

Manageable current account deficit

Is the ISK overvalued?

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External imbalances and the real exchange rate

According to Research's forecast, the current account deficit will persist over the coming years due to the growing factor payment deficit. This imbalance is due first and foremost to the accumulated external debt of Icelandic companies expanding overseas. It is worth considering whether such an imbalance is a cause for concern, particularly with respect to the ISK since these debts are in fact serviced outside Iceland. The current high real exchange rate of the ISK is primarily due to the overvaluation of the ISK against the dollar.

Prolonged current account deficit – a cause for concern?

The present current account deficit is far from being in line with the external balance of the economy. The part of the deficit that can be described as self-sufficient is the external balance of goods and services, which poses little concern. It seems clear, however, that the factor payment deficit will persist and one should therefore consider whether this is a cause for concern, particularly with respect to the ISK. A large proportion of foreign interest payments comes from Icelandic companies expanding abroad, most of which run their businesses overseas. This type of imbalance should not exert any pressure on the exchange rate of the ISK. Kaupthing Research expects that the current account deficit will persist over the coming years, due to the continued imbalances in factor payments.

Evaluation of the equilibrium real exchange rate

It is difficult to pinpoint a specific equilibrium for currency markets in terms of the real exchange rates. Development of the main export and import prices of the respective countries would however be sure influencing factors. The determining factor in evaluating the equilibrium real exchange rate of the ISK seems to be the deterioration of the economy's foreign asset position. Kaupthing Research estimates that deterioration in the asset position of 1% of GDP would lead to a 0.2% depreciation of the equilibrium real exchange rate of the ISK. According to this model, the ISK is currently overvalued by about 14%, if the trade-weighted average exchange rate index is taken into account.

ISK overvalued against the dollar

Looking at specific currencies, the ISK seems to be in good balance with the euro and the British pound at the moment. Therefore the overvaluation of the ISK seems to be first and foremost against the dollar, which weighs 23% in the trade-weighted average exchange rate index of the ISK.

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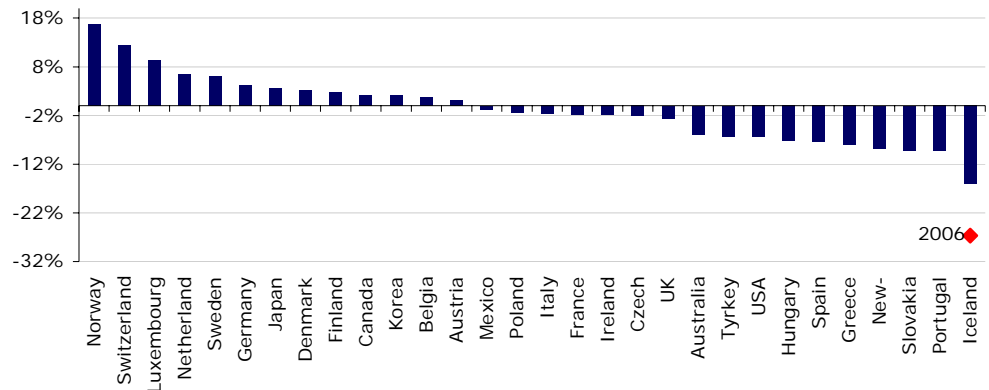
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I. A manageable current account deficit?

Last year the current account deficit measured ISK 305 billion which was equivalent to 27% of GDP. The deficit was higher than expected and has never been this high in relation to domestic product. The current account deficit stems from high investments and private consumption. At the same time, external debt in the economy has led to growing imbalances in the balance on income.

Current account balance of OECD states for 2005

- as a percentage of GDP

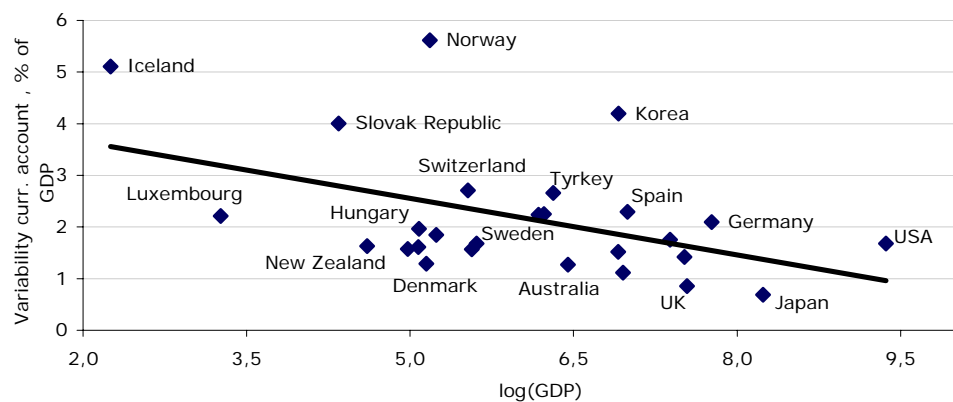


Source: OECD

This clearly demonstrates that trade with abroad is increasingly important for smaller nations, since their size limits the diversification of their output. The likelihood of a current account deficit is greater in small countries like Iceland. Smaller nations therefore generally have a tendency to be more diversified in their investments which, as a rule, has a direct effect on the fluctuations of the current account. It is not just investments that lead to fluctuations of the current account here in Iceland, however, since experience has shown that private consumption in the country is generally sensitive to changes in exchange rates, which is reflected in the consumption levels of imported goods. As can be seen from the graph below, Iceland is one of the nations that experiences the most variability in its current account, surpassed only by Norway.

Variability in current account (%) in proportion to the size of the country

- OECD states 1995-2005



Source: OECD

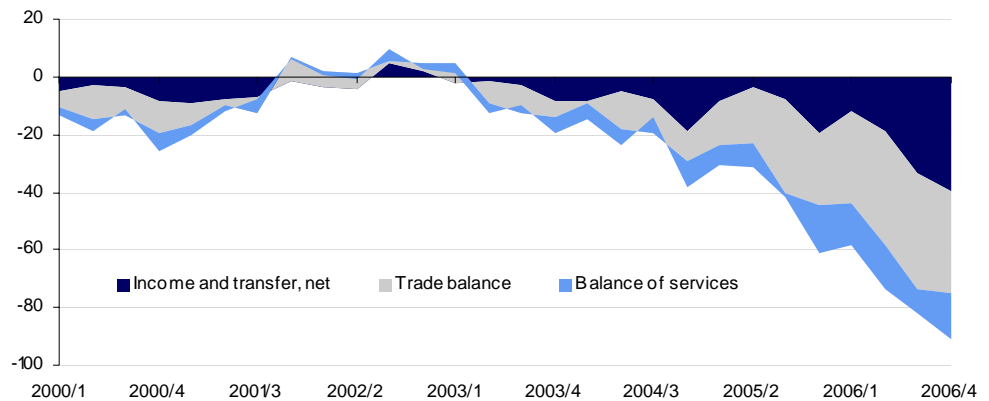
The current account balance is defined as the difference between exported and imported goods and services in addition to factor income (wages, growth and dividends). But in the context of national accounts, the current account balance is the difference between national expenditure and national income:

$$\text{Current account} = \text{National expenditure} - \text{National product}$$

National expenditure is divided into three areas: Households, businesses and the public sector. The causes of an increase in national expenditure in excess of national income and the creation of a current account deficit can therefore be three-faceted. A current account deficit can stem from negative public savings, i.e. a deficit in the state treasury. Deficits of this kind are often referred to as twin deficits. A current account deficit can also be generated by abundant private consumption and therefore reduced private savings, which leads to a lot of consumer goods being imported. Finally a sharp increase in investments in excess of domestic savings can also create a current account deficit.

Current account and its sub-categories 2000-2006

- in billions of ISK

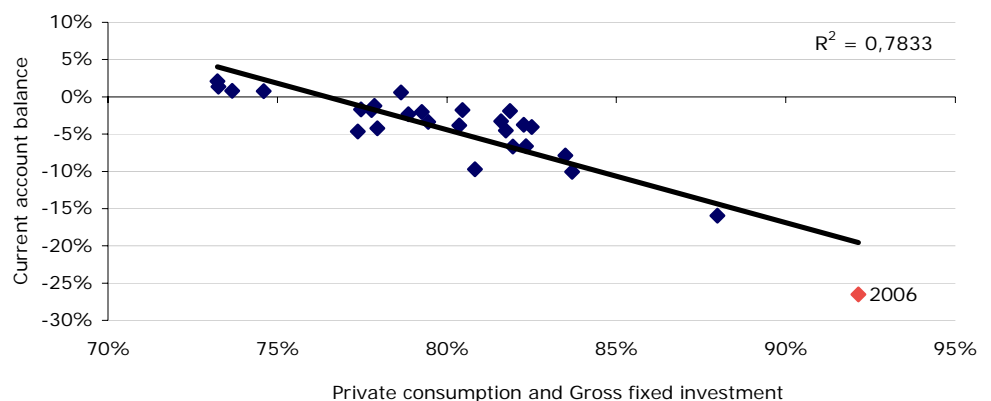


Source: Central Bank of Iceland

Historical data shows us that investment and private consumption have often gone hand in hand in Iceland and been the principal factors behind current account deficits over the past year, as can be seen in the graph below.

The correlation between the current account, consumption and investments

- in terms of percentages of GDP

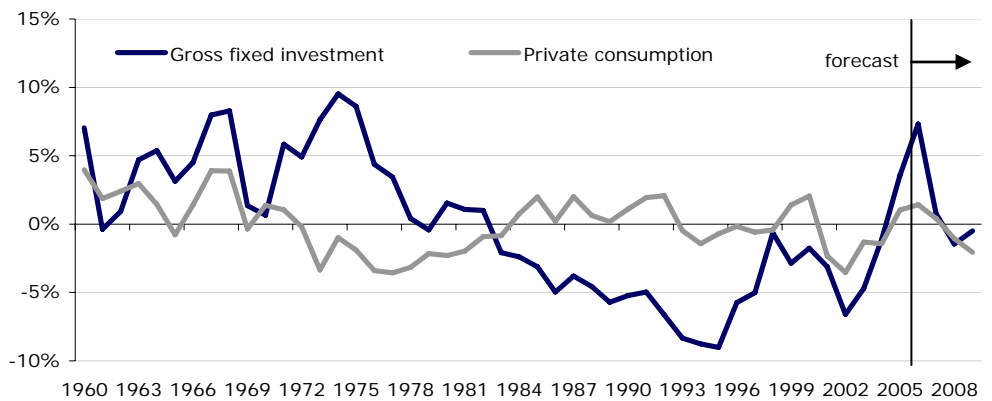


Source: Statistics Iceland, Central Bank of Iceland

Investments have grown sharply in recent years, at the same time as private consumption has also been massive, rising in real terms between 2004-2006 by 20%. Growth over the past years has mainly been driven by a considerable increase in capital asset prices and general household confidence. Private consumption measured about 60% of GDP last year and was slightly over the long-term average, as can be seen in the graph below. At the same time, investments comprised 32% of GDP, the highest level of investment in Iceland for about 30 years or since work started on the construction of the aluminium plant in Straumsvík. The likelihood of a current account deficit greatly increases when private consumption and investment surge simultaneously and, as can be seen in the graph below, both investment and private consumption have increased beyond the long-term trend over the past two years, a phenomenon which hasn't been observed since the 1970's.

Gross fixed investment and private consumption 1960-2006

- deviation from average

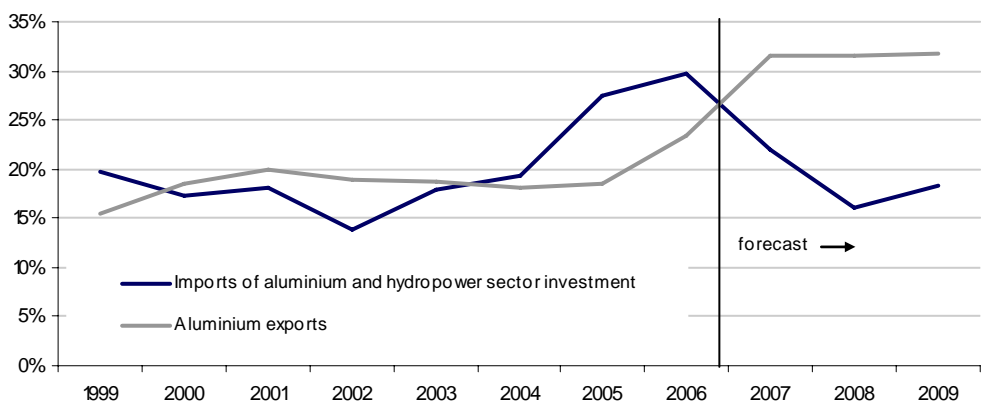


Source: Statistics Iceland

Kaupthing Research expects investments to swiftly contract this year, as large hydropower and aluminium sector investments draw to an end, and at the same time predicts reduced growth in private consumption. It is therefore clear that the main cause of the deficit of the past years will have faded in a year. New aluminium plants will then begin production this year, which will boost exports and increase aluminium's share of the total value of exports from 20% to 30%.

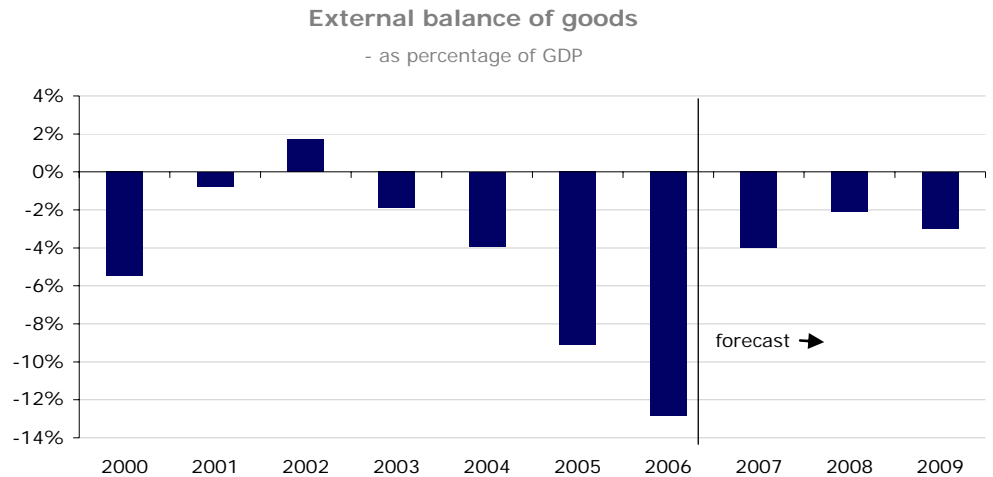
Aluminium exports and imports related to alum. and hydrop. sector investments

- as a share of the total value of imports and exports



Source: Kaupthing Research, Statistics Iceland

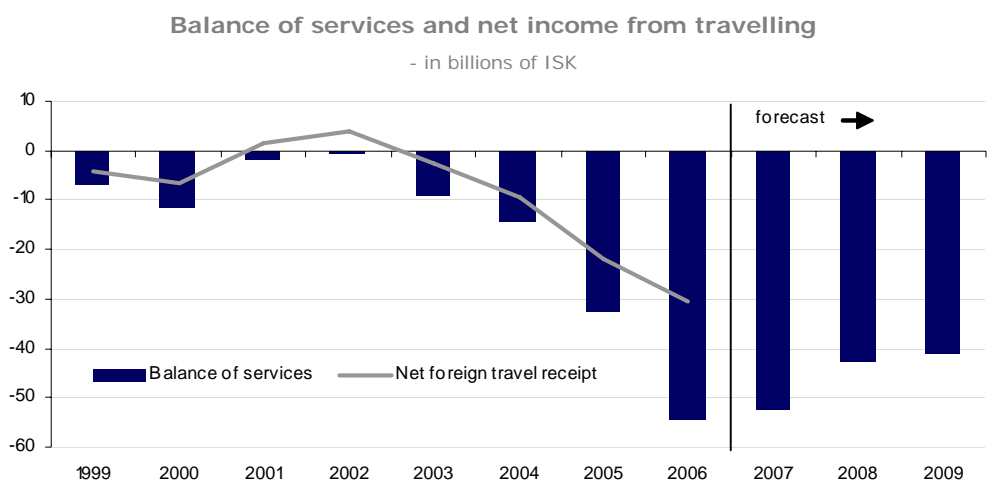
Unlike the last economic cycle, during which the main driving force behind economic growth was private consumption and investment, the driving force over the coming years will come from a turnaround in foreign trade. One can say in fact that the external balance of goods is the component of the current account deficit that is self-sufficient and is destined to shrink over the coming years without triggering off a contraction in the economy.



Source: Kaupthing Research, Central Bank of Iceland

Balance of services gaining weight

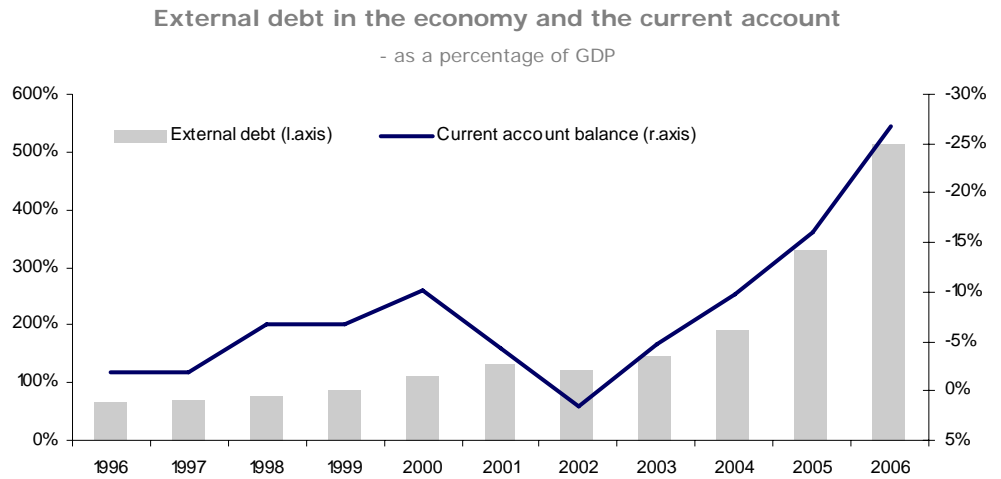
The services deficit has been growing over the past two years and last year measured ISK 54.3 billion or 4.3% of GDP and has practically trebled over the past two years. The largest item in the balance of services is net earnings from travelling, i.e. foreign travellers' expenditure in Iceland minus Icelandic expenditure abroad, but a negative development in this item largely explains the increase in the services deficit. To some extent, the increase in Icelanders' travelling expenditure abroad can be attributed to the rise in the business activities of Icelandic companies expanding overseas, coupled with the fact that Icelanders' appetite for travelling has grown in parallel to the general prosperity of the country.



Source: Kaupthing Research, Central Bank of Iceland

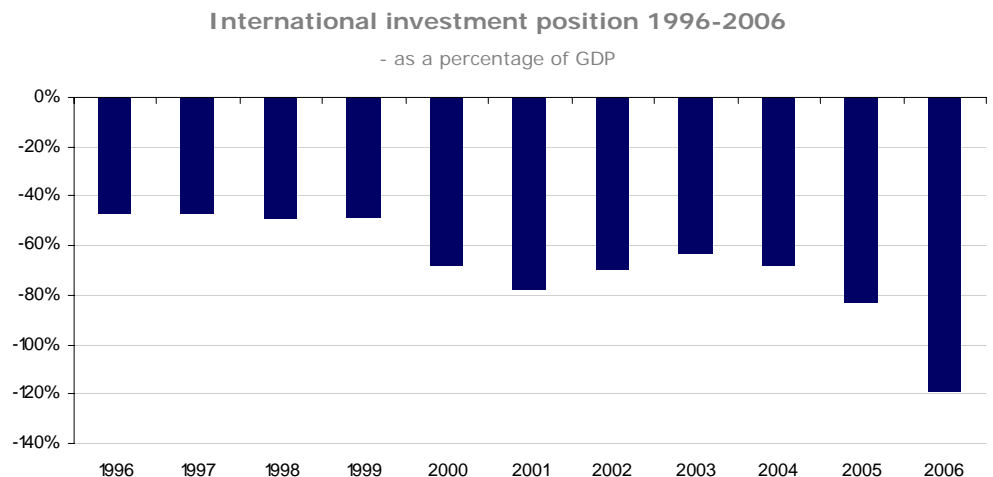
Factor income and debt

A current account deficit means that the country as a whole is spending in excess of its income and the difference is therefore financed with foreign investments, the sale of assets to foreign parties or foreign borrowing. The current account balance therefore gives a good indication of how the economy's foreign asset and debt positions evolve from one year to the next. This is also illustrated in the graph below.



Source: Central Bank of Iceland

The international investment position, i.e. the difference between foreign assets and debt, has worsened considerably over the past years, and at the end of 2006 was negative by ISK 1,355 billion, which was equivalent to 119% of GDP¹.



Source: Central Bank of Iceland

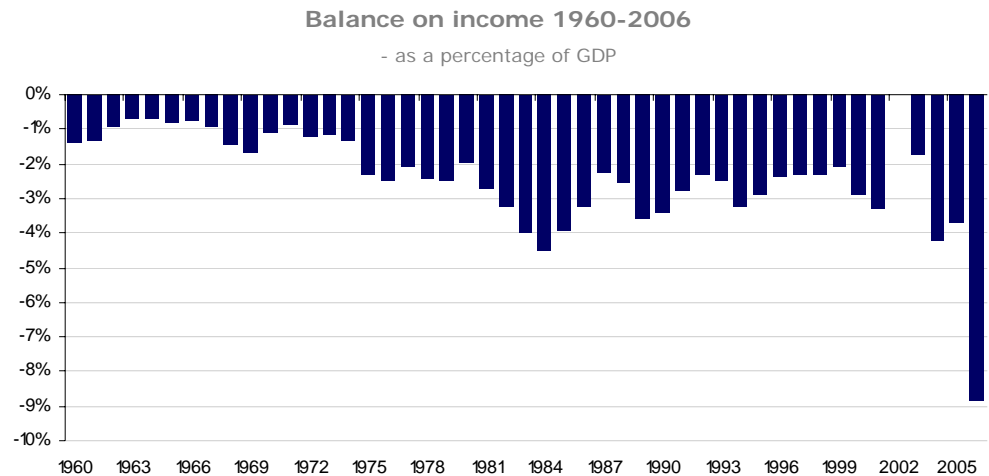
External debt, on the other hand, is not just the result of the current account deficit, but also a cause due to the fact that financial expenses on foreign debts materialise in the balance on income. Thus deficit on income has significantly increased over the last quarter, concurrent with a deterioration in the net foreign asset position. Factor income includes compensation of employees and income from international investments which takes into account returns on equity capital (i.e. dividend payments and the re-channelling of profits into direct investments) and interest on debt securities and loans. The balance therefore reveals the flow of salary payments, dividend payments and reinvestments of profits between countries. It does not, however, take into account

¹Direct investments abroad, which amounted to about 20% of total assets, were calculated according to their book value rather than their market value, and the net balance with abroad may therefore have been somewhat undervalued.

trading gains/losses on shares nor their sale in the balance on income. Since the flow of salary payments between Iceland and the rest of the world is negligible, the balance on income actually mainly reveals the net earnings on investments between countries.

Increased factor income imbalance

It is interesting to note, on the other hand, that the balance on income remained at a similar level from 1975 to 2005, in terms of its percentage of domestic product, measuring 3-4%, despite a sharp increase in debt. This is probably due to an increase in capital gains from Icelandic investments abroad and a drop in interest rates abroad.



Source: Statistics Iceland, Central Bank of Iceland

The year 2006 really stood out, however, when the deficit on income reached 9% of the GDP, which was about one third of the current account deficit. It can be said that the increase in the deficit on income is another reflection of the level of debt of the economy, since in 2005 and 2006 the international investment position of the economy shifted from 85% of the GDP to 120%.

The inherent difficulty of measuring balance on income

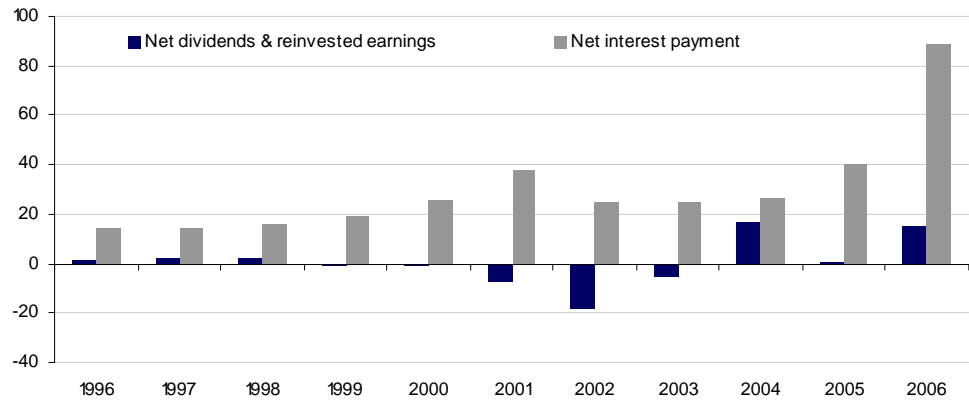
To some extent, the increased imbalances of the balance on income can be attributed to the difficulty of measuring the dividends paid out to Icelandic companies expanding overseas. The use of more complex financial products has grown in Iceland over the past years and it is becoming increasingly difficult to determine whether companies operating here are Icelandic or foreign companies. A growing number of Icelandic investors, for example, register holding companies abroad to manage their shareholdings in Iceland with the result that dividend payouts are entered as expenses in the balance on income. At the same time, an increasing proportion of major Icelandic companies' operations are being conducted abroad and these companies are now close to being classified as foreign companies rather than Icelandic. If, for example, one of the major Icelandic companies were to register itself abroad, this would obviously have an enhancing effect on the net foreign asset position. Foreign debt would therefore decrease, while at the same time Icelanders' foreign assets would substantially increase. This in turn would reduce the deficit on income, since net interest payments would diminish along with the decrease in debt.

Net interest payments

The principal cause of the imbalance in factor income is the gap between interest payments and interest income from abroad (net interest payments), as can be seen in the graph below. Last year net interest payments reached ISK 89 billion which was equivalent to approximately 7.5% of GDP. Icelanders' investments abroad are mostly financed by foreign debt, which has been reflected in an increase in interest payments abroad. This trend has been counterbalanced, on the other hand, by a surge in Icelanders' interest income abroad over the past years, although not to the same extent as interest payments.

Net financial expenses

-in billions of ISK



Source: Central Bank of Iceland

One could be tempted to see these figures as evidence that the investments by Icelanders abroad have not been profitable and to interpret them as the explanation for the growing imbalance. This is by no means the case, however, since interest-earning assets make up 45% of the economy's foreign assets, while interest-bearing debt makes up a minimum of 63% of foreign debt. Earnings from foreign assets such as direct foreign investments and share capital only appear in the balance on income in the form of dividend payments but profits from their sale are registered in the balance on capital accounts. Dividend payouts, on the other hand, generally only reveal a small proportion of returns on investments, since capital gains often weigh considerably more. The balance on income therefore reflects very little of the flow of earnings that are generated by Icelandic investments abroad.

Breakdown of foreign assets and debt in 2006

Foreign assets (%)		Foreign liabilities (%)	
Direct investment abroad	21	Direct investment in Iceland	9
Equity capital	20	Equity capital	6
Debt securities	6	Debt securities	63
Loans	39	Other liabilities	23
Other assets	14		

Source: Central Bank of Iceland

One should also bear in mind that, since most, if not all, of the Icelandic companies expanding abroad run their activities overseas, it can be argued that a large part of foreign interest payments are borne by activities abroad and are therefore not creating any real flow against the ISK. Kaupthing Research has calculated that the net interest payments of 10 of the biggest companies on the OMXI15 index made up about a quarter of the economy's net interest payments last year, but these are costs that are mainly borne by foreign operations rather than Icelandic ones. This does not take into account the net interest payments of banking institutions which probably weigh considerably more, however.

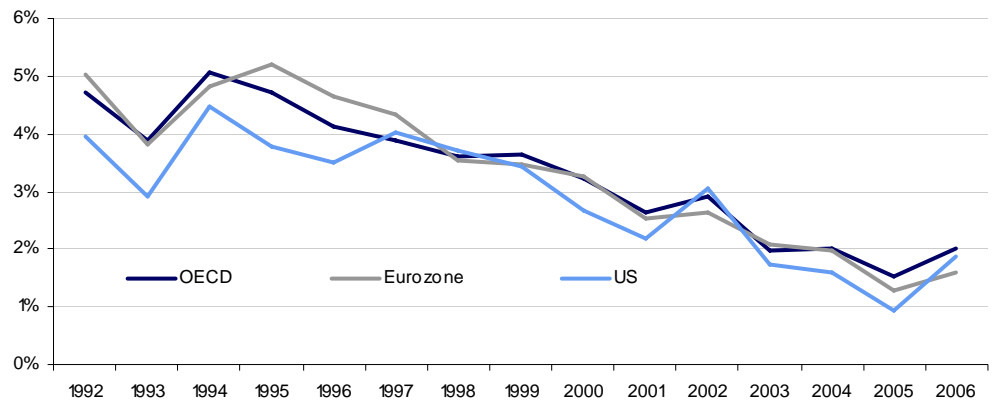
Foreign interest rate developments

In view of how net interest payments have evolved, foreign interest developments over the coming years will have a strong bearing on the external balance of the economy. In 2001-2002 a current account deficit of more than 10.5% of GDP was transformed into a current account surplus equivalent to 1.5% of the GDP. The mild adjustment, which occurred during those years and manifested itself in, among other things, slight negative growth can be attributed, for example, to more favourable developments in the foreign interest situation globally. Foreign interest payments in the economy

contracted substantially during this period, shrinking from 5.4% to 3.6% of GDP, and at the same time some equilibrium was reached in the deficit on income. Over the past six months, foreign interest rates have been rising and everything seems to indicate that they will continue to do so over the next six months as well. The outlook today therefore differs a great deal from four years ago and it is therefore unlikely that any favourable development in foreign interest rates would help to adjust to the deficit in the near future.

Long-term real interest rates in OECD states, the US and the Eurozone

- on 10 year government securities

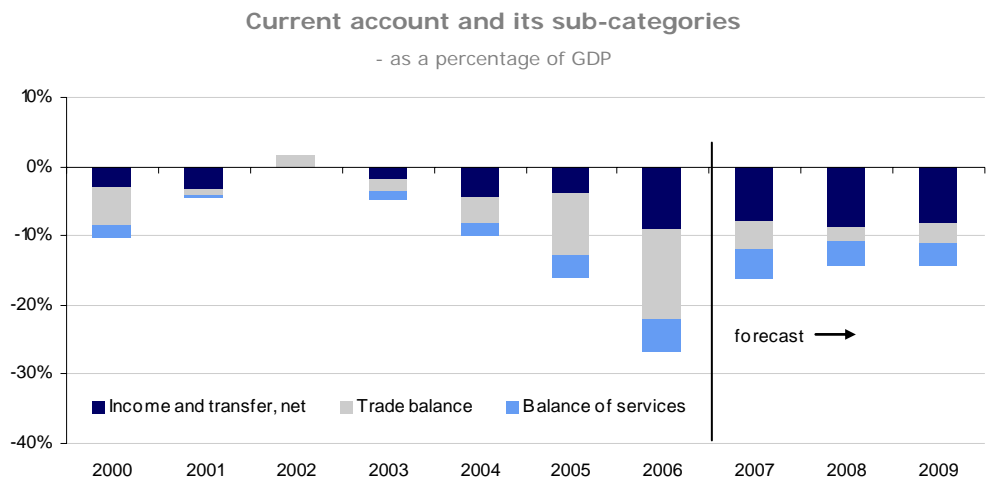


Source: OECD

A rise in foreign interest rates can have an impact both on the debt and asset position of the economy. When interest rates rise, the foreign debt burden grows heavier (i.e. for loans with floating interest rates) which is reflected in a rise in foreign interest payments. At the same time the prices of foreign market securities (which made up 30% of the value of foreign assets in 2006) have a tendency to fall when interest rates rise, which in turn reduces the value of foreign assets. It can therefore be said that the interest rate risk affects both the asset and debt positions of the Icelandic economy.

Prolonged current account deficit – a cause for concern?

The current account deficit is far from being in line with the external balance of the economy. There is little cause for concern for the trade deficit since it will swiftly contract by the end of this and next year. It is clear from the financial data, however, that the deficit on income is likely to persist. This can be interpreted in two ways. On one hand, it can be viewed as an ominous sign, as it is difficult to determine what proportion of Icelandic investment projects abroad will actually pay off and help to finance the deficit. On the other hand, it is worth considering whether this deficit on income is a cause for concern, particularly if one considers the ISK in the light of the fact that a large proportion of foreign interest payments come from Icelandic companies expanding abroad, most of which run their activities overseas. All things being equal, such an imbalance should not in itself exert any pressure on the exchange rate of the ISK. Part II explores the equilibrium real exchange rate of the ISK with regard to, among other things, the international investment position. Kaupthing Research expects the current account deficit to be around an average of 15% of GDP in the coming years, most of which can be attributed to the imbalances in the balance on income. The composition of the deficit will therefore change in the coming years, which will be characterised by equilibrium in the external balance of goods and an imbalance in the balance on income.



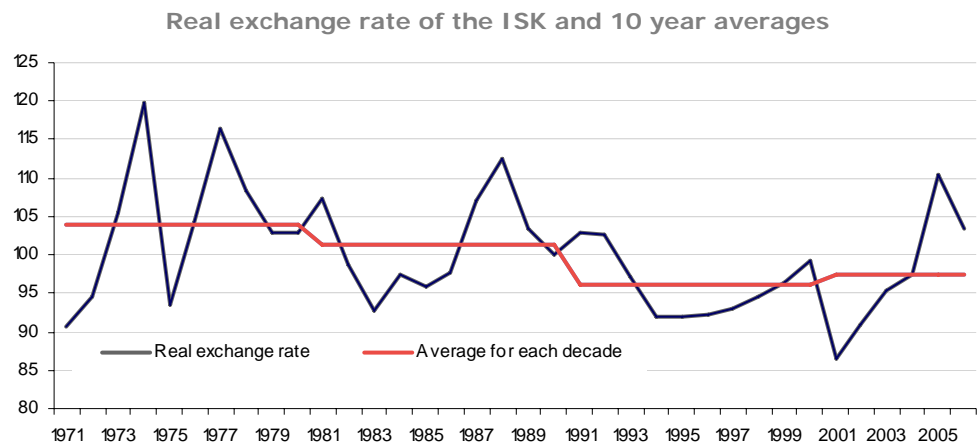
Source: Kaupthing Research, Central Bank of Iceland

II. Is the ISK at the right exchange rate?

The long-term value of a currency is normally said to be determined by the relative price between countries. That is two homogenous products have the same price in the same currency, once correction factors such as transport costs, taxes, tariffs, technical standards or geographic factors have been taken into account. Thus a fixed price band is determined between countries, if the price band widens the domestic currency is said to be overvalued; if it narrows it is said to be undervalued. This concept is normally expressed in the real exchange rate which measures price deviations between Iceland and other countries in the same currency. The real exchange rate is in some ways a yardstick of the competitiveness of domestic manufactures, whether they are selling in Iceland or abroad. When the domestic currency is neither deemed to be under- nor overvalued, reference is made to the so-called equilibrium real exchange rate.

Equilibrium trends

The slow growth of exports and fast growth of imports may therefore indicate that the real exchange rate is too high and that domestic output is too costly compared to what is happening abroad. Theoretically speaking, the currency markets should react to these deviations by adjusting the nominal exchange rate according to the changed circumstances. The reason is that the current account deficit will lead to an outflow of currency from Iceland and the nominal exchange rate will fall until purchasing power parity has been reached. Therefore a flexible nominal exchange rate should ensure that there is an equilibrium in prices or equilibrium according to arbitrage trading. In practice, however, the real and nominal exchange rates follow each other quite closely and for this reason their volatility and deviations from the equilibrium can be substantial in the short-term, and generally-speaking price levels are slow to change in the short-term. Most economists agree, on the other hand, that the real exchange rate of a currency has a long-term equilibrium, from which a nominal exchange rate can only deviate far on a short-term basis each time. The graph below shows the development of the real exchange rate for the ISK since 1970 and the average for each decade, but there was a lot of volatility during this period. According to this data, the real exchange rate is currently somewhat above the average of the past years.



Source: Central Bank of Iceland and Kaupthing Research

Economists are not unanimous, however, on how the equilibrium real exchange rate should be measured. Calculations of the equilibrium real exchange rate based on purchasing power parity have not proved satisfactory since its rigid interpretation is based on the assumption that the real exchange rate should be fixed. Research generally seems to reveal a prolonged deviation from the purchasing power parity rather than a long-term trend towards an equilibrium real exchange rate. In other words the theory is only valid in the reasonably long-term which means that long-term data is necessary to provide an accurate picture.

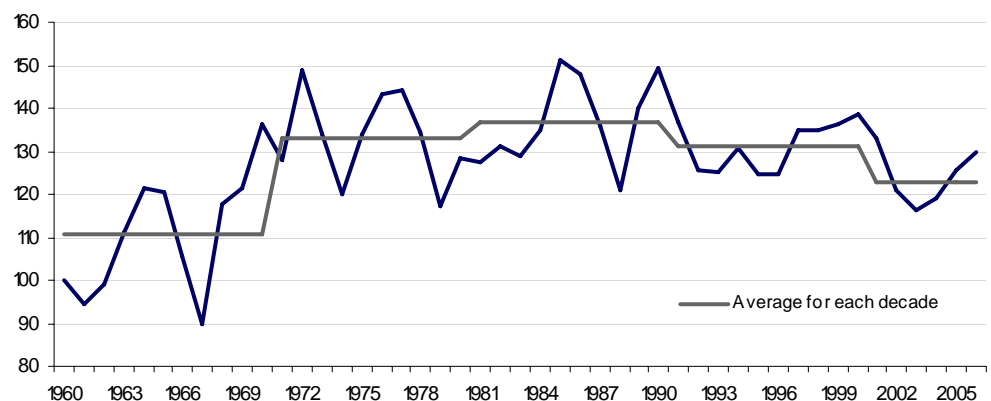
New models have tried to calculate the equilibrium real exchange rate in relation to internal and external balance in the economy. An internal balance is said to exist when unemployment is at a natural level and an external balance when some equilibrium has been reached in the balance of payments with abroad. A self-sufficient real exchange rate is the exchange rate which corresponds to the macroeconomic balance in the economy. In other measurements, economists have also tried to evaluate the long-term balance of real exchange rates and other economic fundamentals such as output, terms of trade and the international investment position. In this case a co-integration method is used to map out how these fundamentals work together. This method is used below to evaluate the equilibrium real exchange rate. The main point to be deduced is that the reduction in the economy's net foreign asset position over the past six months has had an impact on the equilibrium real exchange rate of the ISK.

Factors influencing the equilibrium real exchange rate

Terms of trade

Firstly it can be argued that changes in the country's terms of trade have an impact on the equilibrium real exchange rate. Improved terms of trade should, all things being equal, lead to higher wages and prices in the economy and therefore a higher real exchange rate. If one analyses the terms of trade in Iceland, from the broader perspective of general trends in terms of trade globally, it is clear that Iceland's terms of trade substantially improved between 1960 and 1970. The terms have been somewhat stationary since then and probably not had any real impact on recent equilibrium real exchange rates.

Development of the terms of trade in Iceland compared with OECD countries

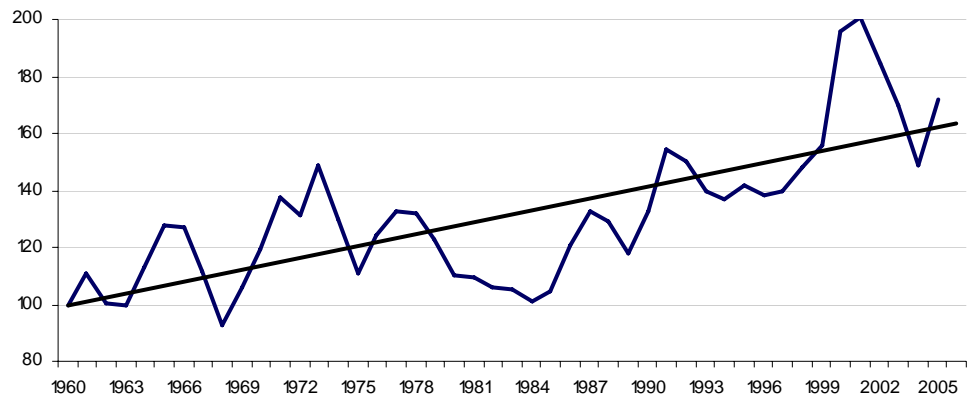


Source: Statistics Iceland, OECD and Kaupthing Research

The yardstick in this graph is far from being perfect and does not reflect all of the aspects terms of trade development. Another yardstick would be export prices in relation to the development of prices of exported good in the world as a whole. As can be seen from the graph, the main Icelandic exports to have surpassed other exports in the world were marine products and aluminium. This may indicate that the improved terms of trade of the past years have led to higher equilibrium real exchange rates for the ISK, although it would be difficult to prove it.

Price development index for marine products and aluminium

- weighted for percentage of exports and adjusted to the development of export prices globally



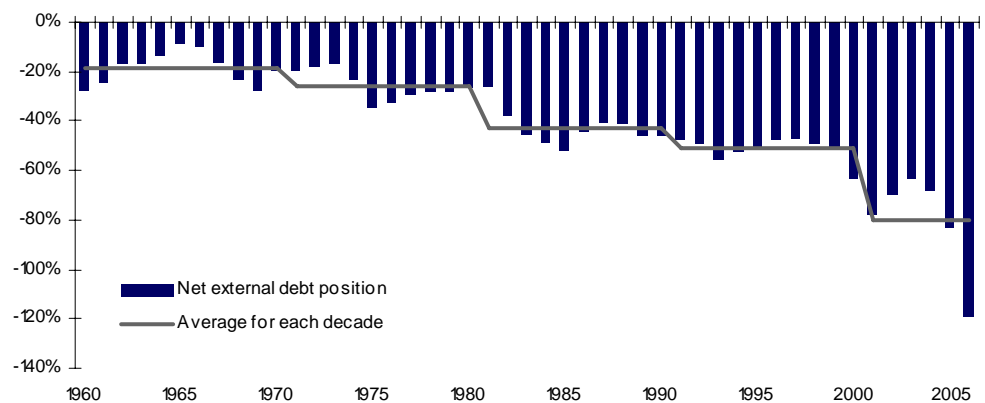
Source: EcoWin and Statistics Iceland

Research conducted on the equilibrium real exchange rate of the Swedish krona revealed that a 1% improvement in the terms of trade leads to approximately a 0.76% strengthening of the equilibrium real exchange rate. Other research has yielded similar results although the magnitude of the impact may vary.

Foreign asset position

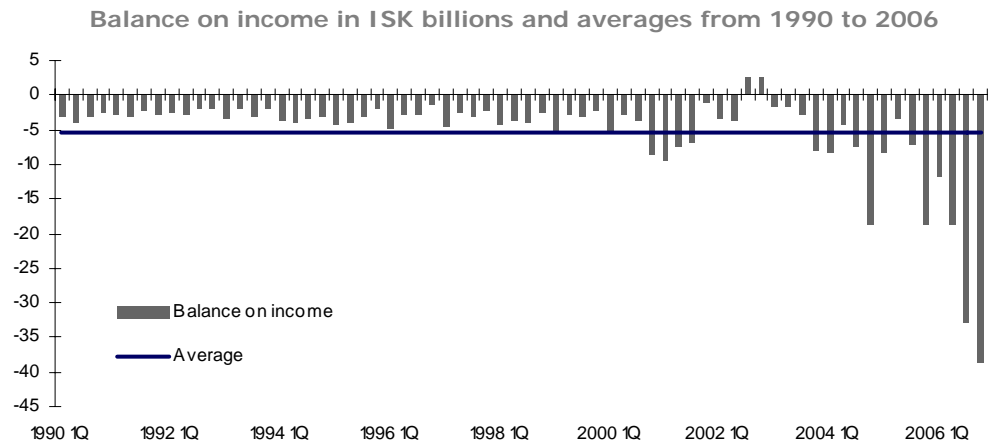
Secondly, changes in the economy's net foreign debt will have an impact. The general growing debt will cause the deficit on income to worsen in the future which means that the real exchange rate has to be lower in the future in order to cope with the increase in interest expenses or contractions in interest income. As can be seen in the graph below, the economy's net foreign asset position has weakened substantially over the past years in terms of its percentage of the GDP.

The economy's net foreign asset position and the average for each decade



Source: Central Bank of Iceland and Kaupthing Research

In the wake of the weakening of the net foreign asset position, the deficit on income has worsened considerably over the last quarter, as can be seen in the graph below. In 2006, the deficit on income made up about 34% of the current account deficit as a whole and, looking at the second half of the year, it was as much as 40% of the total current account deficit. Generally speaking, this should have led to a drop in the equilibrium real exchange rate of the ISK.



Source: Central Bank of Iceland and Kaupthing Research

It is important, however, to bear in mind, that the deficit probably does not give a full picture of the actual flow between countries, due to evaluation difficulties, and the fact that the main activities of many Icelandic companies are conducted overseas.

A research conducted in 2000 (Lane and Milesi-Ferretti, 2000) suggests that the impact of a deterioration of the asset position on the equilibrium real exchange rate is significant, and the sample included many countries, both industrialised and developing nations. Its magnitude, though, seemed to vary from one country to the next. The study revealed, for example, that the smaller the nation was, the less impact the asset position had on the exchange rate. Furthermore the impact seemed to be weaker among nations with high earnings and few restrictions on foreign trade. According to this model, the impact should be negligible in Iceland. On the whole, the conclusion of the research was that a deterioration of the asset position of 1% of GDP would lead to a 0.32% weakening of the equilibrium real exchange rate.

Transposing the results of this research to Iceland, one can see that for the first decade of this century, Iceland's foreign debt has, on average, made up about 80% of the GDP, whereas in the previous decade the average percentage was 51%. According to this yardstick, the deterioration of the asset position should therefore lead to a 9% depreciation of the equilibrium real exchange rate of the ISK. Another study (Gagnon, 1996), which covered a sample of 20 industrialised states, revealed that a reduction in a country's asset position by an amount equivalent to the combined imports and exports should, in the long-term, lead to a 10 to 11% depreciation of the equilibrium real exchange rate.

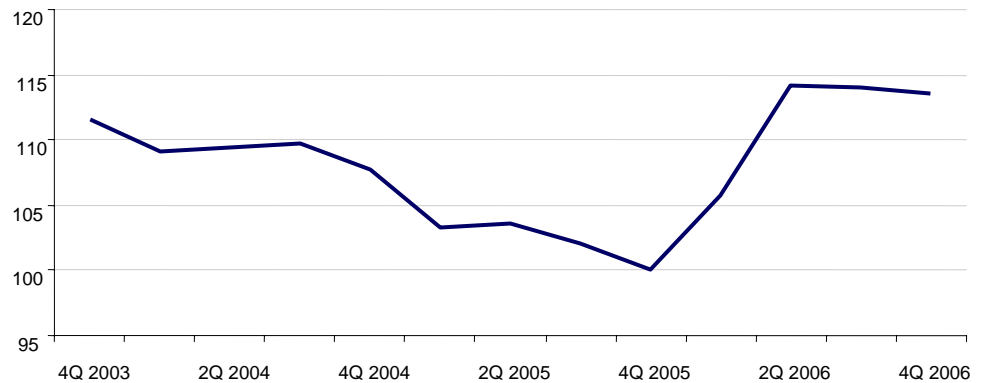
Domestic pressure on wages

The difference between the growth in productivity of the traded and non-traded goods sectors nationally and internationally can also have an impact on the equilibrium real exchange rate. This is often referred to as the so-called Balassa-Samuelson effect. The thinking behind this is that specific sectors in the traded goods sector (export sectors) fuel wage increases in the economy, due to faster production, which triggers off a rise in costs in the domestic service sector, which in turn reacts by raising prices. This should then lead to a rise in the real exchange rate its equilibrium value. This phenomenon, by which a specific sector manages to provoke a rise in the real exchange rate in this way, has sometimes been called *The Dutch disease* in reference to the time when real exchange rates were hiked in the Netherlands in the 1950's, following the discovery of natural gas and oil deposits within the country's jurisdiction.

This impact has generally been measured by comparing the development of the consumer price index as a share of the wholesale price index or producer price index of the economy. Because the producer price index has only been measured in Iceland since the end of 2003, it is difficult to assess its impact on this country. The graph below shows the producer price index's share of the consumer price index in Iceland, adjusted to similar trends in Europe from 2003. No particular trends are revealed, as yet, since this graph only covers a very short period.

Producer price index as a percentage of the CPI in Iceland

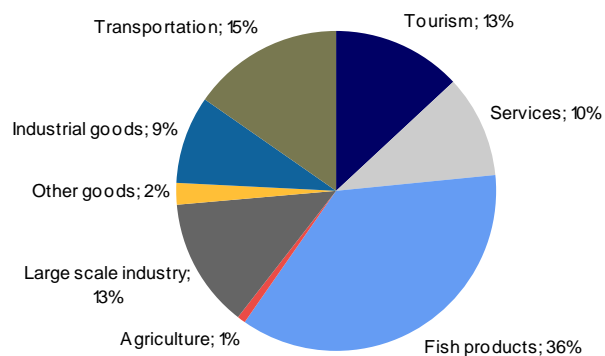
- adjusted to a comparable percentage in Europe



Source: Statistics Iceland and Eurostat

Historically speaking, the traded goods sector in Iceland comprises first and foremost the fishing industry, aluminium production and the tourist industry, but recently other exported services, particularly in the financing sector, have gained more weight. The graph below gives a breakdown of the economy's foreign exchange earnings for 2005.

Foreign exchange earnings per sector for 2005

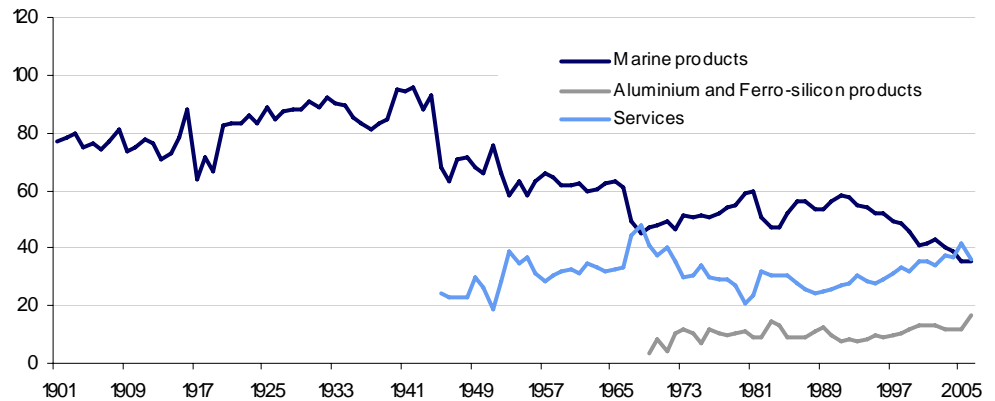


Source: Central Bank of Iceland and Statistics Iceland

For most of the last century, the fishing industry was Iceland's leading exporter and the only real traded goods sector in the country. The fishing industry's share of the nation's merchandise exports has substantially shrunk, however, after accounting for more than 90% in the middle of the last century, and it has become clear that the nation's traded goods sector has grown considerably more varied, as can be seen from the chart. Aluminium exports have comprised 10% of total exports since the 1970's, and their weight will substantially increase over the coming years. Service exports now make up 36% of total exports and, over the past years, have been growing in line with the service sector's increasing contribution to GDP. In 1973, services contributed to 41% of the GDP and now account for 55%.

Breakdown of exports of goods and services

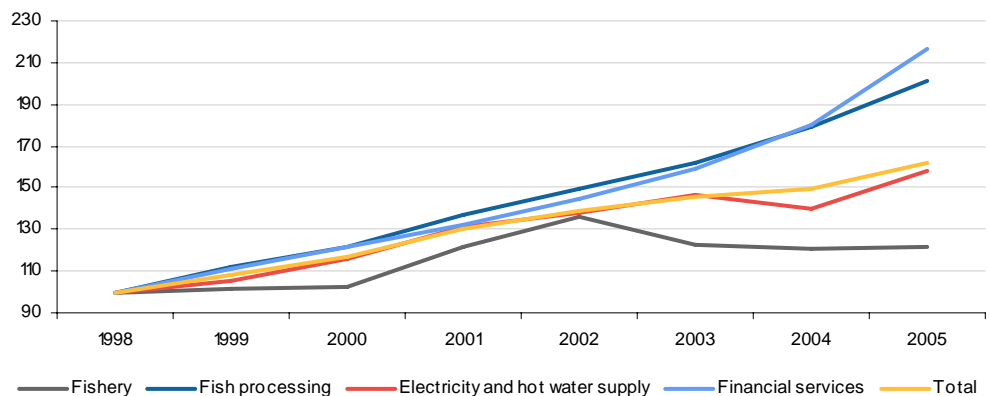
- as % of total export of goods and services



Source: Statistics Iceland and Central Bank of Iceland

It could therefore be argued that the increased output of the fishing industry in the first half of the century fuelled wage increases in certain sectors, which then spread across the economy, provoking a rise in the equilibrium real exchange rate, although it is not possible to prove this. Over the last few decades it is difficult to claim that output in the traded goods sector in Iceland has much outgrown other sectors, particularly if one considers the output from the aluminium and fishing industries. Looking at the past few years, however, one could argue that the output of the services sector, e.g. in connection with the exporting of services in the world of finance, has grown more than other sectors. According to data published by Statistics Iceland, the purchasing power of labour income per capita has increased in the financial sector more than any other sector, growing by 83% between 1998 and 2006.

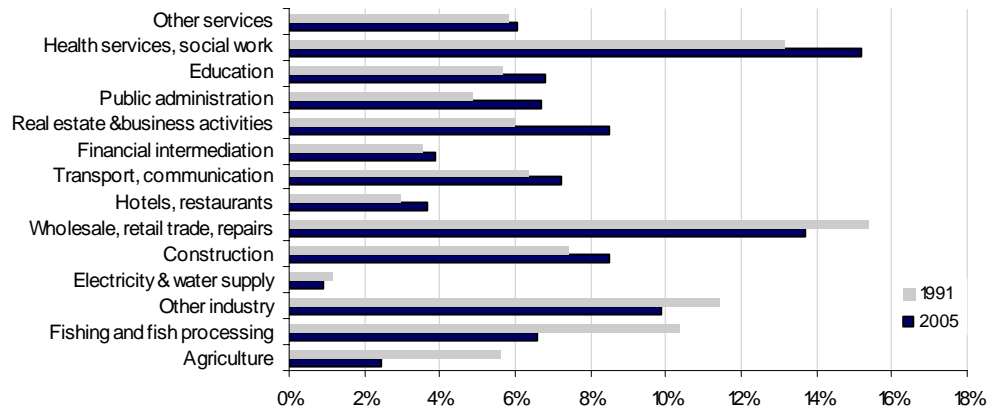
Labour income per capita index



Source: Statistics Iceland

Considering how international Icelandic financial companies have become and how much weight they now carry in national exports, it is possible that this increase in output will spread to other sectors of the economy and fuel wage increases generally. Figures from 1991 onwards show that labour related to fishing and fish processing has substantially decreased in terms of its share of the total labour in the economy, while there has been a real proliferation in service-related labour, including financial, real estate and business services. Looking even further back in time to 1970, 14.5% of the economy's labour force was engaged in fishing or fish processing, whereas 4% was engaged in monetary and insurance firms. Furthermore, one should bear in mind the ever-increasing competition for specialised labour in many sectors such as financial services.

Percentage of labour force working in the following sectors



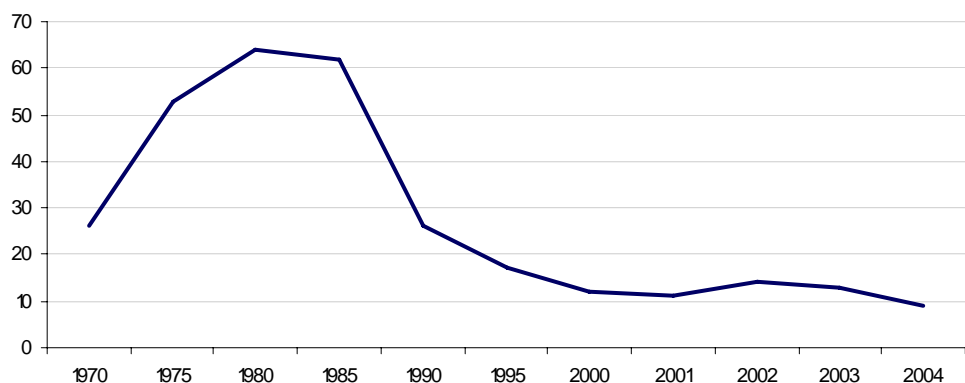
Source: Statistics Iceland

In a research conducted on the equilibrium real exchange rate of the Swedish krona the relative price of the traded and non-traded goods sector compared with the trend in Iceland's main trading partners was used as a variable. This revealed that a 1% decrease in the relative price led to a 0.37% drop of the equilibrium real exchange rate. Other studies seem to corroborate this impact on the real exchange rate, albeit to varying degrees.

Other determining factors

Other determining factors that have been mentioned are tariffs and trade barriers i.e. depending on how open the economy of the country is. Generally speaking, nations with the most freedom in trade have lower real exchange rates whereas trade barriers between countries normally push the domestic prices of goods and real exchange rates up. According to the so-called Economic Freedom Index of the Fraiser Institute in the US, economic freedom has substantially grown in Iceland from the 1980's, but remained fairly unchanged since the year 2000. This should have led to a drop in the nation's equilibrium real exchange rate.

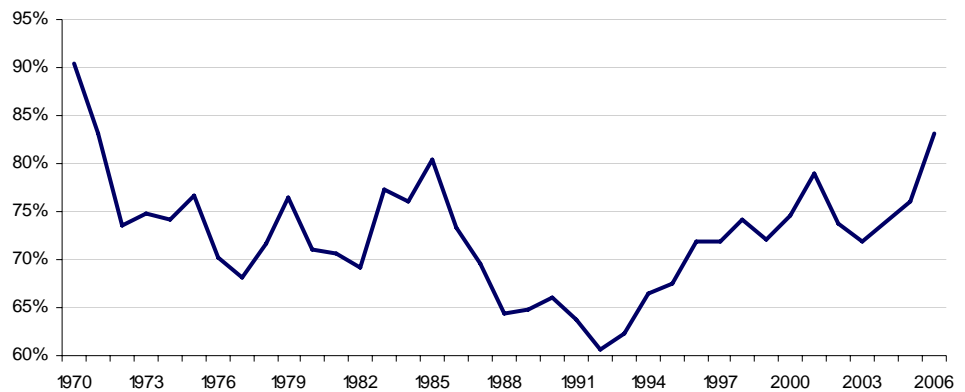
Iceland's place in the Economic Freedom Index of the Fraiser Institute



Source: The Fraiser Institute

Another measure of economic freedom is what percentage of GDP is made up of imports and exports. The percentage dropped considerably between 1970 and 1991, which is an indicator of the restriction on the freedom of trade during this period and tallies with the results of the Economic Freedom Index. Since 1991, however, the percentage has grown substantially which reflects increased freedom of trade.

Imports and exports as a percentage of GDP



Source: Statistics Iceland

Differences in real interest rates between Iceland and abroad have also been mentioned as determinants. According to economic theory, differences in real interest rates between countries should fade in the long-term and therefore not have any impact on the economy's equilibrium real exchange rate, but only cause short-term volatility in real exchange rates. However, since in practice the real interest rate differential appears to be persistent over time, one might expect these variations to have some impact on the equilibrium real exchange rate. The real interest rate differential can also indicate a difference in productivity between countries and act as indicators of the aforementioned Ballassa-Samuelson effect.

Summary of factors

The following is a summary of the possible effects of the aforementioned variables on the equilibrium exchange rate of the ISK, but it would appear that the overall impact has resulted in the weakening rather than the strengthening of the exchange rate over the past years.

- Firstly one could contend that changes in terms of trade have helped raise the equilibrium real exchange rate, although its impact was probably fairly negligible. In fact it is quite difficult to evaluate whether terms have improved over the past years.
- It is crystal clear that foreign debt has grown substantially over the past years. It seems likely that this has led to a weakening or lowering of the equilibrium real exchange rate.
- Falling foreign interest rates should also contribute to raising the equilibrium real exchange rate.
- There is little evidence of any Ballassa-Samuelson effect in Iceland over the past years, although it may have been at work in the very last years. Its general impact would have been to push up the equilibrium real exchange rate.
- Finally, it is clear that free trade has grown considerably in Iceland over the past years and this may have resulted in a depreciation of the equilibrium exchange rate.

Factors	Effect on real exchange rate
Terms of trade	Increase
Foreign debt	Decrease
Domestic pressure on wages	Increase
Freedom in trade	Decrease
Real interest differential	Increase

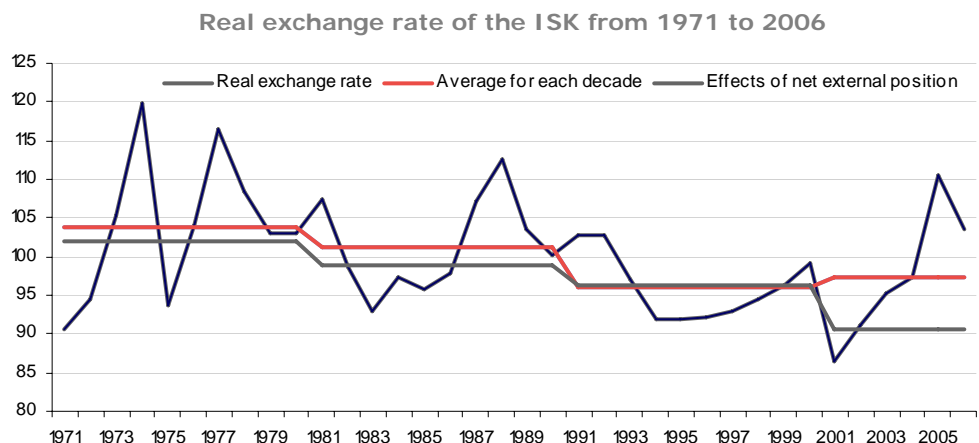
Research

Considering the period between 1960 and 2006, the current real exchange rate (measured in Q1 2007) is probably 4% above the average. This average can be a good indicator of the equilibrium real exchange rate if the determining factors, such as the net asset position, terms of trade and freedom of trade have not changed significantly during the same period. This has not been the case, however, since there have been many changes in the nation's net foreign asset position over the past years, coupled with a substantial increase in freedom of trade. If one looks at the average of the past six years, on the other hand, today's real exchange rate is around 10% higher than that value.

The impact of the net foreign asset position

Kaupthing Research has studied the long-term correlation between real exchange rate, the economy's net foreign asset position, terms of trade and the country's output in relation to Iceland's main trading partners. The results show that the net foreign asset position has had the most impact on the equilibrium real exchange rate, while other changes do not have any significant influence. Looking at the data on an annual basis from 1960 to 2006, the results of the model reveal that a deterioration of the net asset position of 1% of GDP leads to a 0.20% weakening of the equilibrium real exchange rate of the ISK.

The following graph shows the development of the real exchange rate of the ISK and the average real exchange rates for each decade, which can be an indication of the equilibrium real exchange rate and its development. It also takes into account the country's net foreign asset position has generally declined between decades and how the equilibrium real exchange rate would have developed based on the results of the research. It then seems that the average for each quarter gave a good picture of the equilibrium real exchange rate, with the exception of the last few years, which can be attributed to a substantial deterioration of the asset position during this period. The average for the past six years is therefore actually 7% higher than the equilibrium real exchange rate in relation to the development of the economy's net foreign asset position. According to this data, the real exchange rate for 2007 so far is about 14% higher than the equilibrium real exchange rate, which indicates that the ISK is currently overvalued in relation to the trade-weighted average exchange rate index of the ISK. This is counterbalanced by the fact that foreign interest rates, on the other hand, have decreased substantially over the past decade, and if this decrease persists, it should offset the effects of the worsening foreign asset position.



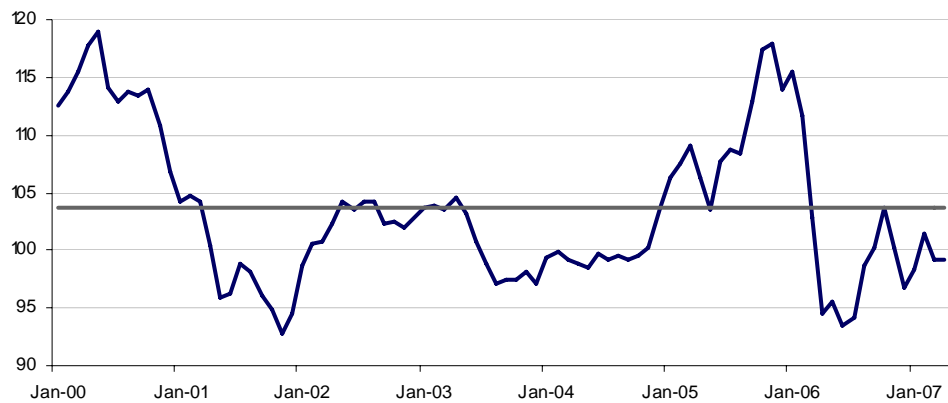
Source: Central Bank of Iceland and Kaupthing Research

The euro in balance

The euro is the currency Iceland uses the most in its external trade and weighs about 41% in the trade-weighted average exchange rate index of the ISK and 60% of exports. Looking at the evolution of the real exchange rate of the euro against the ISK over the past decade, it is clear that its current value is considerably below the average, i.e. 4.5% weaker as can be seen from the graph.

Real exchange rate of the ISK against the euro and its average value

- from 2000-2007



Source: Statistics Iceland, Eurostat and Kaupthing Research

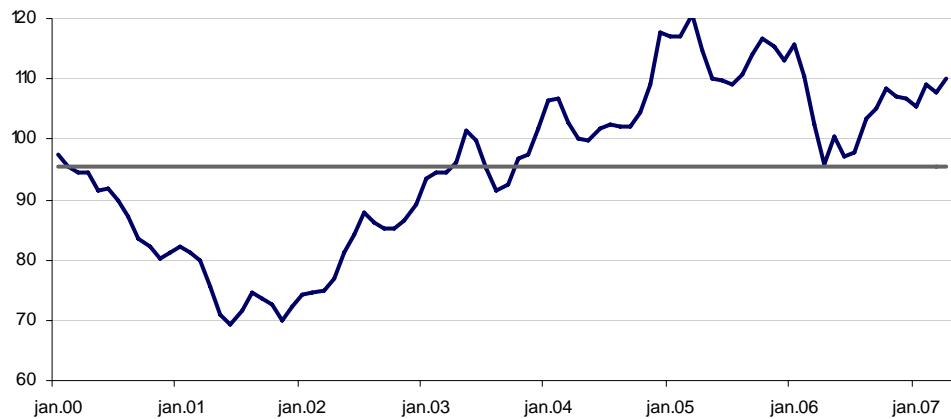
The average of the past years is probably not a good yardstick for establishing the equilibrium real exchange rate, since the country's net foreign asset position deteriorated considerably during this period. In the final decade of the last century, the average asset position accounted for 51% of GDP, compared to about 80% of GDP in the first seven years of this century. All things being equal, this deterioration should lead to a 6% depreciation of the equilibrium real exchange rate for this period. Bearing this in mind, one could argue that the euro's exchange rate with the ISK is in a good equilibrium at the moment or, in other words, that the ISK is neither over- nor undervalued in relation to the euro. It is worth bearing in mind, however, that the largest proportion of Iceland's foreign debt is denominated in euros and any changes in the nation's foreign debt situation could have more impact on the equilibrium real exchange rate of the euro against the ISK than any other currency. In fact the ISK seems to have followed the euro quite closely since the euro was first launched seven years ago.

An overvalued dollar?

The US dollar, on the other hand, is another story, weighing 23% in the trade-weighted average exchange rate index of the ISK. Looking at the evolution of real exchange rates against the ISK over the past 7 years, the real exchange rate is now around 15% higher than the average for these years. Since the equilibrium real exchange rate is probably considerably lower than the average of the last years, it is very clear that the ISK is overvalued against the dollar and an adjustment to this imbalance can be expected over the next few months with a consequent impact on the trade-weighted average exchange rate index of the ISK.

Real exchange rate of the ISK against the dollar and its average

- from 2000-2007



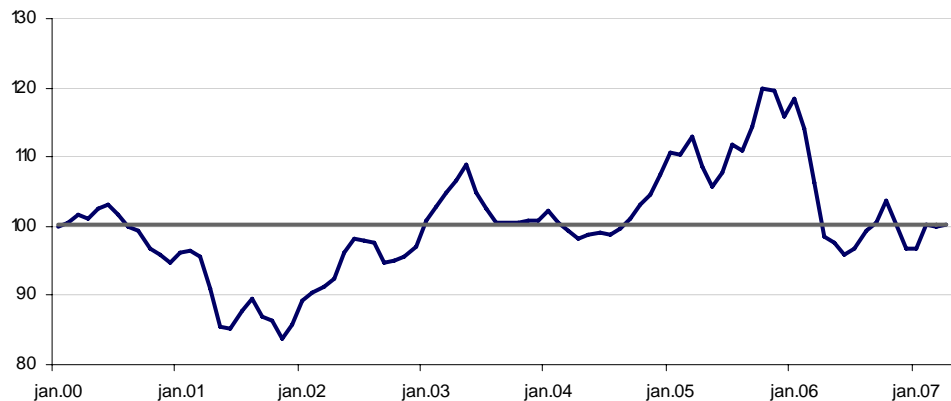
Source: Statistics Iceland, EcoWin and Kaupthing Research

Sterling

After the dollar, the British pound is the third most used currency in Iceland's foreign trade, weighing 12% in the trade-weighted average exchange rate index of the ISK. Looking at the real exchange rate of the pound against the ISK over the past seven years, the current real exchange rate is now around the average for these years. But because the equilibrium real exchange rate may generally be considered to be below the average of recent years, due to the reduction in net foreign assets, it can be argued that the ISK is currently slightly overvalued against the pound.

Real exchange rate of the ISK against the pound and its average value

- from 2000-2007



Source: Statistics Iceland, Eurostat and Kaupthing Research

Conclusion

In Kaupthing Research's opinion it is first and foremost the overvaluation of the ISK against the dollar which accounts for the ISK's high real exchange rate at the moment, since the dollar weighs 23% on the trade-weighted average exchange rate index of the ISK. The ISK is, most likely, in good balance against the euro, on the other hand, but probably slightly overvalued against the British pound.

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Provisional release:

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