What are then, in addition to the balance of payments flows, the determinants of those value changes? The answer lies in a number of factors, viz. the composition of gross cross border assets and liabilities, in the performance of the various categories of assets and liabilities and the behaviour of the exchange rate. Moreover, the larger the absolute size of gross cross border holdings, the stronger these effects will work.

Let's start with the exchange rate. Depreciation of a country's currency results in gains on its holdings in foreign currency denominated assets and vice versa. On the other hand, such a depreciation may also translate in an increase in value of it foreign liabilities.

The net size of this so-called *exchange rate effect* and its direction is dependent on the currency composition of cross border assets and liabilities and on the starting position: for a debt-ridden country the situation will be different than for a country with large net foreign assets.

The currency composition of external assets and liabilities plays an important role. For a traditional debtor country, like for example Brazil in the 1980s, a depreciation of the local currency translated in a strong increase of its debt burden, which largely was denominated in hard currencies, compared to its gross domestic product (GDP). However, for the US, another country with a large net debt position, the situation is completely different. A weak dollar not only helps the American competitive position on world markets, but it also increases the dollar value of its gross foreign assets. The US foreign liabilities are for an overwhelming part denominated in dollars [Gourinchas & Rey (2005-a)]. To illustrate the power of this effect: the recent net dollar depreciation has resulted in net currency gains of almost $ 900 billion between end 2001 and end 2006 (as reported by the Bureau of Economic Analysis (BEA) on its website (April 2008); see also table 3 in chapter 4).

The importance of the composition of assets and liabilities comes to the fore if we realise that the yield between categories can differ strongly and manifest themselves in different forms. This is illustrated in table 1. This table shows the composition of external assets and liabilities for the countries we will discuss in this article. By way of illustration three other major industrial countries have been added.

Table 1: Composition of external assets and liabilities of industrial countries in 2005

	United States		*Netherlands*		*Finland*		*Japan*		*Germany*		*United Kingdom*	
High return / high risk												
	Assets	Liabilities	Assets	Liabilities	*Assets*	*Liabilities*	*Assets*	*Liabilities*	*Assets*	*Liabilities*	*Assets*	*Liabilities*
Direct investment	32	21	26	18	23	14	9	4	17	15	15	10
Portfolio equity	28	17	20	20	18	31	10	41	16	11	13	12
Low return / low risk												
Porftfolio debt instruments	9	34	25	28	25	28	40	15	22	39	15	16
Other	30	28	28	33	31	27	22	40	43	34	56	62
Official reserves	2 n.a.		1 n.a.		3 n.a.		20 n.a.		2 n.a.		1 n.a.	

Source: Based on IMF-data (International Financial Statistics (IFS)), Boonstra (2008), table 4.4

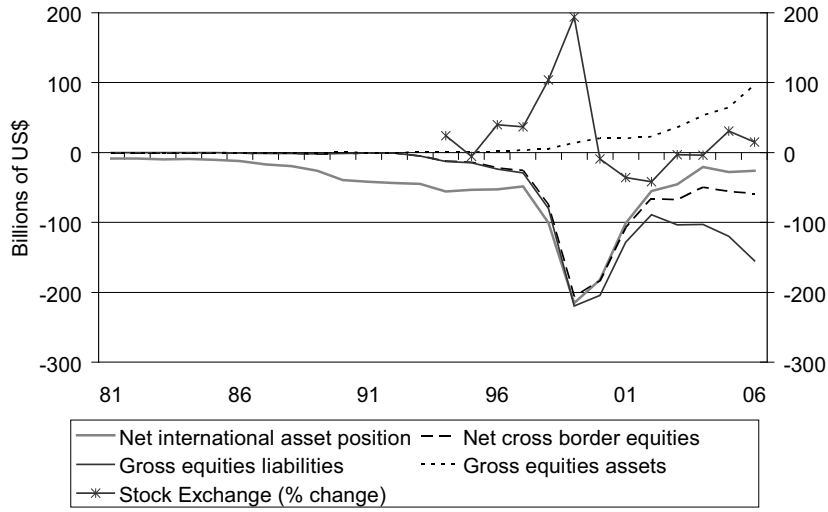
We can differentiate between high yield/ high risk categories (direct investment, portfolio equities) on the one hand and low yield / low risk categories (debt securities, loans, interbank positions) on the other. In the high yield categories the yield usually comes in the shape of capital gains (or losses), while dividends and profits carry relatively minor weight. In the low yield categories capital gains play a relatively minor role (although capital gains on bonds with a longer duration still can be substantial), as the largest part of their yield comes as interest income. If the external assets of a country have a strong emphasis on the high yield categories, while its liabilities consist largely of debt, it may be expected that it usually has a relatively high return on its assets, although large parts of this return will not be registered on the balance of payments. This is the case for the US. For Finland and Japan, countries with a very large share of its foreign liabilities consisting of equities, it is exactly the other way around.

The change in the net international investment position resulting from differences in capital gains on foreign assets and liabilities is usually called the *composition effect*.

The next effect to be discussed is the so-called *performance effect*. This appears when, within one category, there appear to be differences between yields on assets and liabilities. This effect can result, for example, from differences between the performance of the local stock exchange relative to foreign markets. It may also result if fund managers outperform their foreign competitors. This last effect appears to be apparent in the Netherlands [Kusters (1998)].

The performance effect is clearly manifest in many countries, such as Japan, the Netherlands and most of all in Finland. Last mentioned country even became a victim of its own success. A strong performance of the local stock exchange translated into an increasing foreign liability position. In spite of a rather strong balance of payments performance, the net international investment position of Finland deteriorated substantially due to the success of Nokia, because of the profits gained by foreigners on their holdings of Nokia shares (figure 3). Later, when the telecom industry suffered a strong decline in its stock price, the Finnish external position improved strongly, due to a decline of the value of its foreign liabilities.

Figure 3: The external investment position of Finland explained



Source: Data on the IIP and balance of payments originate from the IMF, International Financial Statistics; stock exchange data are derived from MSCI via Ecowin

The Finnish example also illustrates the difficult relationship between national wealth and the international investment position. Nokia has contributed substantially to the good performance of the Finnish economy since the middle of the 1990s. Moreover, the rise in value of Nokia shares will also have increased the wealth of this company's Finnish shareholders. Their increased wealth will almost certainly have contributed to economic growth via positive wealth effects, leading to increased production and a higher Finnish GDP. Although the country has become richer thanks to Nokia, its net external position in equity investment deteriorated strongly from minus $ 21.9 billion at year-end 1996 to minus $ 206 billion at the end of 1999.

To summarise, the change in the net international investment position of a country is not only determined by the balance on its current account, but is also strongly influenced by the yield (capital gains or losses) on its holdings abroad minus the yield made by foreign investors in its domestic market. Determining factors are the composition of the assets and liabilities, the relative success in investing abroad compared to the success of foreign investors in the home market and the currency competition of foreign assets and liabilities. The larger a country's gross foreign assets and liabilities are, the larger the relative importance of the capital gains and losses on these cross-border holdings become.[7]

[7] Of course, the returns on the various categories each have their own explanations. A more formal illustration of the effects and their underlying explanations can be found in Boonstra (2008), appendix 2.

4. The Netherlands: the case of the black hole

In this section of this article we will more closely analyse the driving factors behind the Dutch international investment position. The Dutch case is extensively discussed in Bruinshoofd and Kool (2008-a) (2008-b) and Boonstra (2007-a) (2008) and earlier by Kusters (1998). Here we confine ourselves to a discussion of the most important elements.

A high savings economy

The Netherlands have a very open economy, which is illustrated by high export and import ratios. The country has a system of old age provisions that is largely based on a capital-based pension industry. This system was established shortly after the Second World War. As participation in the system is compulsory for all employees in both the private and the public sector, this system has resulted in huge collective savings. It is beyond the scope of this article to describe the Dutch pension system in more detail. This is extensively discussed in the literature [Kuné (2006), Canton et al. (2004)].

The high level of institutionalised savings has resulted in a structural national savings surplus [Bikker (1994)]. Both in absolute and in relative terms it traditionally is amongst the largest in the world. In the years we will investigate more closely, 1987 – 2006, the cumulative surplus on the current account amounted to € 321 billion.[8] In a recent study on the impact of ageing on the Dutch public finances the Dutch National Bureau for Economic Policy Analysis concludes that the government budget should show a surplus of 3% of GDP in 2011. This will also lead to even higher surpluses on the current account, which is considered a positive development [Van Ewijk et al. (2006]. However, in spite of all the saving efforts, the country has failed to build up a substantial external net asset position.

Financial flows and net IIP

The openness of the Dutch economy can also be read from the financial account of the balance of payments. This is characterized by huge in- and outflows of capital, in the form of direct investments, portfolio investments and other flows. As a result, the country's gross external assets and liabilities both have accrued to an amount of

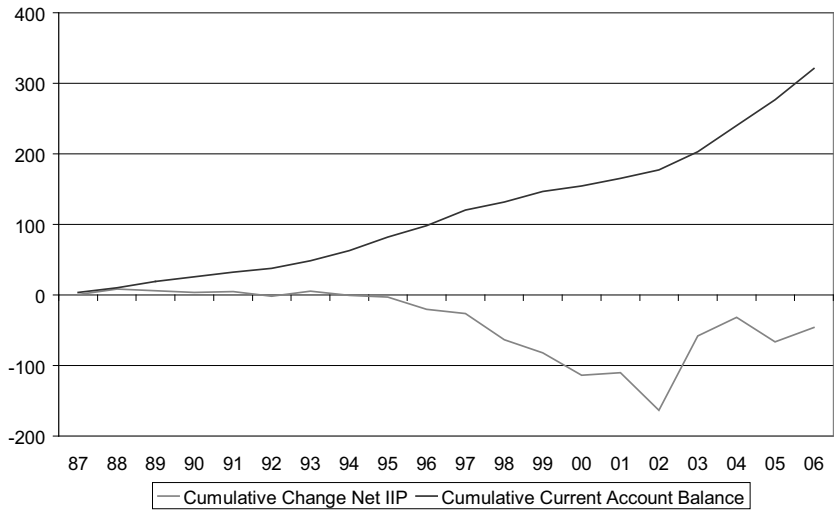
[8] All data in this chapter are based on the database of the Dutch Central Bank (DNB) and can be found on its website (www.dnb.nl). These data are also published in its quarterly Statistical Bulletin, in tables 5.1 (balance of payments), .5.4 (income account) 5.7.1 (portfolio securities flows) and 5.11 (international investment position).

more than € 2,200 billion (position at year end 2006, close to $ 3,000 billion, over 400% of GDP).[9]

Over the decades, capital outflows were substantially larger than inflows, which reflects the country's net savings surplus. Initially, this indeed translated into the building up of a positive net foreign asset position, although its size appeared to be disappointedly low [Kusters (1998)]. At its peak, in 1988, net foreign assets amounted to € 59 billion (27.3% GDP). However, from that year onwards the figure started gradually to decline, despite large current account surpluses. In 1998 the country became a net debtor. In 2002 the international investment position reached an all-time low of minus € 113 billion (minus 24.4% GDP), after which a strong recovery took place. At year-end 2006, the net foreign asset position was a meagre € 4 billion (less than 1% GDP).

The development of the Dutch net international investment position (net IIP) is illustrated in figure 4. In this figure, both the cumulative change in net IIP and the cumulative current account balance since end 1986 are shown. The area between the lines is the cumulative gap, the change in net IIP that cannot be explained by balance of payment flows.

Figure 4: Changes in the net international investment position of the Netherlands (1987 – 2006, in € billion)



Source: Calculated from DNB, data February 2008

[9] This is without the so-called Specialized Financial Institutions ('bijzondere financiële instellingen, BFIs). If we would include such BFIs, which consist of companies that have ther headquaters in the Netherlands for tax reasons, Dutch external assets and liabilities both amount to more than € 3,600 billion.($ 4,900 billion).

The question to be answered is why the Dutch failed to build up a strong net international asset position. The official reaction is that the data on the international investment position are unreliable and that, if better data were available, it would appear that the Netherlands would be a strong international credit nation after all [Van Ewijk et al. (2006)]. However, this 'explanation' is rather weak, even more so since both the balance of payments data and the data on the international investment position originate from the same survey [DNB (2003)].

The difference between the cumulative current account surpluses and the change in the net international investment position of the Netherlands between 1987 and 2006, first nicknamed the Dutch 'black hole' by Kusters (1998), can to a large extent be explained by the composition, performance and currency effects mentioned earlier.

The Dutch net losses are the result of a combination of factors. First, annual exchange rate losses averaged to slightly more than 0.4%, due to the strength of the Dutch guilder and later the euro.[10] The composition effect played an important role in the category portfolio equities, as foreign investors had build up portfolios in Dutch equities before Dutch investors started to invest in foreign equities on a large scale. Over the whole period, the net cross-border position in equity investments has been negative. This composition effect was reinforced by the fact that foreign equity investors on average had a higher return on Dutch equities than the other way around (performance effect). See table A1 in the appendix for more details. This is due both to the fact that the Dutch stock exchange in many years outperformed other stock markets.[11]

In the category foreign direct investment the Dutch suffered large losses, most of them in the United States, but also in Europe. Again, foreign investors in the Netherlands were more successful (see appendix, table A2). In the category debt instruments, the Netherlands benefited from a positive performance effect, but the composition effect worked against this (appendix, table A3). Finally, the category other investments also showed net losses which, given the composition of this category, is not very logical. However, it is in this category were all statistical difficulties accumulate (see also footnote with table 2) [Boonstra (2008), chapter 6].

Table 2 shows how the 'black hole' can for a large extent be explained by capital changes of assets and liabilities. Note, that this calculation of the actual size of the gap in fact is a best case scenario, as all errors and omissions are deducted from the current account surplus. In practice, part of the errors and omissions will have to be attributed to the financial account, which will translate in a larger 'black hole', in the process increasing the 'other' effects.

[10] This figure is derived from the annual change (calculated from December values) in the nominal effective exchange rate, as reported by the IMF in its IFS.

[11] See the footnote at the bottom of table A1 for an explanation of the calculation methods used.

In this table, the capital gains and losses have been defined as the difference between the change in the net asset position per category and the balance of payments flows. This approach works from the assumption that the data on the international investment position and the balance of payments data are of the same quality. At least for the Dutch case, this assumption seems justified [DNB (2003, chapter 10)].

Table 2: The Dutch 'black hole' summarised (1986 – 2006)

Cumulative balance of payments flows (1987 - 2006)	€ billion	Average rate (%)
Current account balance	321.1	-
Capital account balance	-19.2	-
Errors and omissions	-63.3	-
Cumulative building up of net foreign assets	238.6	-
Change in net International Investment Position (year end positions, 1986 - 2006)	-46.0	-
Net capital gains or losses (the black hole)	-284.6	-
Of which:		
Capital gains (+) or losses (-) on Dutch foreign direct investments	-123.2	-2.7
Capital gains (+) or losses on foreign direct investments in the Netherlands	-19.6	-0.2
Net capital gains (+) or losses (-) on direct investments	-103.6	-
Capital gains (+) or losses (-) on Dutch investments in foreign equities	177.7	8.7
Capital gains (+) or losses on foreign investments in Dutch equities	288.7	13.0
Net capital gains (+) or losses (-) on cross border equity holdings	-111.0	-
Capital gains (+) or losses (-) on Dutch foreign debt securities	34.3	2.1
Capital gains (+) or losses on foreign investments in Dutch debt securities	40.8	1.1
Net capital gains (+) or losses (-) on debt securities	-6.5	-
Other (categories reserves, financial derivatives and other)	-63.5	-

Note: The capital gains and losses are calculated by deducting, for every individual category, the balance of payments flows from the registered change in the net international investment in that particular category. The details per category are shown in tables A1 to A3 in the appendix. The exchange rate effect as mentioned in the text is calculated by using the nominal effective exchange rate (source IMF). This is a rough approximation, as the currency composition of most asset and liability categories is not known. Until December 2007, the Dutch central bank did not publish a so-called reconciliation table, which explains the gap between balance of payments flows and changes in the international investment position.

Source: Boonstra (2008), chapter 6, updated, based on DNB data as available in March 2008.

However, it should be reminded that the analysis per subcategory nevertheless has its limitations. Earlier, when discussing the example of Finland, it was mentioned that the deterioration of the external position of this country was a side-effect of the

extremely strong performance of its stock exchange. It can also be illustrated by an example from the Dutch experience. Ahold, a major Dutch retailing company, has suffered serious losses on its direct investments in the US. This is part of the explanation of the poor Dutch performance in the category direct investment in the year 2002. However, these losses have contributed to a fall in the share price of Ahold on the Amsterdam stock exchange. Given the fact that a large part of the shares of Ahold was in foreign hands, a substantial part of the capital loss on Ahold shares was shared by foreign investors (which was from the Dutch perspective a positive factor for the relative return on cross-border equity holdings). This illustrates the complexity of the issue at hand.

This case illustrates that for a small open economy with free financial flows, due to the very large cross border positions in direct and portfolio investments, the return on cross border assets and liabilities have much more impact on the net international investment position than the balance on the current account. A savings surplus appears to be no guarantee at all for the creation of a solid net international asset position.

5. The United States: the case of dark matter

The US external position is well-documented in the international literature.[12] Moreover, as the US publishes detailed reconciliation data form 1989 onwards, data availability is relatively abundant. Therefore, this case be treated more briefly than the Dutch case. For our analysis, the US case is of interest because it mirrors the Dutch and Finnish experiences. In the Dutch case the development of the international investment position is, seen in the light of large structural savings surpluses, very disappointing. In the US case it is exactly the opposite: in spite of large and increasing current deficits the deterioration of the US international investment position is much slower than to be expected.

The US have had deficits on their current account for decades. Since 1980, a year in which the US current account was more or less in equilibrium, the cumulative current deficits amounted to $ 6,000 billion**.** As a result of this, the US have developed into the world's major debtor nation. At the end of 2006 the net international investment position was about $ 2,140 billion negative (with direct investment valued at market value)[13].

The evolvement of the world's leading economy into a major debtor is a logical consequence of its uninterrupted chain of deficits. However, a closer look at the data

[12] See for example contributions by Bernanke (2005) (2007), Dooley et al. (2003) (2004), Higgins et al. (1998) (2005) (2006), De Jong & Kamalodin (2008), Obstfeld (2004), Obstfeld & Rogoff (2004), Roubini & Setzer (2004) (2005) and Tille (2003).

[13] All data in this chapter are from the Bureau of Economic Analysis (BEA, april 2008).

shows that there are two phenomena that require further explanation. Firstly, the pace of deterioration is much slower than one would expect, given the increasingly large current deficits. Secondly, the US still have a positive balance on their income account (part of the current account), which is for a major debtor country indeed a strange phenomenon [Heath (2007)]. One would expect that payments on the external debt, such as interest rates and dividends, would push the capital income account of the balance of payments into the red. In spite of the reported major debt position, the income balance in 2006 showed a surplus of more than $ 40 billion.

The dark matter case

In a rather provocative article in the Financial Times, Harvard Economists Ricardo Hausmann and Frederico Sturzenegger take the surplus on the income account as a starting point for a totally alternative approach [Hausmann & Sturzenegger (2005-a, 2005-b)]. Their crucial, explicit assumption is that a country with a net surplus on its capital income account by definition owns net international assets. There they put forward the thesis that the US is not a debtor nation, but still a creditor nation.

They estimate what they call the Dark Matter based net foreign asset position by using another assumption, that the average annual yield on the net foreign assets is 5%. From these assumptions, they calculate the US net international investment position by using formula 5:

$$NIIP^{DM}_t = NIC_t * (1/r_t) \qquad (5)$$

In which:

$NIIP^{DM}_t$ = Dark Matter-based net international investment position
NIC_t = Net capital income
r = Assumed return (put at 5%)[14]

Using the methodology of Hausmann & Sturzenegger with data for 2006, we can calculate the US net foreign asset position to be $ 860 billion positive. There is a gap, in the terminology used by Hausmann & Sturzenegger named Dark Matter, of almost $ 6,900 billion between this estimate and the cumulative current deficits reported by the US Bureau of Economic Analysis (BEA).[15]

[14] Given this definition, we can also define a 'Dark Matter - based current account balance' over a year as the change of Dark Matter-based IIP during the year:

$$CA^{DM}_t = NIIP^{DM}_t - NIIP^{DM}_{(t-1)} \qquad (6)$$

In which CA^{DM}_t is the Dark Matter current account balance. See Boonstra 2007-b for a further illustration.

[15] Note that the amount of Dark Matter is not only very large, but appears to be growing very quickly as well. The estimation of Dark Matter in the original 2005 article by Hausmann & Sturzenegger amounted 'only' to $ 4,700 billion.

Although the Dark Matter approach at least is rather original, it also misses completely the point, because the surplus on the income account on the balance of payments can perfectly be explained without using "dark matter'. Moreover, as far as there is a gap between the cumulative deficits of the current account and the officially reported change in the external asset position, this can also be very well explained by using the aforementioned composition, performance and currency effects. The link between the balance of payments flows and the changes in the international investment position of the US can be found in the reconciliation table as published by the BEA.

It goes beyond the scope of this article to elaborate further on the Dark Matter thesis; at this place I refer to the available literature [Buiter (2006), Boonstra (2007-b)]. In the remainder of this chapter, I will explain both phenomena, the positive income balance and the gap between the cumulative account deficit and the change in external position, by a closer look at the composition of the US external assets and liabilities.

There appears to be a significant difference in composition, which was earlier illustrated by table 1. The US external assets consist overwhelmingly of direct investment, portfolio equity investments and so-called "other" assets (a.o. inter-bank positions and trade credit), while bonds have a very small share. The US external liabilities, on the other hand, are made up to a large extent of bonds, while portfolio equity investments and direct investment in the US are relatively small. On the one hand, the US still even have an international creditor position in the categories direct investment and portfolio equity investments, while on the other hand they have a major debit position in the category bonds.

This major difference in composition can help to explain both the surplus on the income account and part of the relatively slow deterioration of the US external investment position.

Let's first have a closer look at the income account. It appears that behind the net surplus on the capital income balance of $ 43 billion (2006) lie large gross flows. If this surplus is decomposed in the subcategories, it appears that the US have major net surplus in the category direct investment ($ 174 billion), but on the other hand a major deficit ($ 131 billion) caused by interest payments on government bonds. The net surplus appears above all to be caused by the fact that the return on direct foreign investment appears to be much higher than the coupon yield on US treasury bonds. However, a large part of the US income from direct investments consists of non-repatriated profits [Gros (2006), Heath (2007)].[16]

[16] Gros (2006) points that the fact that foreign direct investment in the US are structurally underperforming US investment abroad. He explains that, due to tax reasons, foreign companies have good reasons to keep their reported profits in the US as low as possible. As a result, the official data on the net income on direct investment are exaggerating the net income position of the US.

Table 3: The US capital income account and the calculation of the IIP including Dark Matter

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Investment income, credit	224.0	254.6	259.4	291.2	348.1	287.9	278.4	317.8	399.1	502.6	647.6
Investment income, debit	-197.5	-237.5	-250.6	-272.1	-322.3	-251.0	-245.2	-266.6	-336.6	-448.1	-604.4
Reinvested earnings and undistributed branch profits, credit	54.7	58.0	44.2	64.3	93.6	69.8	85.3	120.7	165.7	-20.4	220.1
Reinvested earnings and undistributed branch profits, debit	-8.5	-15.0	-2.8	-4.1	0.3	33.9	-1.6	-14.3	-49.4	-47.7	-70.6
Net reinvested etc.	46.2	43.1	41.4	60.1	93.9	103.6	83.7	106.4	116.3	-68.1	149.5
Net investment income	26.5	17.0	8.8	19.1	25.7	36.9	33.3	51.1	62.5	54.5	43.2
Net investment income (FDI income flows only)	-19.7	-26.0	-32.5	-41.0	-68.1	-66.7	-50.4	-55.3	-53.8	122.6	-106.3
Calculation of Dark Matter											
Dark matter IIP (using formula 4)	529.0	340.8	176.8	382.0	514.8	738.6	665.2	1022.4	1250.0	1089.2	863.2
IIP as reported (FDI at market value)	-360.0	-822.7	-1,070.8	-1,037.4	-1,581.0	-2,339.4	-2,454.3	-2,339.6	-2,396.7	-2,141.1	-2,140.5

Source: Data from website BEA, April 2008

Moreover, the exchange rate played an important role as well. In most years during the investigated period 2002 – 2006 (2005 being the exception), the years in which the current account deficits reached unprecedented levels, the dollar was rather weak against other major currencies in the world. For the US this meant that foreign assets, most of them denominated in foreign currencies, became more profitable. Part of the increase in profits from direct investment abroad can be explained from this factor.

It appears that the surplus on the US capital income account can be perfectly explained by a combination of the composition effect and the currency effect. The same is true for the gap between the cumulative current deficits and the reported external investment position. Over the years the US appears to realize higher capital gains (which are not registered on the balance of payments) on their foreign assets than foreigners make on their US possessions. Part of this can be explained by the composition effect, but again the currency effect plays an important role [Tille (2003)]. This can best be illustrated by the developments in the years 2002 – 2006.

Table 4 summarizes these findings (more details for the longer period 1989 – 2006 can be found in table A4 in the appendix). During the years 2002 – 2006 the US had a cumulative deficit on its current account of $ 3,188 billion, net balance of payments inflows amounted to $ 3,209 billion (the difference can be explained by errors and omissions).

In spite of this dazzling figure, its net international investment position actually improved by $ 199 billion. This can be explained by a net capital gain on its external assets of $ 3,387 billion, of which almost $ 900 billion can be explained by the net currency effect. This is caused by the fact that a large part, estimated at 70%, of US foreign assets are denominated in foreign currency, while liabilities are overwhelmingly denominated in dollars.

Table 4: Change in US international investment position explained

Increase in US foreign assets due to:

	1989 - 2006	*2002 - 2006*
Financial flows	6,834	3,007
Price effects	3,743	2,344
Currency effect	280	1,028
Other effects	2,412	1,968
Total	13,269	8,347

Increase in US foreign liabilities due to:

	1989 - 2006	*2002 - 2006*
Financial flows	12,114	6,188
Price effects	2,254	649
Currency effect	80	136
Other effects	972	1,175
Total	15,420	8,148

Increase in US net international investment position due to:

	1989 - 2006	*2002 - 2006*
Financial flows	-5,308	-3,209
Price effects	1,488	1,694
Currency effect	200	892
Other effects	1,469	822
Total	-2,151	199

Note: Negative sign at 'financial flows' in bottom of table implies net increase in US liabilities. Direct investment are valued at market value. Price effects include changes in stock prices. Other includes changes in market value of direct investment and changes in coverage of data. Difference between net financial flows and current balances can be explained by errors and omissions: Table may not add up fully due to cumulative rounding.

Source: BEA website, April 2008

6. Concluding remarks

The development of the external positions of countries can only partly be explained by the analysis of balance of payments data. Since developed countries have more or less completed the process of liberalization of their balance of payments, cross border capital flows have mushroomed. As a result, their economies are tied together by cross border investment to a much larger extent than only a couple of decades ago. Today, the change in the net international investment positions of countries are determined for the largest extent by the capital gains and losses on these cross border assets and liabilities. For open industrialized countries, the role of the balance on the current account in this respect is much less important than it was in the past.

The gap between balance of payments flows and changes in the net international investment position of countries can be explained by value changes of assets and liabilities that are not captured by the balance of payments. To gain insight in the development of the external financial position of countries it is necessary to analyze separately the value changes of external assets and liabilities. In addition to balance of payments flows, the resulting net changes can be explained by difference in composition between external assets and liabilities, differences in performance within categories (which happen for example as the performance of the local stock market differs substantially from the world average) and currency movements. A small but growing number of countries publish so-called reconciliation tables, in which these value changes are explained.

The Dutch experience shows that, in today's integrated world markets, a strong balance of payments is no guarantee at all for the creation of a substantial positive net international investment position. An unfavourable composition effect (in the categories equities, debt instruments) and strong negative performance effects (equities and direct investments) evaporated the cumulative savings surpluses. As a result, one may question the wisdom of the country's policy that aims to generate huge savings surpluses by the creation of a high degree of institutionalized pension savings.

The US experience mirrors that of the Dutch: in spite of huge deficits on the current account, the deterioration of the US net international investment position takes place much slower than most people expected. Moreover, its capital income account remained in surplus until last year. In the case of the US, a positive composition effect is an important part of the explanation, given it strong emphasis on debt securities in its external liabilities and a still positive external position in the categories direct investment and equities.

Neither the Dutch nor the American experience needs "black holes" or "dark matter" as explanation. A closer look at the capital (and currency) gains and losses on their cross border positions can explain most of the mystery; statistical discrepancies probably explain the remaining gap.

Once policy makers acknowledge that the realization of a national savings surplus is no guarantee for a solid international asset position, they may have second thoughts concerning the wisdom behind the creation of large capital based pension funds as well. This, however, would be the wrong reflex. Even if the creation of funded pension schemes does not translate automatically into a positive net international investment position, it remains a fact that a funded scheme in itself its superior than a PAYG scheme. The financial claim of the retired is stronger and the fact that people save for their own old age provision instead of paying for the current elderly enhances public support for the system.

If a country fails to build up of a net international investment position or, even worse, find itself with a large net external liability position, the worst thing that can happen is that ageing will lead to a further increase of its external liabilities. This should not be a drama after all, although history has shown that the selling out of national industries to foreign investors sometimes create nationalistic sentiments.

In today's markets, a net liability position can be supported for long periods, although a country may become vulnerable for currency crises. Especially small countries with large gross foreign assets and even larges foreign liabilities are vulnerable for changes in sentiments on the currency markets. Iceland, that experienced such a crisis in 2006, is a good example of this. For European countries, however, the way ahead may be clear: once part of the eurozone, the individual member states are no longer prone for currency crisis.

Remains the question: should policy makers try to influence the net international investment position? Although intuitively many policy makers think that they should, one should appreciate that in a world of free financial flows it will be very difficult, if not impossible, to influence the direction in which the net international investment position develops. In a market economy, in which investors make their investment decisions in freedom, the levers for government intervention are limited. Moreover, many potential measures aiming at influencing the external position may hamper economic development. Think of investment guidelines for companies and asset managers or measures that aim to prevent the takeover of domestic companies by foreign investors. As long as foreign investors are being driven by the usual profit motives, it does not make difference whether companies are in foreign hands or not. Denying domestic companies full access to foreign capital markets may hamper their development, resulting in a net welfare loss. And denying foreign investors full access to the domestic economy may invite retaliation measures, hampering your own investors activities abroad.

In this respect, further research should aim at analyzing the international investment position of countries in the context of domestic national wealth, instead of relating it to income. In addition, more detailed case studies of the external position of individual countries are needed to fully understand the impact of the globalisation of economic

ownership. Because, even when a country still has net foreign assets, in a world of free flowing capital and rational behaviour of investors it will be unavoidable that large parts of a country's real and financial assets nevertheless will in the long run to be in foreign hands.

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Nacionalna štednja i vanjsko neto investicijsko stanje: što doznajemo iz računa tekućih transakcija?

Wim Boonstra[1]

Sažetak

U ovom se članku raspravlja o odnosu između platne bilance i vanjskog neto investicijskog stanja zemalja. Polazno je stajalište da se vanjsko neto investicijsko stanje mnogih zemalja razvija neovisno o bilanci tekućeg računa. Taj fenomen može biti objašnjen promjenama vrijednosti vanjske imovine i obveza koje nisu registrirane u platnoj bilanci. Te promjene vrijednosti djeluju na vanjsko investicijsko stanje zemlje čim se njeni vanjski dobici i obveze počnu razlikovati. To se može objasniti promjenama u vrijednosti valute, razlikom u sastavu vanjske imovine i obveza, te učincima njihova djelovanja. Raspravu o tim mehanizmima slijede prikazi dva slučaja, tzv. nizozemske "crne rupe" i "tamne materije" u SAD. Razumijevanje odnosa između vanjskog neto investicijskog stanja i platne bilance postaje to važnije što se zemlja suočava sa starenjem populacije. Neke su zemlje izričito usmjerene k stvaranju viška štednje radi ostvarenja neto vanjske imovine. U zaključnom dijelu teksta raspravlja se o posljedicama neuspjeha takve politike.

Ključne riječi: *platna bilanca, račun tekućih transakcija, vanjsko neto investicijsko stanje, starenje stanovništva*

JEL klasifikacija: *F15, F21, F32, F36*

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Appendices

Table A1: Development of the Dutch cross border position in portfolio equities

Development of the Dutch cross border position in portfolio equities

Dutch investment in foreign equities *(stocks and flows in € billion)*	***1986***	***1987***	***1988***	***1989***	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***		
Position at year end	18.0	17.6	23.5	29.6	25.5	32.7	36.4	52.5	53.0	66.8	85.2	113.6	148.4	248.3	272.5	266.7	207.3	277.0	325.2	402.9	422.6		
Change in position during year		-0.5	5.9	6.1	-4.1	7.2	3.7	16.2	0.4	13.8	18.4	28.3	34.8	99.9	24.2	-5.9	-59.4	69.7	48.3	77.7	19.7	cumulative change	404.6
Purchases of foreign equities during year		1.2	1.5	2.2	2.0	3.2	2.2	3.6	5.4	6.3	2.2	10.7	17.6	49.6	25.6	33.1	8.6	13.6	27.6	9.2	1.5	cumulative flows	226.9
Capital gains (+) or losses (-)		-1.7	4.4	3.9	-6.1	4.0	1.5	12.6	-5.0	7.5	16.2	17.7	17.2	50.2	-1.3	-38.9	-68.0	56.1	20.6	68.5	18.2	cumulative capital gains	177.7
Dividend		0.4	0.4	0.4	0.4	0.5	0.7	0.8	0.8	1.1	1.3	1.9	2.5	2.7	1.9	1.6	1.6	4.2	5.2	6.9	7.8	cumulative dividend	43.2
Returns (%)																							
Capital gain or loss		-8.9%	24.0%	16.1%	-20.0%	14.7%	4.5%	32.9%	-9.1%	13.4%	23.9%	19.5%	14.1%	29.0%	-0.5%	-13.5%	-25.1%	26.2%	7.1%	20.8%	4.5%	average capital gains (%)	8.7%
Dividend yield		2.1%	2.2%	1.7%	1.4%	2.0%	2.1%	2.1%	1.5%	2.0%	1.9%	2.1%	2.0%	1.6%	0.7%	0.5%	0.6%	2.0%	1.8%	2.1%	1.9%	average dividend (%)	1.7%

Foreign investment in Dutch equities *(stocks and flows in € billion)*	***1986***	***1987***	***1988***	***1989***	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***		
Position at year end	37.0	29.9	38.7	50.0	42.9	51.6	54.2	81.4	82.9	94.6	142.1	205.7	264.6	362.1	376.8	322.2	250.1	249.1	270.5	437.5	478.8		
Change in position during year		-7.1	8.8	11.3	-7.0	8.7	2.6	27.2	1.5	11.8	47.5	63.6	58.9	97.6	14.6	-54.5	-72.2	-1.0	21.4	167.0	41.3	cumulative change	441.8
Purchases of Dutch equities during year		-0.2	0.7	2.1	-2.2	-1.1	-1.2	3.0	-1.1	-0.6	2.5	0.4	3.6	28.8	18.5	14.5	0.0	0.8	2.6	67.5	14.6	cumulative flows	153.1
Capital gains (+) or losses (-)		-6.9	8.1	9.1	-4.8	9.8	3.8	24.2	2.6	12.3	45.0	63.2	55.3	68.7	-3.9	-69.0	-72.1	-1.8	18.8	99.5	26.7	cumulative capital gains	288.7
Dividend		1.4	1.5	1.5	1.6	1.8	1.8	1.8	1.6	2.3	2.4	2.9	4.0	4.8	5.9	6.7	6.4	5.9	6.5	10.3	12.8	cumulative dividend	84.1
Returns (%)																							
Capital gain or loss		-18.8%	26.7%	22.9%	-9.9%	23.1%	7.5%	43.5%	3.2%	14.9%	47.0%	44.4%	26.7%	24.6%	-1.1%	-18.0%	-22.4%	-0.7%	7.5%	32.7%	6.0%	average capital gains (%)	13.0%
Dividend yield		3.8%	5.0%	3.8%	3.4%	4.4%	3.6%	3.2%	2.0%	2.8%	2.5%	2.0%	1.9%	1.7%	1.6%	1.7%	2.0%	2.4%	2.6%	3.4%	2.9%	average dividend (%)	2.8%

Net Dutch international position in equities *(stocks and flows in € billion)*	***1986***	***1987***	***1988***	***1989***	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***		
Net position at year end	-19.0	-12.3	-15.2	-20.4	-17.4	-18.9	-17.8	-28.8	-29.9	-27.8	-56.9	-92.1	-116.2	-113.8	-104.2	-55.5	-42.8	27.9	54.7	-34.5	-56.1		
Change in net position during year		6.6	-2.9	-5.1	2.9	-1.5	1.1	-11.0	-1.1	2.1	-29.1	-35.2	-24.0	2.3	9.6	48.7	12.8	70.7	26.8	-89.3	-21.6	cumulative net change	-37.2
Net cross border investment flows (+ = Dutch are net buy		1.4	0.8	0.0	4.2	4.3	3.4	0.6	6.6	6.9	-0.3	10.3	14.1	20.8	7.1	18.6	8.6	12.8	25.0	-58.2	-13.1	cumulative net flows	73.9
Net capital gains (+) or losses (-)		5.3	-3.7	-5.2	-1.3	-5.8	-2.3	-11.6	-7.6	-4.8	-28.8	-45.5	-38.1	-18.5	2.6	30.1	4.2	57.9	1.8	-31.0	-8.6	cumulative net capital gain (+) or loss (-	-111.0
Net dividend income (+) or payments (-)		-1.0	-1.1	-1.1	-1.2	-1.3	-1.1	-1.0	-0.8	-1.2	-1.1	-1.0	-1.5	-2.1	-4.0	-5.1	-4.8	-1.7	-1.3	-3.4	-5.0	cumulative net dividend	-40.8

Note for tables A1 to A3:

All data are from the Dutch Central Bank. Capital gains and losses (values) are calculated as the difference between the reported change in year-end positions and the balance of payment flows; dividends, profits and coupon yields are taken from the balance of payments statistics. Capital gains and losses (returns in %) are calculated after correction for the balance of payments flows through the year. The half of the flow during the year is added to the year-end position of previous year. The capital gain of loss is divided by this corrected figure. This correction takes into account that capital gains also can be made on investments earlier in the year. The implicit assumption is that the cross border financial flows are evenly divided through the year. More refinement can be attained by using quarterly data. However, these are only available from 2003 onwards.

Source: Own calculations, based on data from DNB (Dutch Central Bank), www.statistics.dnb.nl

Table A 2: Development of the Dutch cross border position in direct investment

Development of the Dutch cross border position in direct investment

Dutch investment in foreign direct investment *(stocks and flows in € billion)*	***1986***	***1987***	***1988***	***1989***	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***		
Position at year end	57.2	58.1	66.7	76.5	82.0	91.0	99.7	105.8	112.6	125.7	153.5	181.8	196.3	259.7	328.3	376.9	378.1	414.3	431.1	520.0	545.8		
Change in position during year		0.9	8.5	9.8	5.5	9.0	8.7	6.1	6.8	13.2	27.8	28.2	14.5	63.4	68.6	48.6	1.2	36.1	16.9	88.9	25.8	cumulative change	488.6
Dutch foreign direct investment during year		7.4	6.1	13.2	11.3	10.9	10.1	8.5	14.5	14.7	24.6	21.7	32.8	54.1	82.1	56.5	34.0	39.0	23.5	109.2	37.5	cumulative flows	611.8
Capital gains (+) or losses (-)		-6.5	2.4	-3.4	-5.8	-1.9	-1.5	-2.3	-7.7	-1.5	3.2	6.5	-18.3	9.3	-13.5	-7.9	-32.8	-2.9	-6.6	-20.3	-11.8	cumulative capital gains	-123.2
Profits (included retained profits)		4.4	5.3	8.0	5.2	5.8	5.7	6.4	8.3	9.9	10.5	14.4	9.0	16.8	22.2	19.2	14.9	22.7	32.9	40.4	54.6	cumulative profits	316.6
Returns (%)																							
Capital gain or loss		-10.6%	3.9%	-4.6%	-7.1%	-2.1%	-1.5%	-2.3%	-6.8%	-1.3%	2.4%	4.0%	-9.2%	4.2%	-4.5%	-2.2%	-8.3%	-0.7%	-1.6%	-4.2%	-2.2%	average capital gains (%)	-2.7%
Profitability		7.1%	8.6%	10.9%	6.4%	6.6%	6.0%	6.1%	7.3%	8.3%	7.6%	8.7%	4.5%	7.5%	7.4%	5.4%	3.8%	5.7%	7.7%	8.3%	10.1%	average profits (%)	7.2%
Foreign direct investment in the Netherlands *(stocks and flows in € billion)*	***1986***	***1987***	***1988***	***1989***	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***		
Position at year end	33.2	35.0	38.6	45.2	52.7	56.3	61.3	65.6	73.5	84.5	100.1	111.9	141.0	191.3	261.9	321.0	333.7	337.8	350.4	382.4	381.3		
Change in position during year		1.9	3.6	6.6	7.5	3.5	5.0	4.3	8.0	10.9	15.6	11.7	29.1	50.4	70.6	59.0	12.7	4.1	12.6	32.0	-1.0	cumulative change	348.2
Foreign direct investment in the Netherlands during year		2.2	4.0	7.1	8.7	4.9	4.9	5.4	5.9	9.0	12.7	9.9	33.3	38.7	69.3	58.0	26.6	18.6	3.7	38.4	6.4	cumulative flows	367.7
Capital gains (+) or losses (-)		-0.4	-0.5	-0.5	-1.2	-1.4	0.1	-1.1	2.0	2.0	2.9	1.9	-4.1	11.7	1.3	1.0	-13.9	-14.6	8.9	-6.3	-7.4	cumulative capital gains	-19.6
Profits (included retained profits)		3.8	4.4	5.2	5.8	5.0	5.1	4.3	5.0	4.4	8.1	8.3	10.3	10.3	17.5	10.6	5.6	15.9	18.6	25.4	25.6	cumulative profits	199.2
Returns (%)																							
Capital gain or loss		-1.1%	-1.2%	-1.1%	-2.5%	-2.5%	0.2%	-1.7%	3.0%	2.5%	3.2%	1.8%	-3.2%	7.3%	0.6%	0.3%	-4.1%	-4.3%	2.6%	-1.7%	-1.9%	average capital gains (%)	-0.2%
Profitability		11.0%	11.8%	12.3%	11.7%	9.0%	8.7%	6.7%	7.2%	5.7%	9.0%	7.9%	8.0%	6.4%	7.8%	3.7%	1.7%	4.6%	5.5%	6.9%	6.6%	average profits (%)	7.6%
Net Dutch international position in direct investment *(stocks and flows in € billion)*	***1986***	***1987***	***1988***	***1989***	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***		
Net position at year end	24.1	23.1	28.1	31.3	29.3	34.8	38.4	40.2	39.0	41.2	53.4	69.9	55.3	68.3	66.3	55.9	44.4	76.5	80.8	137.7	164.5		
Change in net position during year		-1.0	5.0	3.2	-2.0	5.5	3.6	1.8	-1.2	2.2	12.2	16.5	-14.6	13.0	-2.0	-10.4	-11.5	32.1	4.3	56.9	26.8	cumulative net change	140.4
Net cross border investment flows (+ = Dutch are net inves		5.2	2.1	6.1	2.6	6.0	5.2	3.1	8.6	5.7	11.8	11.9	-0.4	15.4	12.8	-1.5	7.4	20.4	19.8	70.9	31.2	cumulative net flows	244.0
Net capital gains (+) or losses (-)		-6.1	2.9	-2.9	-4.6	-0.5	-1.6	-1.2	-9.8	-3.5	0.4	4.7	-14.2	-2.4	-14.8	-8.9	-18.9	11.7	-15.5	-14.0	-4.4	cumulative net capital gain (+) or l	-103.6
Net profit income (+) or payments (-)		0.6	0.9	2.8	-0.6	0.8	0.6	2.1	3.3	5.5	2.4	6.1	-1.3	6.6	4.7	8.6	9.3	6.8	14.2	15.0	29.0	cumulative net profits	117.4

Source: Own calculations, based on data from DNB (Dutch Central Bank), www.statistics.dnb.nl

Table A3: Development of the Dutch cross border position in portfolio debt instruments

Development of the Dutch cross border position in portfolio debt instruments

Dutch investment in foreign debt instruments

(stocks and flows in € billion)	***1986***	***1987***	***1988***	***1989***	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***		
Position at year end	18.7	20.4	25.8	23.6	23.7	27.9	33.2	41.2	41.1	52.6	76.8	108.1	162.8	202.7	241.5	284.4	336.2	382.1	452.2	526.7	535.0		
Change in position during year		1.7	5.4	-2.2	0.2	4.2	5.3	8.1	-0.1	11.5	24.2	31.3	54.7	39.9	38.8	42.9	51.8	45.9	70.1	74.5	8.4	cumulative change	516.3
Purchases of foreign debt instruments during year		2.5	4.8	-1.6	0.8	0.9	8.5	5.4	2.4	5.6	16.9	23.6	44.5	39.5	44.5	35.1	60.3	42.4	57.0	56.2	32.7	cumulative flows	482.1
Capital gains (+) or losses (-)		-0.9	0.6	-0.6	-0.7	3.3	-3.2	2.6	-2.5	6.0	7.2	7.7	10.2	0.3	-5.7	7.8	-8.5	3.5	13.1	18.2	-24.3	cumulative capital gains	34.3
Interest		1.6	2.1	2.1	2.1	2.0	2.6	2.6	3.5	4.0	5.1	6.1	6.8	7.4	9.8	9.8	13.3	14.2	16.3	17.9	20.8	cumulative dividend	150.0
Returns (%)																							
Capital gain or loss		-4.3%	2.7%	-2.4%	-2.8%	13.5%	-9.9%	7.4%	-6.0%	13.6%	11.9%	8.7%	7.9%	0.2%	-2.5%	3.0%	-2.7%	1.0%	3.2%	3.8%	-4.5%	average capital gains (%)	2.1%
Coupon yield		7.8%	9.0%	8.6%	8.6%	8.4%	8.1%	7.2%	8.3%	9.2%	8.3%	6.9%	5.2%	4.0%	4.4%	3.8%	4.2%	4.0%	4.0%	3.7%	3.8%	average dividend (%)	6.4%

Foreign investment in Dutch debt instruments

(stocks and flows in € billion)	***1986***	***1987***	***1988***	***1989***	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***		
Position at year end	19.3	26.8	31.3	36.8	35.7	42.3	54.6	63.6	56.0	69.4	76.7	85.7	117.3	172.0	232.6	299.1	367.2	436.7	497.0	579.1	605.5		
Change in position during year		7.5	4.5	5.5	-1.1	6.6	12.3	9.0	-7.6	13.4	7.3	9.0	31.6	54.7	60.6	66.5	68.1	69.5	60.3	82.1	26.4	cumulative change	586.2
Purchases of Dutch debt instruments during year		6.3	8.3	5.9	1.1	4.5	4.4	7.5	0.2	5.0	7.7	15.3	23.7	65.3	42.0	68.9	53.2	74.7	57.1	61.2	33.2	cumulative flows	545.4
Capital gains (+) or losses (-)		1.3	-3.8	-0.5	-2.2	2.1	8.0	1.5	-7.8	8.3	-0.4	-6.3	7.9	-10.6	18.6	-2.4	14.9	-5.2	3.2	20.9	-6.7	cumulative capital gains	40.8
Interest		1.6	2.1	2.4	2.5	2.9	3.5	3.9	4.6	4.8	4.8	4.9	5.8	7.5	10.6	11.6	15.5	15.4	15.9	19.6	22.3	cumulative dividend	162.0
Returns (%)																							
Capital gain or loss		5.6%	-12.2%	-1.3%	-6.0%	5.5%	17.9%	2.6%	-12.3%	14.2%	-0.6%	-7.4%	8.1%	-7.1%	9.6%	-0.9%	4.6%	-1.3%	0.7%	4.0%	-1.1%	average capital gains (%)	1.1%
Coupon yield		7.1%	6.8%	7.0%	6.6%	7.5%	7.9%	6.7%	7.2%	8.3%	6.6%	5.9%	5.9%	5.0%	5.5%	4.4%	4.8%	3.8%	3.4%	3.7%	3.7%	average dividend (%)	5.9%

Net Dutch international position in debt instruments

(stocks and flows in € billion)	***1986***	***1987***	***1988***	***1989***	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***		
Net position at year end	-0.6	-6.4	-5.5	-13.2	-11.9	-14.4	-21.4	-22.4	-14.9	-16.8	0.1	22.4	45.5	30.7	8.9	-14.7	-31.0	-54.6	-44.8	-52.4	-70.5		
Change in net position during year		-5.9	0.9	-7.7	1.3	-2.4	-7.1	-1.0	7.5	-1.8	16.9	22.3	23.1	-14.8	-21.8	-23.6	-16.3	-23.6	9.8	-7.6	-18.0	cumulative net change	-69.9
Net cross border investment flows (+ = Dutch are net b		-3.7	-3.5	-7.5	-0.3	-3.6	4.1	-2.1	2.2	0.5	9.2	8.3	20.8	-25.7	2.5	-33.8	7.1	-32.2	-0.1	-5.0	-0.5	cumulative net flows	-63.4
Net capital gains (+) or losses (-)		-2.1	4.4	-0.2	1.6	1.2	-11.1	1.1	5.3	-2.4	7.7	13.9	2.3	10.9	-24.3	10.2	-23.4	8.6	9.9	-2.6	-17.6	cumulative net capital gain (+) o	-6.5
Net interest income (+) or payments (-)		0.0	0.0	-0.2	-0.4	-0.8	-0.9	-1.3	-1.1	-0.8	0.3	1.2	1.0	-0.1	-0.7	-1.8	-2.2	-1.2	0.4	-1.7	-1.5	cumulative net dividend	-12.0

Source: Own calculations, based on data from DNB (Dutch Central Bank), www.statistics.dnb.nl

Table A4: Changes in the US external investment position in detail

US Assets abroad	***1989***	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***
Position beginning	2,008.4	2,350.2	2,294.1	2,470.6	2,466.5	3,091.4	3,315.1	3,964.6	4,650.8	5,379.1	6,179.1	7,399.7	7,401.2	6,930.5	6,807.8	8,318.2	10,129.9	12,611.4
Financial flows (BoPs registration)	175.4	81.2	64.4	74.4	200.6	178.9	352.3	413.4	485.5	353.8	504.1	560.5	382.6	294.6	325.4	905.0	426.9	1,055.2
Price changes (excl exchange rate effect)	144.6	-221.1	82.9	-29.0	355.3	-86.5	229.5	315.8	456.2	368.9	802.1	-305.4	-714.1	-880.3	735.1	434.6	1,030.6	1,023.6
Exchange rate effect	-16.3	67.3	2.1	-82.8	-29.1	85.5	50.9	-74.6	-233.7	79.2	-130.1	-298.3	-168.7	266.0	484.3	309.1	-440.3	409.1
Other effects	38.2	16.4	27.1	33.2	98.2	45.8	16.7	31.7	20.4	-1.9	44.5	44.6	29.4	197.0	-34.5	163.1	1,464.3	177.9
Total effects	341.9	-56.2	176.5	-4.1	624.9	223.7	649.4	686.3	728.3	800.0	1,220.6	1.5	-470.7	-122.7	1,510.4	1,811.8	2,481.5	2,665.8
Position ending	2,350.2	2,294.1	2,470.6	2,466.5	3,091.4	3,315.1	3,964.6	4,650.8	5,379.1	6,179.1	7,399.7	7,401.2	6,930.5	6,807.8	8,318.2	10,129.9	12,611.4	15,277.2

Foreign assets in US	***1989***	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***
Position beginning	1,997.9	2,397.2	2,458.6	2,731.4	2,918.8	3,235.7	3,450.4	4,270.4	5,010.9	6,201.9	7,249.9	8,437.1	8,982.2	9,269.9	9,262.1	10,657.7	12,526.6	14,752.5
Financial flows (BoPs registration)	224.9	141.6	110.8	170.7	282.0	306.0	438.6	551.1	706.8	423.6	740.2	1,046.9	782.9	797.8	864.4	1,461.8	1,204.2	1,859.6
Price changes (excl exchange rate effect)	137.4	-72.5	178.7	46.6	62.6	-109.7	382.0	231.6	548.2	656.7	472.4	-439.1	-489.9	-820.8	738.4	276.7	-67.3	522.3
Exchange rate effect	-0.9	10.3	-2.5	-7.8	-7.2	12.5	11.9	-8.5	-26.1	11.1	-4.2	-27.7	-17.0	34.7	68.2	39.2	-50.0	44.0
Other effects	37.8	-18.0	-14.1	-22.1	-20.6	6.0	-12.5	-33.7	-37.9	-43.3	-21.3	-35.0	11.8	-19.5	-275.3	91.2	1,138.9	239.3
Total effects	399.3	61.4	272.9	187.4	316.9	214.7	820.0	740.5	1,191.0	1,048.0	1,187.2	545.1	287.7	-7.8	1,395.6	1,868.9	2,225.9	2,665.2
Position ending	2,397.2	2,458.6	2,731.4	2,918.8	3,235.7	3,450.4	4,270.4	5,010.9	6,201.9	7,249.9	8,437.1	8,982.2	9,269.9	9,262.1	10,657.7	12,526.6	14,752.5	17,417.7

US Net IIP	***1989***	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***
Position beginning	10.5	-47.0	-164.5	-260.8	-452.3	-144.3	-135.3	-305.8	-360.0	-822.7	-1,070.8	-1,037.4	-1,581.0	-2,339.4	-2,454.3	-2,339.6	-2,396.7	-2,141.1
Financial flows (BoPs registration)	-49.5	-60.3	-46.4	-96.3	-81.5	-127.1	-86.3	-137.7	-221.3	-69.7	-236.1	-486.4	-400.2	-503.2	-538.9	-556.7	-777.4	-833.2
Price changes (excl exchange rate effect)	7.1	-148.6	-95.8	-75.6	292.7	23.2	-152.5	84.2	-92.1	-287.9	329.7	133.7	-224.2	-59.5	-3.3	157.9	1,097.9	501.3
Exchange rate effect	-15.4	57.0	4.6	-75.0	-22.0	73.1	39.0	-66.1	-207.6	68.1	-126.0	-270.6	-151.7	231.2	416.2	269.9	-390.3	365.1
Other effects	0.4	34.4	41.2	55.3	118.8	39.8	29.2	65.4	58.3	41.5	65.8	79.7	17.7	216.5	240.8	71.9	325.4	-32.6
Total effects	-57.5	-117.5	-96.3	-191.5	308.0	9.0	-170.6	-54.2	-462.7	-248.0	33.3	-543.6	-758.4	-114.9	114.7	-57.1	255.6	0.6
Position ending	-47.0	-164.5	-260.8	-452.3	-144.3	-135.3	-305.8	-360.0	-822.7	-1,070.8	-1,037.4	-1,581.0	-2,339.4	-2,454.3	-2,339.6	-2,396.7	-2,141.1	-2,140.5

Source: Bureau for Economics Analysis (www.bea.gov), April 2008