

International investment position: market valuation and the effects of external changes

Iceland's foreign assets as a proportion of GDP are among the highest in the world, but its foreign debt is also one of the largest. This paper provides a breakdown of the international investment position (IIP) of the Icelandic economy by asset type and currency composition. The author estimates the market value of inward and outward foreign direct investment (FDI). The results give a somewhat different picture of the net-position and development of foreign assets and liabilities in recent years. The analysis suggests that it is likely that the value of both FDI assets and liabilities is significantly underestimated in the official statistics. The proportion of FDI to total foreign liabilities is much lower, however, than to total assets; therefore, the impact on the net IIP is positive. These findings are further used to examine the effects of radical changes in external conditions on the IIP. The analysis shows that in the event of major changes in external economic conditions and the domestic economic outlook, the composition of the asset and liability stock greatly affects the net international investment position.

Introduction

Since the full liberalisation of capital movements to and from the country, Iceland's foreign asset and liability stocks have mushroomed and their composition has changed significantly. Icelandic firms were swift to take advantage of enhanced freedom. Many of them have achieved rapid international expansion by acquiring foreign firms, establishing branch offices, and founding new companies. Icelandic investors have also stepped up their investments in foreign securities, equities in particular. For the economy as a whole, this has meant, among other things, that residents' foreign assets have grown enormously in the space of a very few years. This expansion has been financed largely through foreign borrowing. Official statistics also indicate that Iceland's foreign liabilities have grown considerably more rapid than its foreign assets. That entails that the net IIP has deteriorated markedly in the past few years and is now very negative in terms of GDP; in fact it is at one of the highest levels among member nations of the Organisation for Economic Co-operation and Development (OECD).

The primary purpose of this paper is to estimate the Icelandic economy's stock of assets and liabilities using different methodologies, as well as analysing its composition. A second objective is to determine the implications of the change in size and structure of foreign assets and liabilities on the IIP in the event of significant changes in external conditions. In this context, changes in external conditions are defined as substantial changes in stock market prices and in the exchange rate of foreign currencies vis-à-vis the Icelandic króna.

1. The author is an economist at the Central Bank of Iceland Economics Department. He would like to thank Pétur Örn Sigurdsson, Arnór Sighvatsson, Jakob Gunnarsson and Tryggvi Pálsson for their constructive comments. The author alone is responsible for any errors that remain. The analysis is based on data and information available February 1st, 2008. The views expressed in this paper are those of the author and do not necessarily represent the views of the Central Bank of Iceland.

The impact of foreign investment on the IIP

One of the most significant changes in the foreign asset position of the Icelandic economy lies in the phenomenal increase in outward FDI by Icelandic residents.² At year-end 1997, the stock of outward FDI amounted to roughly 3.7% of GDP which makes up 17% of Iceland total foreign assets. At that time, the inward FDI stock totalled 4.6% of GDP, roughly equivalent to 7% of foreign liabilities.³ By the end of Q3/2007, the outward FDI stock had increased to 115% of GDP and 23% of residents' foreign assets. The inward FDI stock on the other hand totalled 59% of GDP, or 9% of foreign liabilities.

In the official statistics, which adhere to international standards set by the International Monetary Fund (IMF) and OECD, Icelanders' outward FDI stock and non-residents' inward FDI stock are recorded at book value. It is generally assumed, however, that asset prices will rise over the long term. If the proportion of direct investment in the external balance sheet is high, it is therefore likely that the official statistics on the IIP will not fully reflect the market value of foreign assets and liabilities. International corporate mergers and acquisitions have two types of effects in particular on the item listed as direct investment in the international investment position. First, an Icelandic firm's acquisition of a foreign company is entered as a foreign direct investment in the amount that the acquiring firm records as the book value of the acquired entity. In some instances, the actual acquisition price can be much higher. This discrepancy is affected by items such as impairment of goodwill. Therefore, the book value and the transaction value need not be the same, and the difference is reflected in a change in the net IIP. Second, if the acquisition is financed in full or in part with shares in the Icelandic firm, the transaction also affects non-residents' portfolio equity investment in Iceland. This is because the foreign investors (the former owners of the foreign company) receive payment in the form of shares in the Icelandic company and have thereby invested in Icelandic equities.⁴ As long as the foreign investors hold on to their shares, non-resident portfolio equity investment in Iceland has increased as a result of an acquisition of a foreign company by an Icelandic firm.

In many cases, a foreign acquisition, or merger, affects both the asset and the liability side of the IIP. An acquisition of a foreign entity increases assets, while the financing of the acquisition increases foreign liabilities. These transactions as such do not necessarily affect the IIP. However, the different types of accounting treatments applied to various categories of assets could result in a change in the net IIP. Let's take for example an Icelandic firm that acquires a foreign firm for 100 m.kr. It pays for the acquisition with 50 m.kr. in shares in the

2. Foreign direct investment in a company consists of the proportion held of the book value of its equity and the net liability position vis-à-vis the company. An investor who grants credit to a subsidiary in another country increases his investment in the same way as with an equity capital contribution. When an investor owns 10% or more in an entity, this is defined as direct investment. Shareholdings under 10% are defined as portfolio equity investment.
3. Foreign investors include domestic entities that are registered abroad, such as holding companies and other entities domiciled abroad.
4. This assumes that the foreign entity's share in the Icelandic company is less than 10%.

Icelandic company and takes a long-term foreign-currency loan for the other 50 m.kr. The book value of the foreign company is only 75 m.kr., however. The effect of this transaction on the IIP would be as follows:

Foreign assets:	Direct investment: +75 m.kr.
Foreign liabilities:	Foreign loans: -50 m.kr. + portfolio equity: -50 m.kr. = -100 m.kr.
Net position:	-25 m.kr.

In this example, the net IIP deteriorates, even though the increase in foreign assets essentially equals the increase in foreign liabilities.⁵ The differing composition of foreign assets and liabilities changing hands in this transaction also affects the value of asset and liability stock from one time to another. For instance, assuming that one year later the market value of the Icelandic parent company rises as much as that of the acquired foreign company, i.e. the value of both entities increases by 20% – the effects on the IIP would be as follows:

Foreign assets:	Direct investment: +75 m.kr. (book value unchanged)
Foreign liabilities:	Foreign loans: -50 m.kr. (unchanged) + portfolio equity: -50 m.kr. * 1.2 (increase of 20%) = -110 m.kr.
Net position:	-35 m.kr. (deteriorates by 10 m.kr.)

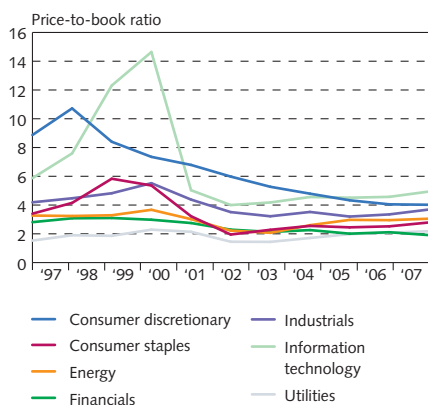
Here the net IIP deteriorates because the portfolio equity investment is recorded at market value. Portfolio equity is revalued on a quarterly basis in official statistics, while the FDI is entered at book value, which does not necessarily reflect the market value of the asset in question. Had the same method been used to enter the direct investment and the portfolio equity investment, the IIP one year after the acquisition would have been as follows:

Foreign assets:	Direct investment: +100 m.kr. (original market value) * 1.2 (increase of 20%) = +120 m.kr.
Foreign liabilities:	Foreign loans: -50 m.kr. (unchanged) + portfolio equity: -50 m.kr. * 1.2 (increase of 20%) = -110 m.kr.
Net position:	+10 m.kr. (improved by 10 m.kr. since the original acquisition and 45 m.kr. higher than if based on the above method)

In the long term, it is likely that the recorded value of the portfolio equity investment will increase over and above the recorded value of the direct investment. The fact that FDI is most likely underestimated in comparison with other types of assets in the IIP is of considerable importance for Iceland. This is because, in Iceland, the stock of FDI as a proportion of total assets is very high compared with other countries, as well as being much higher than the corresponding stock of assets held by non-residents in Iceland (see e.g. Svavarsson and Sigurdsson (2007)).

5. There are instances where large stakes in companies are purchased at a premium; that is, considerably above the last recorded market price. This example assumes that the purchase price reflects the actual market price of the asset.

Chart 1
Price-to-book value 1997-2007
Average values for S&P 500 industry sub-indices



Source: Reuters-EcoWin.

Foreign direct investment at market value

The IMF (1993) recommends that FDI be recorded at market value. Naturally, however, the market value of unlisted companies is an unknown quantity, and there is no generally accepted method for recording direct investment in unlisted companies at their estimated market value at any given time. As a result, most countries, including Iceland, have elected to record the stock of direct investment at book value. In instances involving companies not listed on a securities exchange, this method has a number of advantages from an accounting point of view. However, there are also a number of drawbacks, as is shown in the example above. Book value reflects recorded equity plus a company's aggregate profit, less dividends paid. Equity is defined as the difference between a company's assets and its liabilities.⁶ In other words, if a company were dissolved, its book value should reflect the residual value to the owners after debts have been paid. The market value, on the other hand, is the amount that potential buyers are willing to pay for a share in the company at any given time. In general, market value is higher than book value because, in addition to reflecting the value of a company's equity, it incorporates the value of intangible assets such as goodwill and human capital.⁷ The ratio of market value to book value of a company (the price-to-book or p/b ratio) generally varies by sector and fluctuates considerably over time (see Chart 1). For example, the p/b ratio tends to be lower in capital-intensive industries than in human resources-intensive sectors.

The methodology used in this paper to convert the book value of direct investment to estimated market value is relatively simple but considerably data-intensive. It is based on the assumption that the ratio of book value to market value for listed companies is comparable to that for unlisted companies.⁸ The market value of direct investment in a given industry or sector is estimated by calculating the average p/b ratio of listed companies in that industry or sector in the country concerned. The book value of the unlisted asset is then simply multiplied by the resulting coefficient.⁹

In order to assess the market value of the stock of Iceland's FDI, it is necessary to compile data on the geographical distribution of the assets, on the one hand, and the sector distribution in each country, on the other. For this study, market data were collected on the p/b ratio of

6. The issue of new share capital increases the book value of listed companies, while dividend payments and purchases of own shares reduce book value.

7. This is far from a universal rule, however, because the market value of listed companies can also fall below book value. This happened, for example, in Norway in 2002, when the market value of listed companies was, on average, lower than the book value. In mid-March 2008, The Economist also estimated that the market value of up to 60% of companies on the Nikkei 225 index in Japan was below book value (Economist 2008).

8. This assumption is subject to various limitations. Among other things, it can be argued that the market value of unlisted companies should be lower than that of listed companies by an amount corresponding to the liquidity premium. Therefore, estimated market value calculated according to this method may be more likely to be an overestimation than underestimation.

9. This methodology is consistent with one of six methods that OECD (2008) recommends for estimating the market value of direct investment in its draft revision of the benchmark definition of foreign direct investment. Reference is made to the recommendations from OECD concerning recording foreign direct investment at market value in draft version of IMF's Balance of payments and international investment position manual (IMF 2007).

listed companies in the countries concerned, by sector. Itemised data were available for listed companies in the US, the euro area, and Iceland, but a breakdown by sector was not available for other regions. In those instances where a detailed itemisation by sector was not available, the ratios for the region's leading stock index were used instead.

The same method was used to assess the market value of the inward FDI stock. Early in the period covered by the study, however, a high proportion of the inward FDI stock was concentrated in sectors where no company was listed on the Icelandic stock exchange. In those cases, the study relied on the p/b ratio of the relevant sector extracted from the Standard & Poors 500 industrial index.

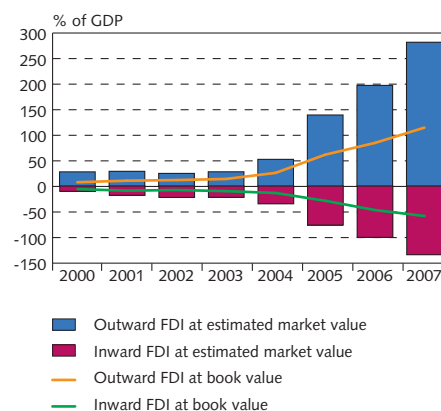
The findings show that the estimated market value of inward and outward FDI is, on average, more than twice the recorded book value (see Chart 2). These findings are consistent with the results of comparable studies carried out in Sweden and the United Kingdom (Blomberg and Falk 2006; Blomberg and Österberg 1999; Kubelec, Orskaug, and Tanaka 2007).¹⁰ It is difficult to verify the estimated market value obtained using this method, however, because unlisted companies are not sold on stock exchanges. In all likelihood, however, this method gives a more accurate view of the actual market value of direct investment than book value does, and therefore provides a clearer view of Iceland's international investment position.

The net balance of FDI at estimated market value rose from just below 20% of GDP at year-end 2004 to over 150% of GDP at the end of Q3/2007. In 2004, the net balance of FDI in terms of book value was similar to that based on estimated market value. The increase between 2005 and 2007 is much less than the calculation of estimated market value suggests, however.

Net IIP considerably more favourable than previously believed

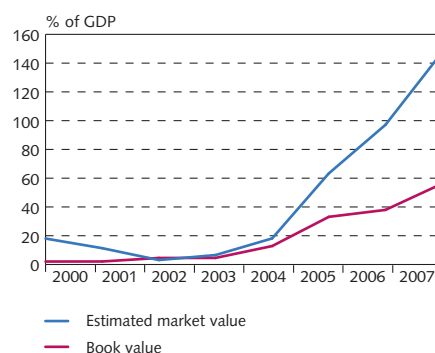
Chart 4 shows the net international investment position of the economy as a percentage of GDP, using both methods. There is a considerable difference in the results, depending on whether FDI is recorded at book value or at estimated market value. Based on the book value of FDI (as is done in the Central Bank of Iceland's official statistics), the net IIP deteriorated drastically between year-end 2003 and year-end 2006, or from -63% of GDP to -120% of GDP. Towards the end of Q3/2007, the proportion remains broadly unchanged year-on-year. Using estimated market value as a basis for calculation,

Chart 2
Foreign direct investment 2000-2007¹
Comparison of estimated market value and book value



1. Data for 2007 are based on the IIP at the end of Q3.
Sources: Central Bank of Iceland and authors' calculations.

Chart 3
Net foreign direct investment 2000-2007¹
Based on book value and estimated market value

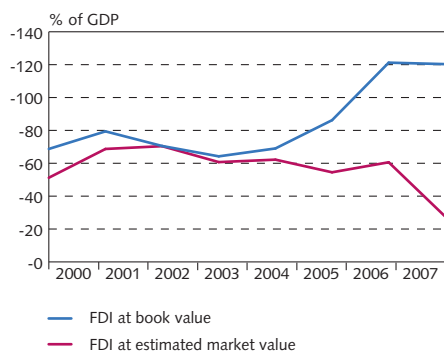


1. Data for 2007 are based on the IIP at the end of Q3.
Sources: Central Bank of Iceland and authors' calculations.

10. The methods used in these studies are not fully comparable, however, to the methodology employed here. Nonetheless, both methods are based on the same basic assumption: that market information on listed companies is a reliable indicator of developments in the value of unlisted companies. The Swedish method is based on using the previous year's price-earnings ratio (p/e ratio) of listed companies to determine estimated market value based on the profits of the unlisted companies. The average p/e ratio of listed companies in the 20 most important investment countries is weighted based on the book value of the FDI. The market value of the FDI is then determined by multiplying this weighted p/e ratio by the total profits reported by the FDI companies in each period. This method does not take into account the division of the investment base by sector. The British method is similar to that used here, except that a weighted p/b ratio of unlisted companies was initially estimated in a survey carried out in 1992. The market value of FDI is then simply assumed to change in line with developments in the stock indices in the countries concerned. This method does not take account of sectoral division of FDI in the determination of market value.

Chart 4
Net international investment position
2000-2007¹

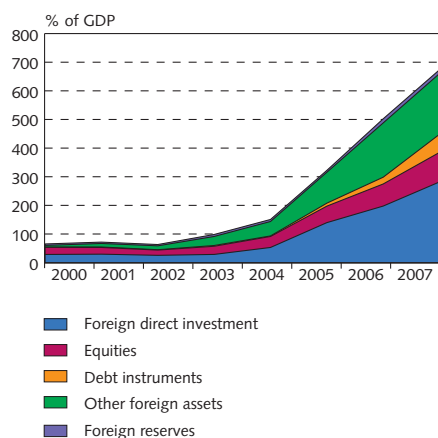
Based on FDI at book value and estimated market value



1. Data for 2007 are based on the IIP at the end of Q3.
Sources: Central Bank of Iceland and authors' calculations.

Chart 5
Composition of residents' foreign asset stock
2000-2007¹

Balance at end of period from year-end 2000 to Q3/2007



1. Foreign direct investment is calculated based on estimated market value.
Sources: Central Bank of Iceland and authors' calculations.

however, produces quite a different result. At year-end 2006, net IIP was -61% of GDP, nearly two times more favorable than suggested in the official figures. By the end of Q3/2007 it had improved still further, to -27% of GDP.¹¹

Early in the period under study – i.e., in 2000 and 2001 – the net IIP based on estimated market value is considerably more positive than official figures indicate. In 2002 and 2003 the result is broadly the same, however, but from year-end 2004 onwards, the trend in net IIP as a percentage of GDP is much more positive if estimated market value of FDI is used as the basis for calculation. There are two reasons for this. First, the stock of FDI as a proportion of Icelanders' total foreign assets increases more rapidly than the corresponding proportion of non-residents' inward FDI (see Charts 5 and 6). Second, the weighted p/b ratio, which is used to estimate the market value of FDI based on book value, rises in the later half of the period. The p/b ratio falls consistently from 2000 - 2003 but then starts to rise. On the other hand, the corresponding ratio for non-residents' inward FDI rises during the period from 2000 - 2002, falls off slightly in 2003, increases in 2004, and then drops again in 2005 and 2006.

The composition of foreign assets and liabilities

As Charts 5 and 6 illustrate, Iceland's foreign assets and liabilities are enormous as a proportion of GDP. If FDI is calculated based on estimated market value, then foreign assets totalled 674% of GDP at the end of Q3/2007, as opposed to 563% at year-end 2006. However, if the evaluation of FDI is based on book value, foreign assets totalled 507% of GDP at the end of Q3/2007, and 390% of GDP at year-end 2006. The total stock of foreign assets was therefore the equivalent of 167% of GDP and 173% of GDP larger, respectively, based on the estimated market value of FDI.

Gross liabilities are also very large in proportion to GDP. Based on the estimated market value of the stock of inward FDI, foreign liabilities amounted to over seven times GDP for the year 2007, as compared with 563% in 2006.¹² Based on book value of FDI, foreign liabilities totalled 626% of GDP in 2007, up from 510% of GDP in 2006.

High proportion of equities in the total stock of foreign assets

In the period 2000-2007 the proportion of equity assets (portfolio equity investment and direct investment) in the investment stock averaged 65% in terms of market value, as opposed to 55% in terms of book value. The proportion of corresponding non-residents' assets in Iceland to total liabilities was much lower, however, averaging 19% in terms of estimated market value and 11% in terms of book value. The net position of equity assets is therefore positive, while the net debt position is negative, which is not dissimilar to a hedge fund

11. It should be borne in mind that, because the asset stock and the liability stock are enormous as a proportion of GDP, relatively small movements in the asset and liability base could result in substantial changes in net IIP.

12. Based on IIP at the end of Q3/2007 and the Central Bank of Iceland forecast of year-2007 GDP in *Monetary Bulletin* 2007/3.

portfolio. A recent paper in *Monetary Bulletin* points out that the composition of leading industrial nations' outward investment stock increasingly resembles that of hedge fund portfolios (Svavarsson and Sigurdsson 2007). In other words, most industrial countries are net foreign borrowers and use the borrowed funds for outward direct and portfolio equity investment.

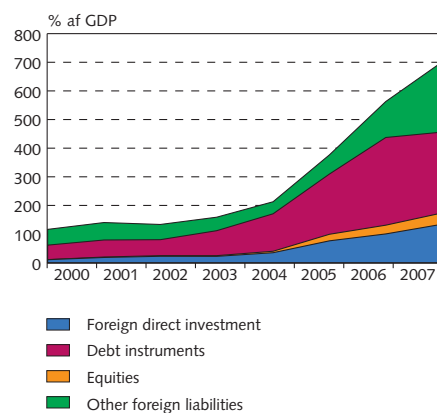
The vast increase in the IIP relative to GDP reflects to a significant degree the enormous overseas growth of Icelandic financial institutions. The balance sheets of Iceland's three largest banks have grown many times over in recent years, with assets totalling 11.354 b.kr. at the end of 2007, or the equivalent of 888% of estimated GDP. A significant proportion of their operations are therefore concentrated abroad. It is thus unlikely that the increase in foreign assets and liabilities attributed to the banks will have a significant direct impact on Icelandic households. However, it is probable that fluctuations in international financial conditions, and in the exchange rate of the króna, affect the banks' operating results, thereby affecting households and pension funds via their equity holdings. Indirect effects of extreme changes may further entail financial instability domestically with adverse macroeconomic ramifications.

Investment concentrated in Europe, but net foreign liabilities mostly in US dollars

Chart 7 shows the geographical distribution of Iceland's merchandise exports in 2006 and a comparable geographical distribution of Icelanders' foreign asset stock. The chart shows clearly that Europe is by far Iceland's most important market, with over 80% of total exports. The proportion of Icelanders' foreign assets in Europe or in European currencies is even greater, nearly 90% of the estimated market value of the foreign asset stock. Naturally, it is to be expected that Icelanders will concentrate their investments in their main trading partner countries; however, this also makes them more vulnerable to economic volatility in the euro area and elsewhere in Europe. Therefore, a contraction in Europe's leading economies will likely affect demand for Icelandic exports while triggering a decline in the value of European equity assets and a depreciation of the euro. Chart 8 breaks down Iceland's external assets and liabilities. Most leading industrial nations are able to borrow funds in their own currency instead of issuing bonds in foreign currencies. In Iceland, however, liabilities in Icelandic krónur are essentially limited to equity assets, while other liabilities are in foreign currencies. It is primarily in US dollars and euros that Icelanders' liabilities exceed their assets. This entails that, when the króna weakens vis-à-vis these currencies, the net IIP deteriorates, and when the króna appreciates, foreign liabilities in krónur terms decrease more than assets. The graph also shows clearly, however, that Icelanders' net assets in pounds sterling have increased considerably since 2004. Therefore, changes in the ISK/GBP exchange rate have the opposite effect to changes in the króna vis-à-vis the dollar and the euro.¹³

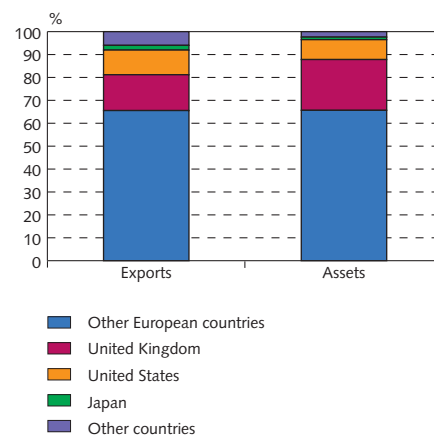
13. This does not take into account the effects of possible foreign exchange hedging.

Chart 6
Composition of foreign liability stock¹
Balance at end of period from year-end 2000 to Q3/2007



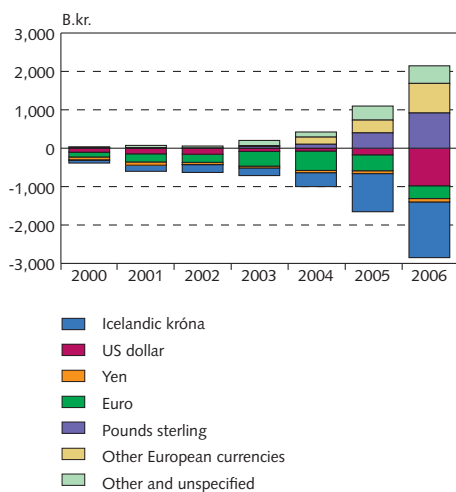
1. Foreign direct investment is calculated based on estimated market value.
Sources: Central Bank of Iceland and authors' calculations.

Chart 7
Exports and assets by region 2006¹



1. Foreign direct investment is calculated based on estimated market value.
Sources: Central Bank of Iceland and authors' calculations.

Chart 8
International investment position
by currency 2000-2006¹



1. Foreign direct investment is calculated based on estimated market value.
Sources: Central Bank of Iceland and authors' calculations.

Changes in external conditions – scenario analysis of the impact on net IIP

Different composition of assets and liabilities in terms of currencies and investment types can result in asymmetric valuation changes in the IIP. Recording FDI at estimated market value and a detailed decomposition of the IIP by currency and asset types enables a more thorough analysis of possible effects of major changes in the domestic and global economic outlook on the net IIP. Two factors, apart from the purchase and sale of assets, affect the value of assets and liabilities in terms of the domestic currency. First, changes in the exchange rate of the króna affect all foreign currency denominated assets. Second, changes in asset prices affect the market value of portfolio equity and direct investment.¹⁴ In this section, the effects of four main scenarios on net IIP are examined, based on IIP at year-end 2006. The consequences of the simultaneous occurrence of two of these scenarios are also analysed separately. These scenarios do not represent forecasts of likely developments in the Icelandic or global economy. They are created solely with the aim of analysing the potential impact of dramatic changes in the exchange rate or in asset markets on net IIP.

The following scenarios were considered:

- A. A 30% depreciation of the króna¹⁵
- B. A 30% fall in global equity prices¹⁶
- C. A 15% appreciation of the króna
- D. A 15% rise in global equity prices

Table 1 gives the results of the analysis of scenario A and B. The first half of the table shows the results if direct investment is entered at book value, while the latter half (the last three columns) shows the results based on estimated market value.

A 30% depreciation of the króna greatly increases the value both assets and liabilities. In all, liabilities increase by 129% of GDP, while the market value of assets rises by somewhat more, or 148% of GDP. The effects of a weakening of the króna on liabilities are the same, regardless of whether the calculation is based on market value or book value, as FDI and portfolio equity liabilities are entirely in

14. As is stated above, official statistics do not take account of changes in the market value of FDI; therefore, it was necessary to estimate this variable specifically for this study. In the examples below, the effects on net IIP are calculated using both official book value and estimated market value of the foreign direct investment stock, as is described earlier in this article.

15. In Tchaidze's (2007) IMF Working Paper on Iceland's real equilibrium exchange rate, the author concludes that the real exchange rate of the króna needs to fall by 8-23% in order to guarantee external equilibrium in the Icelandic economy. According to calculations carried out by the Central Bank of Iceland (Monetary Bulletin 2007/3, pg. 64), this is equivalent to a 19-56% fall in the nominal exchange rate (Central Bank of Iceland 2007). Although a sudden 30% depreciation of the króna must be considered unlikely, it is not theoretically impossible.

16. Although it is unlikely that equity prices will decline so sharply over such a short time, such a development is far from unprecedented; for example, the MSCI stock index, which measures share price developments in all of the major global stock markets, fell by over 41% in a one-year period beginning in September 2000.

Icelandic krónur.¹⁷ The overall effect on the IIP varies greatly, however, depending on which calculation method is used. If the calculation is based on the estimated market value of FDI, the effects are positive in the amount of 19% of GDP; however, if the calculation is carried out based on the book value of FDI, liabilities increase proportionally more than assets, and the net effect on IIP is therefore negative.

A 30% drop in global share prices reduces the market value of both asset and liability stock. However, the asset base declines by more than twice as much as the liabilities due to the much higher concentration of equities in the asset stock compared to the liability stock. The overall effect is that net IIP deteriorates by the equivalent of 43% of GDP.

Table 1 also shows the results of a 30% depreciation of the króna concurrent with a 30% decline in global equity prices. Despite the fact that the depreciation of the króna alone improves net IIP by some 19% of GDP, the drop in equity prices reduces net assets by a proportionally greater amount. The combined effects are more negative than the sum of the effects of each event separately because the effect of the decline in equity prices is compounded by the currency depreciation.

Table 1 Impact of substantial decline in asset prices and depreciation of the króna on IIP

	<i>Based on book value¹</i>			<i>Based on market value²</i>		
	<i>Assets</i>	<i>Liabilities</i>	<i>Net position</i>	<i>Assets</i>	<i>Liabilities</i>	<i>Net position</i>
A. 30% depreciation of the króna	114	129	-14	148	129	19
B. 30% decline in global equity prices ¹	-23	-9	-14	-82	-39	-43
A and B	84	120	-35	41	89	-49

1. Foreign direct investment entered at book value. 2. Foreign direct investment entered at estimated market value.

The figures in the table indicate changes in the relevant base as a proportion (%) of GDP

Table 2 presents the results of an analysis of scenario C and D. Scenario C assumes that the króna appreciates by 15% against all major trading currencies, and scenario D assumes that domestic and global equity prices rise by 15%. The appreciation of the króna has the opposite effect on net IIP, depending on whether the calculation is based on book value or estimated market value of FDI. The overall effect on the net IIP is negative by 10% of GDP if estimated market value is used as the basis for calculation, while the overall effect is positive by 7% of GDP if FDI is entered at book value. These results are in line with the outcome from scenario A, which assumes a depreciation of the króna.

17. This only takes into account the first-round effects of the weakening of the króna on the FDI liability stock. Although the position is recorded in Icelandic krónur, the revenues of companies in the sectors in which inward FDI is most heavily concentrated are primarily in foreign currencies. The depreciation of the króna therefore entails that the value of foreign revenues, measured in Icelandic krónur, increases in proportion to the depreciation. Further, these companies' expenses are primarily in Icelandic krónur. Hence, in the medium term the value of the inward FDI stock should rise in line with increased revenues (measured in krónur) to the degree that concerned companies earn income in foreign currencies.

Tafla 2 Impact of increase in asset prices and appreciation of the króna on IIP

	<i>Based on book value¹</i>			<i>Based on market value²</i>		
	<i>Assets</i>	<i>Liabili- ties</i>	<i>Net position</i>	<i>Assets</i>	<i>Liabili- ties</i>	<i>Net position</i>
C. 15% appreciation of the króna.	-57	-64	7	-74	-64	-10
D. Domestic and foreign equity prices rise by 15%	12	5	7	41	20	22
C and D	-47	-53	12	-39	-45	6

1. Foreign direct investment entered at book value. 2. Foreign direct investment entered at estimated market value.

The figures in the table indicate changes in the relevant base as a proportion (%) of GDP

An increase in share prices raises the value of foreign assets and liabilities; however, as a proportion of GDP, the asset stock will increase by more than twice as much as the liability stock because the proportion of equities is much higher in the asset stock than in the liability stock.

In the event of a simultaneous 15% appreciation of the króna and a 15% increase in equity prices, the effect on the estimated market value of the asset and liability stock will improve the IIP by roughly 6% of GDP. If the book value of FDI is used to calculate IIP, however, the effect is twice as much, or 12% of GDP.

Summary

The importance of tracking the developments in IIP increases as Iceland becomes more integrated into the global financial system. Current statistical data on Iceland's international investment position are limited by the fact that a significant portion of the asset stock – that is, foreign direct investment – is not recorded at market value. In this article, the market value of the inward and outward FDI stocks is estimated based on official book value data and market information concerning the ratio of market value to book value (p/b ratio) among listed companies in the same industrial sector and geographic region. The analysis suggests that it is highly probable that the value of both assets and liabilities is significantly underestimated in the official statistics. The proportion of FDI to total foreign liabilities is much lower, however, than to total assets. Therefore, the impact of the revaluation on net IIP is positive.

In the event of major changes in external economic conditions and the domestic economic outlook, the composition of the asset and liability stock can greatly affect the ensuing impact on the net international investment position. In turn, changes in the net IIP affect domestic economic developments and financial stability.¹⁸ The higher the proportion of foreign assets to Iceland's total wealth, the greater the impact of global market changes will be on the domestic economy. Even if the net international investment position were in balance,

18. The composition of foreign liabilities can also contribute to financial instability. For example, if short-term liabilities constitute a large proportion of total liabilities, re-financing risk will increase. In the event of a serious liquidity squeeze in the global financial markets the financial stability of the overall economy might be jeopardised.

the domestic economy would remain extremely sensitive to external influences. The fact that foreign assets and liabilities are roughly equivalent to seven times GDP entails that relatively small changes in asset and liability values can result in a strong impact on the net IIP.

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