

The Global Financial Accelerator and the role of International Credit Agencies

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1. Introduction

Post-war, economic history has seen a long – albeit sometimes slow – process of financial and economic liberalisation. Nowhere is this more true than in the financial markets. The developed world has moved from near financial autarky in the early Bretton Woods days, with managed exchange rates and a miniscule international financial market, to the current system of free float for the major currencies, with largely free flows of international capital and a corresponding stellar growth in the size of international financial markets.

Framed within the classic monetary trilemma, the early Bretton Woods system reflected a taste for regulation. Countries chose a mix of fixed currency regimes and independent monetary policies, leading to a necessity of strict controls of international capital flows. Today the major developed economies have given up on the capital controls while still maintaining monetary policy independence in major currencies. This has led to floating currencies and capital mobility.

The effect on global capital markets has been stunning. International crossholdings have grown rapidly, and current account imbalances have widened globally. Some observers have emphasised these developments as permanent changes, at least partly explaining the emergence of large global payment imbalances (Valgreen, 2006).

The development of deep, liquid global financial markets has combined with technological developments, breeding a staggering growth in international financial contracts, with the international derivatives markets seeing explosive growth rates over the past two decades.

Chart 1. Growth of global crossholdings of assets has been stunning since the 1980s

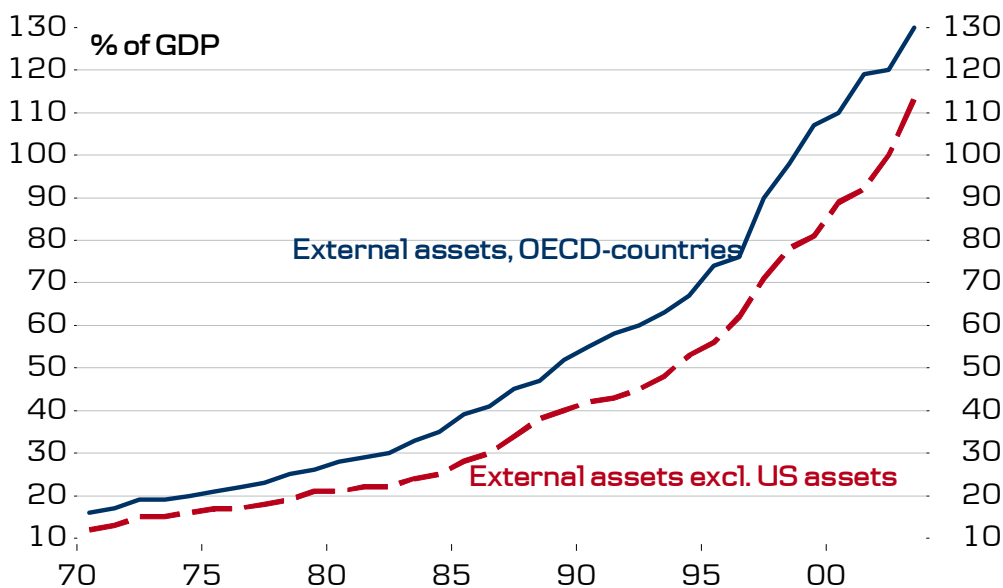
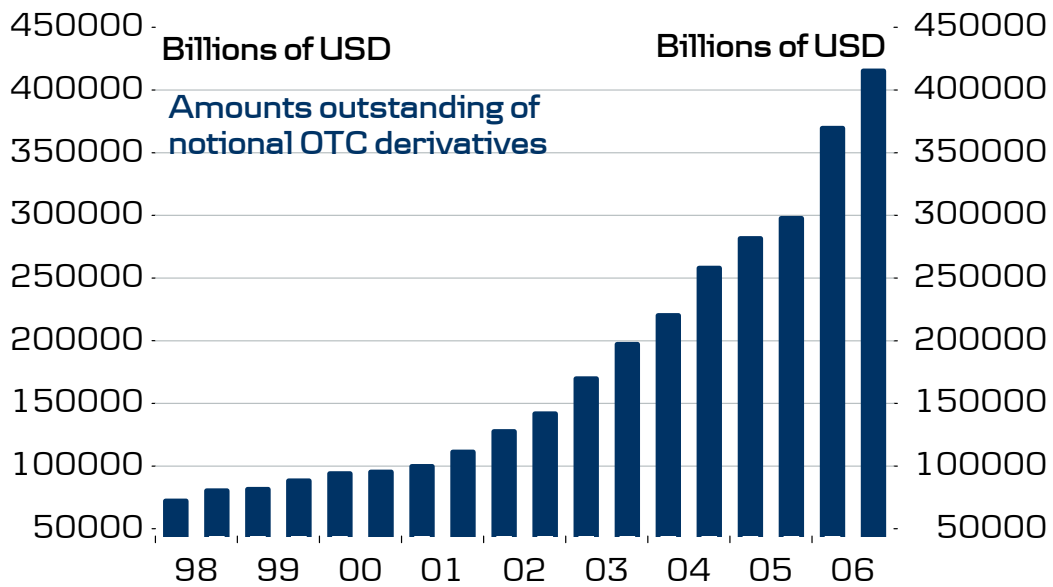


Chart 2. Explosive growth in OTC derivatives market – a financial technological revolution



Source: BIS

Many observers have seen this development of large liquid markets for financial contracts as threatening, creating the scope for volatility in financial markets and in the real economy. Iconic investor Warren Buffet famously called derivatives “Weapons of Mass Destruction”. Related to this fear is the widespread worry about the growing role of hedge funds in financial markets. However, so far these fears have not been well founded, as the orderly deflation of the equity market bubble in the late 1990s showed.

The choice major countries have made in the classical trilemma: ie, Free movements of capital and floating exchange rates – has left room for independent monetary policy. But will it continue to be so? This is not as obvious as it may seem. Legally central banks have monopolies on the issuance of money in a territory. However, as international capital flows are freed, as assets are becoming easier to use as collateral for creating new money and as money is inherently intangible, monetary transactions with important implications for the real economy in a territory can increasingly take place beyond the control of the central bank. This implies that central banks are losing control over monetary conditions in a broad sense. Historically, this has of course always been happening from time to time. In monetarily unstable economies, hyperinflation has led to capital flight and the development of “hard currency” economies based on foreign fiat money or gold.

The new thing – this paper will argue – is that we are increasingly starting to see the loss of monetary control in economies with stable non-inflationary monetary policies. This is especially the case in small open advanced – or semi-advanced – economies. And it is happening in fixed exchange rate regimes and floating regimes alike.

This paper presents two examples to illustrate this, ie, of Iceland and of Latvia. In both examples local central banks have been having trouble controlling developments in monetary conditions, as lending from foreign sources in local and/or foreign currency has been crowding out lending in local currency.

The two countries' experiences are very different in the details. Small, advanced and rich Iceland has a free-floating currency and no foreign ownership in the banking sector. It has been experiencing an aggressive external expansion strategy by local companies funded to a large extent by local banks. Somewhat poorer but fast-growing Latvia has been seeing aggressive domestic expansion fuelled by credit from foreign-owned banking corporations in a fixed exchange rate environment. However, looking at the differences, there is a common story: In both cases monetary policy has become increasingly impotent as the central banks' money monopoly is getting increasingly hollow.

It is no accident that the two examples are small open economies with liberalised financial markets. Being small makes the global financial markets matter more. A country such as Iceland will be the first to notice that the agenda for monetary policy has changed, as the current and capital accounts are naturally very large and important for the economy. However, this is more of a reason to study its experiences carefully, as they might show something of what is in store for larger economies over the next decade.

If monetary policy is losing control in these economies, the natural question arises: Who or what is then in control? And what does the loss of control imply for monetary and real economic stability?

This paper argues that the answer is that global financial conditions will matter increasingly. Ultimately global financial conditions will be governed by monetary policy across the major currencies. However, we will also argue that the private credit agencies are gaining power in this process.

Increasingly, these institutions can be seen as a new breed of central banks, crucial in directing the extension of credits globally.

In the neoclassical economic literature, credit extension played no role in the economy. The focus was on monetary policy setting the price of money. In both the textbook IS-LM models and in the canonical real business cycle models, financial and credit markets do not affect the real economy. In a sense this reflected the Modigliani-Miller theorems' influence on macroeconomic analysis: Money mattered, but the structure of financing did not.

But macroeconomic literature is changing on this issue. Over the past 10-15 years credit markets have been successfully incorporated into plausible theoretical frameworks, where they do matter. This has led to the realisation that the credit channel not only exists, but potentially can have a very marked importance for the economy. Part of this realisation has

been provoked by the experience of Japan being trapped in a deflationary debt trap, where the behaviour and soundness of banks seemed to have very real consequences.

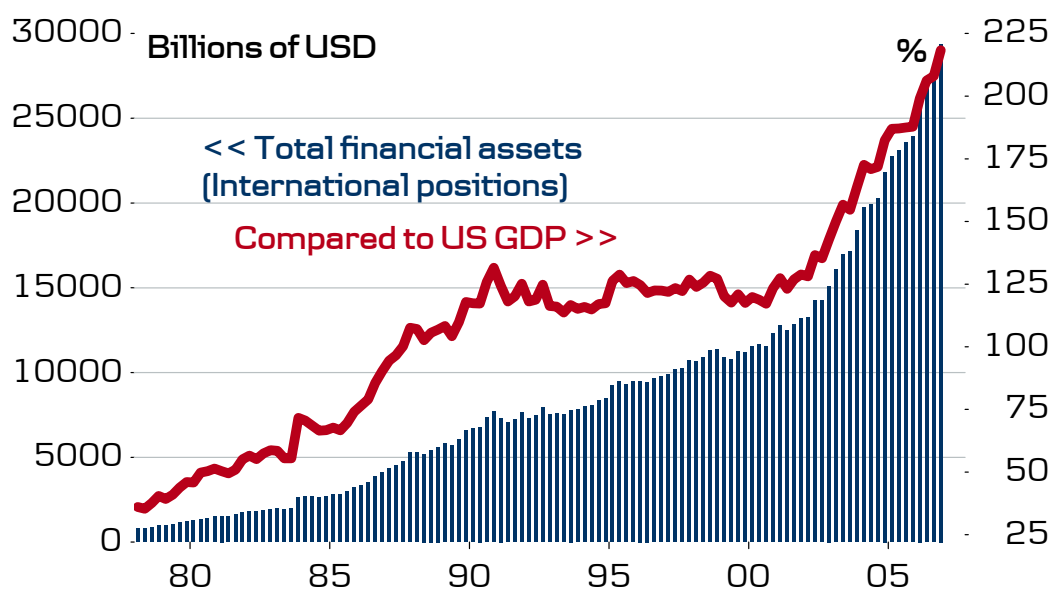
This leaves scope for both global financial market conditions and hence credit agencies to play an important role in monetary policy – and not just through the exchange rate channel.

If credit agencies are successfully forward looking and contra-cyclical in their behaviour, they should be able to dampen the global monetary cycles. If not, they could potentially prolong and increase the effect of global monetary policy. Whether rating agencies behave pro- or contra-cyclical could start to matter a lot. If anything they seem to do the former. The present global discussion of a "liquidity glut" could to some extent reflect the increasing role of the global financial accelerator – and of the credit agencies.

2. Financial liberalisation

Today, more judicial units can do more financial contracts in more currencies than ever before. This is not just due to financial liberalisation. Technological change is as potent a force in the financial sector as in any other. But financial liberalisation has been the enabling factor. Increasingly this is reflected in the very large increase in cross-border gross asset holdings and flows.

Chart 3. International financial positions



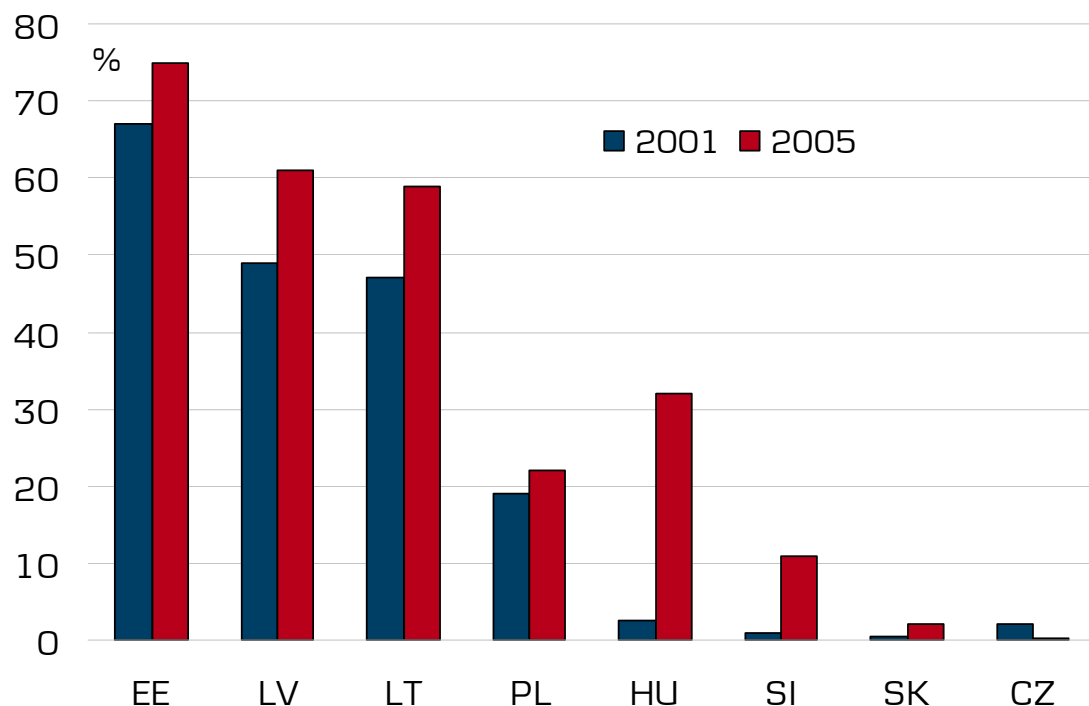
Source: BIS

This implies that the monetary conditions facing a given institution/household/person are becoming less dependent on the risk-free interest rate in and availability of a local currency.

Take an arbitrary example: A Polish household wants to buy a second home in France. To do this they contact their local bank (which happens to be the subsidiary of a Swedish-based banking corporation) in order to obtain mortgage finance. They then choose to borrow the money in Swiss francs and Japanese yen. This action is likely to have a large impact on the future income streams and net asset value of this Polish household, and – hence – its future behaviour in the real economy. However, as long as free capital flows are maintained the Polish central bank has limited influence on the transaction. None of it is in Polish zloty. And the credit decision of the private banking corporation extending the credit is taken based on a credit model maintained in Stockholm in Sweden. What will matter for the family is the future currency and rate moves in Swiss francs and Japanese yen. And the price developments for second homes in France. And perhaps also the future credit attitude of a Swedish-based credit institution.

In many countries this is not an exoteric example. In the chart below the share of credit extended to consumers in foreign currency is shown for a number of CEE countries in 2001 and 2005. In the Baltic countries, which all display fixed exchange rate regimes, foreign currency lending is now more than 50% of total consumer lending. And in all the illustrated countries it has been rising.

Chart 4. Share of outstanding consumer lending, which is denominated in foreign currency, 8
Central and eastern European countries



Note: EE=Estonia, LV=Latvia, LT=Lithuania, PL=Poland, HU=Hungary, SI=Slovenia, SK=Slovakia, CZ=Czech Rep.

It is likely that the borrowing and overall financial behaviour of non-financial corporations is likely to be even more complex and globalised than for households.

Increasingly, this isolates real economic decision-makers from local monetary conditions – while at the same time exposing them more to global monetary conditions and credit extension willingness. In most major economies, parts of these developments are still in their infancy. Foreign currency lending is marginal. But even in larger countries the creation of larger cross-border financial institutions starts to remove credit decisions and credit behaviour from the local market. For instance, a large European banking corporation, which gets into trouble with bad debt in the Spanish housing sector, is likely to change credit extension behaviour in all markets in which it operates.

For some small open economies, these changes are already having important effects on economic developments, as we shall see. However, first it is instructive to ask whether credit really matters, and why?

2.1 The Financial Accelerator

The canonical real business cycle models and the textbook IS-LM models tend to ignore financial markets. In these workhorses of macroeconomics, financial markets are in a sense just an intermediary in the money market, with monetary policy being central. It was not until the 1990s that the "credit channel" or "financial accelerator" received much academic interest – at least not in economic theory.

In studies by Gertler (1995) and Bernanke, Gertler and Gilchrist (1999) (BGG), and Hall (2001) the financial accelerator was put into a theoretical setting and calibrated to economic data for the US and UK.

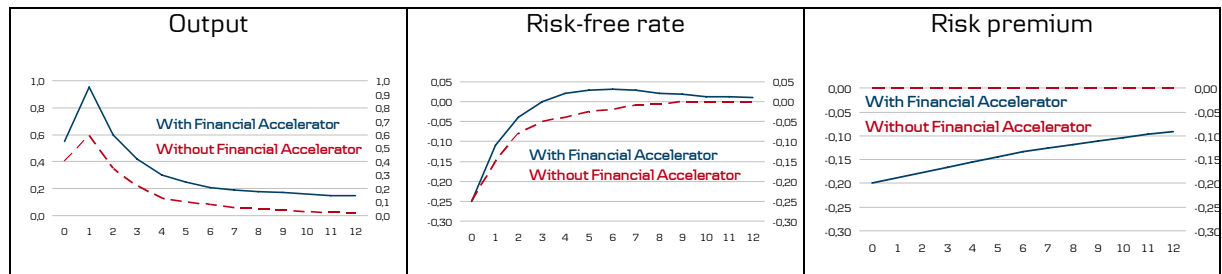
In the BGG model, credit matters, because the authors assume the existence of risk-neutral "entrepreneurs". These individuals are endowed with capital and labour, but they might in optimum want to borrow from (risk-averse) households. Assuming information asymmetries, this leads to the existence of an external finance premium, as households lend resources to entrepreneurs, but demand a premium to the risk-free rate in order to be compensated for an assumed idiosyncratic risk on the projects' productivity outcome. This premium turns out to be dependent on the net worth/asset ratio of the borrower, ie, the higher the leverage, the higher the risk premium paid on external funds.

In this model type, credit starts to matter, simply because some judicial units are credit constrained and risk-neutral and because of the existence of a stochastic productivity shock distribution. The interesting part of the study is however empirical. Calibrating the model to the US economy, the authors find very significant business cycle ramifications, as the financial accelerator prolongs and extends the effect of shocks to the model. In other words, the financial accelerator is likely to have real and important implications for an economy such as the US, even in a normal inflationary situation, without financial sector distress.

This dynamic behaviour goes through asset prices. A positive monetary stimulus implies rising asset prices, increases net worth/asset ratios for "entrepreneurs", lowers risk premiums and

increases investments. In the charts below, the repercussions of a monetary policy shock to the BGG model are reproduced.

Chart 5: Effect of monetary policy shock in the BGG model calibrated to US data, with and without financial accelerator effects



Source: "The Financial Accelerator in a Quantitative Business Cycle Framework" NBER 6466, 1999.

Note: Time axis is in quarters

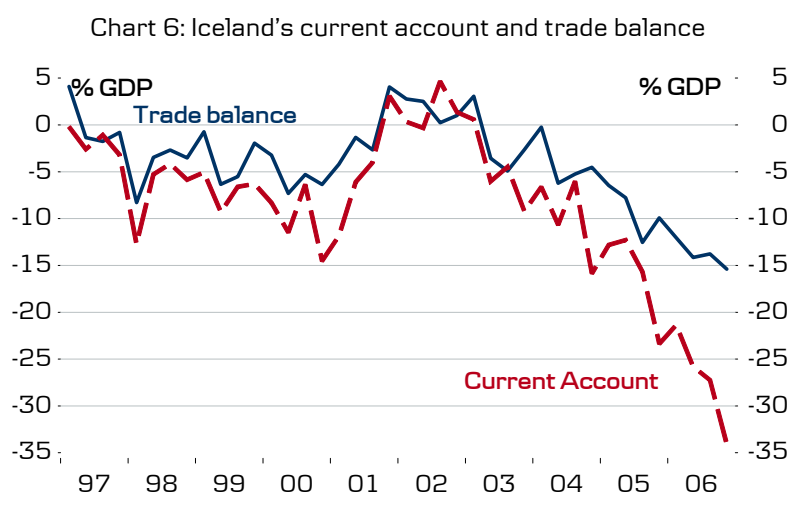
This model neatly shows the potential importance of the credit channel in a closed economy environment. A monetary shock tends to raise asset prices and implies a lower leverage among entrepreneurs, and hence lower risk premiums, more lending, more output and a stronger boom.

Recently studies have moved to looking at this financial accelerator effect in an international environment (Mody, Sarno & Taylor, 2005). However, this line of literature is surprisingly young. The study does find some evidence of international accelerator effects - through regional components in credit growth series - however it only covers four countries (US, Canada, Germany and France). Almeida, Campello & Liu looks at the financial accelerator effects in the housing market. They found that countries with higher LTV ratio rates for residential mortgages tend to see higher house price responses to income shock, which is consistent with liquidity constraints and significant financial accelerator effects through house prices. Gilchrist, Hairault & Kempf try to expand the BGG model to a two country setting, capturing the effects of monetary union, and find important transmission effects in both a fixed exchange rate and floating regime.

However, econometric will have a hard time capturing changes in the structure of the international economy, such as the emergence of (more) important international credit linkages. We therefore will deal with a couple of illustrative case studies.

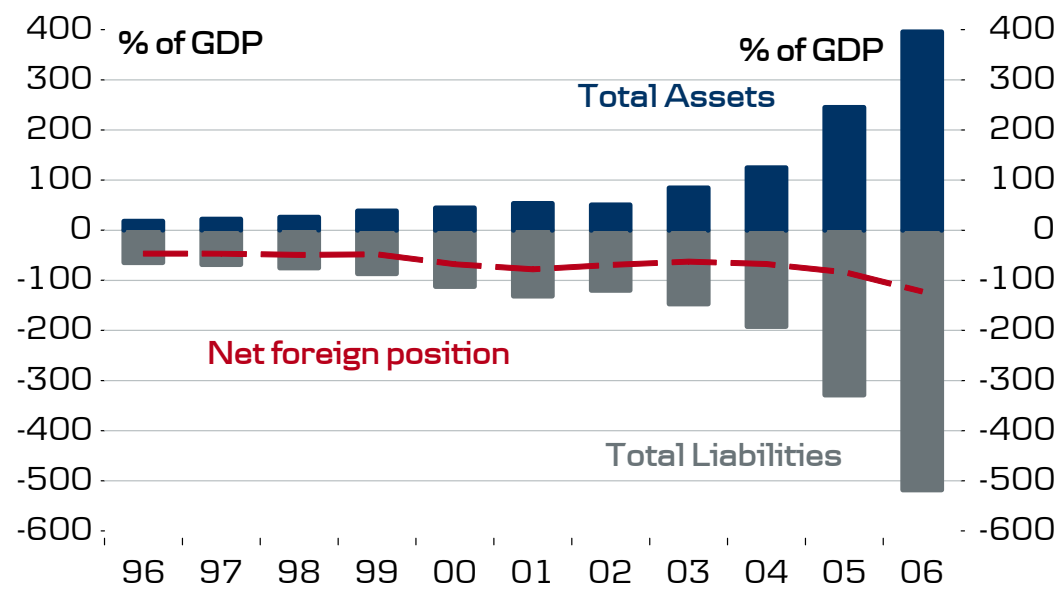
2.2. Iceland

Iceland's small North Atlantic economy has historically seen high volatility, not just in GDP but also in private consumption growth. However, the economy's recent boom has had very unusual features, with the current account racking up one of the biggest deficits ever seen in the OECD area of 30% of GDP.



While some of the deficit has been related to the construction of (foreign-financed) aluminium smelters, the strength in the domestic economy has also been responsible. At the same time Icelandic corporations have gone on a buying spree abroad, financed to a large extent by the extension of Icelandic banks' balance sheets. This has led to a situation where gross foreign debt is now above 500% of GDP. However, on the other side of the balance sheet, Icelandic corporations have racked up foreign assets (mostly equity) to the tune of 400% of Icelandic GDP. However at above 100% of GDP, the net foreign position is very much in the red by anyone's definition.

Chart 7: Iceland's foreign assets and liabilities – An extreme example of financial globalisation

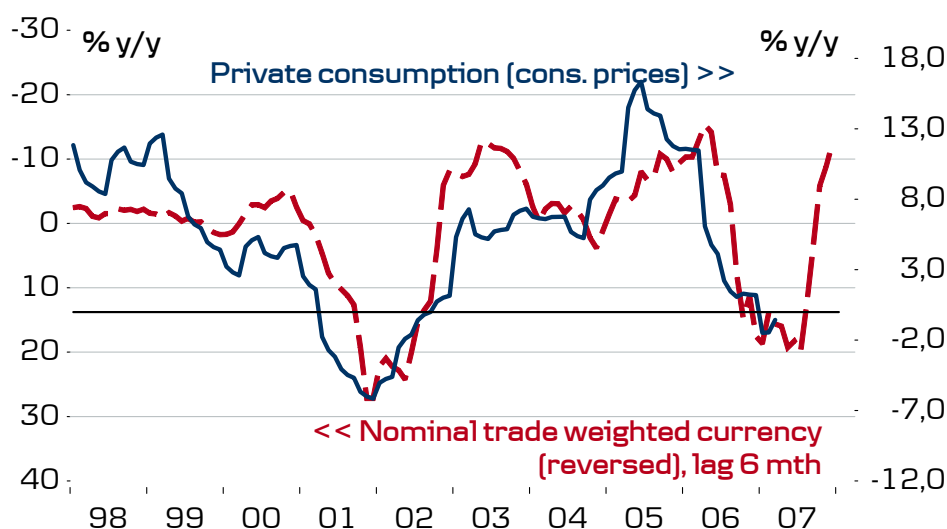


The Sedlabanki (central bank) has actively tried to step on the brakes, hiking rates to near 15%. However, the monetary tightening has had limited effect on the economy. Firstly, because the bulk of household finance in Iceland is extended as mortgage credit on 40-year fixed rate contracts indexed to inflation. This implies that households' interest rate burden is not directly sensitive to the short rates. Secondly the rise in central bank rates has strengthened the

currency, with foreign "carry investors" flocking to one of the few high interest rate currencies in the developed world. The strong inflows stimulate credit availability and keep down financing costs for the banks, corporations and households – despite the very large external imbalances, debt and leverage.

As Iceland is a price taker in many of the main export categories, the strong currency has not directly hurt export volumes (fish and aluminium). Moreover a strong currency has traditionally boosted Icelandic consumption, as households exploit the terms-of-trade gain.

Chart 8: A stronger Icelandic kronur (ISK) tends to boost private consumption as the terms of trade effect supports real income



Moreover, foreign currency borrowing by consumers has increased, as consumers try to exploit cheap foreign funding – about half of non-mortgage consumer borrowing in Iceland is today in foreign currency. Finally, the banks' relations with the non-financial corporations are also insensitive to local monetary policy, as most lending is denominated in foreign currency.

The net effect has been to leave the Sedlabanki in a very difficult position, with a booming economy and a large and increasing external imbalance and an impotent monetary policy. As they put it themselves:

"The Icelandic economy has probably never been as sensitive to changes in global markets as it is today. One reflection is the close relationship between the exchange rate of the króna, other high-interest currencies and global financial conditions. Part of the explanation for this interaction is Iceland's large current account deficit, which leaves the exchange rate and economic developments in general dependent upon foreign investors' incentives or willingness to finance it. The wide interest rate differential between Iceland and main currency areas attracts risk-seeking investors who target high-interest currencies around the world. Iceland's external debt and assets have also grown rapidly and other financial links across borders have become much closer. The global glut of saving in recent years has forced down interest rates and helped many countries to fund large current account deficits. These conditions could change, although the timing and speed of the adjustment is unclear."

Sedlabanki Financial Stability Report, 2007.

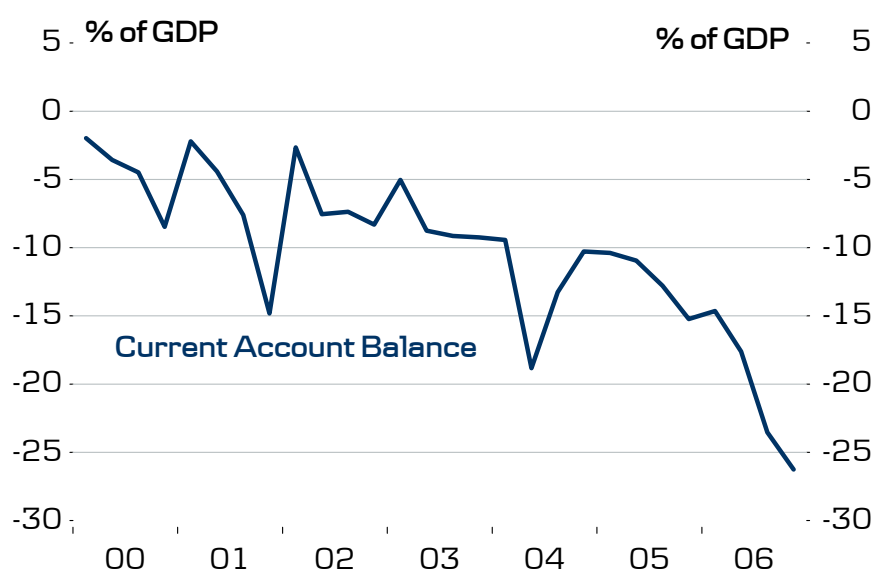
Credit extension and money creation in Iceland is to a large extent now outside the reach of the Sedlabanki, and de facto dependent on global credit conditions. In particular, the domestic banks' ability to attract international funding appears crucial. The Icelandic boom will continue as long as the Icelandic banks are willing to continue to extend their balance sheets, and as long as international markets allow them to do so.

It is in this context that Moody's in February 2007 decided to re-rate the three major Icelandic banks to a triple A rating, as part of the agency's general re-rating of banks (the agency has later backtracked in these ratings). This re-rating was due to a "joint default" analysis, which was implicitly built on the assumption that the banks would be saved by the Icelandic state in the event of a default. Interestingly, Moody's never seems to have thought about downgrading the Icelandic state in the same moment, even though the agency was actually saying that it thought the Icelandic state guaranteed the 500% of GDP in gross external borrowing - mostly through the commercial bank's balance sheets.

2.3 Latvia

The Latvian economy differs from the Icelandic in many dimensions. Latvia - and its Baltic peers - has been involved in a catching-up process since the fall of the Berlin Wall and its independence from Russia. This process has meant fast growth through reform, foreign direct investments and reorientation of exports. High FDI has also implied a running current account deficit.

Chart 9. Latvia: current account deficit



Latvia has successfully run a fixed exchange rate regime in recent years with the euro as the anchor. The fixed exchange rate regime has naturally diminished monetary policy's ability to play a stabilising role in the economy.

However, since 2005, the boom has accelerated and changed character. Increasingly it has been driven by the construction sector and the housing market, leading to extreme credit growth, rising inflation and above 25% wage growth.

Chart 10. Latvia: explosive credit growth

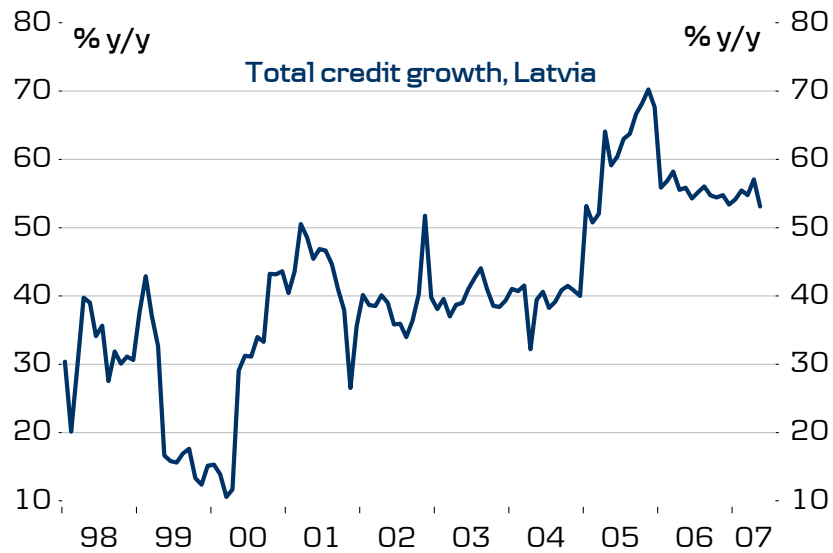
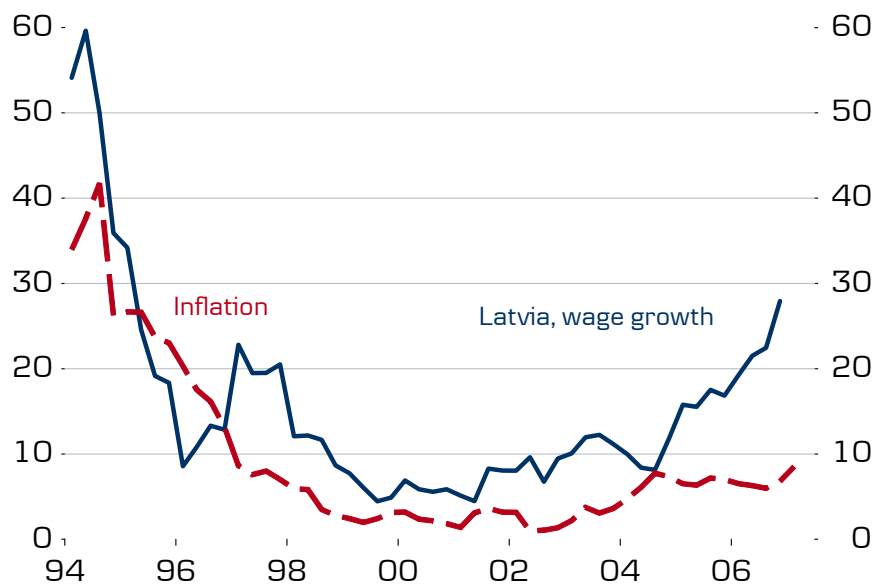


Chart 11. Latvia: wage and price inflation picking up



The fixed exchange rate regime has prevented the central bank from tightening monetary policy, and fiscal policy has not really been tightened either. Interestingly, external funding – which in theory should react to the overheating by tightening – has continued to be ample. Partly this is because foreign banks own the largest banks in Latvia. These banks have continued to compete for market share in what is seen as a long-term growth market, by aggressively promoting credit. Foreign banking corporations fund a large part of Latvia’s current account deficit through their Latvian subsidiaries. Also, speculative funding in low rate

foreign currencies has become widespread, cf. chart 4 above. Effectively this has led to a situation where the Latvian central bank had very little influence on credit extension in Latvia. Effectively foreign banks have extended credit in foreign currency to Latvian households and companies, keeping Latvian monetary policy and the central bank out of the loop.

In spring 2007, this led to some pressure on the Latvian lati. This was partly ignited by Standard & Poor's downgrade of Latvia's sovereign debt. The central bank was forced to defend the currency by selling reserves. Partly this was also fuelled by Latvian politicians being seen to be postponing EMU entry, and by their unwillingness to tighten the fiscal reins. However, generally global markets have proved surprisingly complacent about the situation in Latvia, as is the case in Iceland.

2.4 Getting to grips with a new world order

The point of these two examples is to show how powerless monetary policy can actually become in small open economies in a world of fluid cross-border financial flows. Neither the Icelandic nor the Latvian central banks are in reality able to control the credit extension in their countries.

The Icelandic central bank can control the interest rate on the Icelandic kronur. But that does not matter much for households, non-financial companies or banks borrowing funds in foreign currency. As long as the banks have a high credit rating and are perceived as sound by the international markets, credit flows easily to them. This is especially the case in a situation with ample global liquidity and risk-seeking, where fewer hard questions are asked. And as long as the Icelandic banks are willing to extend this lending to non-financial corporations and households, they need not care much either. Perversely it even seems as if a stronger currency stimulates the Icelandic economy in the short run, as consumer spending reacts to increasing external buying power and as exports are concentrated in price-insensitive commodity sectors.

The Latvian central bank is even more stuck, with a fixed exchange rate regime that ties down its interest rate policy too. Not that it would help much if they could change interest rates more freely. Credit decisions in Latvia are overall decided by large foreign banks. Their capital costs, balance sheets, and ability to extend credit are insensitive to Latvian interest rates. It is the long run growth perception for Latvia by these banks and in turn by the stockholders, which govern their behaviour – and it is the rating action by the private rating agencies, as these affect the cost of funds for the foreign banks.

In both examples fiscal policy could play a role in the absence of monetary policy effectiveness. However, in both examples, the large private sector deficit has implied strong fiscal balances – and little understanding among politicians for the need for tightening the fiscal belt.

As these examples show, we increasingly must understand the financial accelerator in a global perspective. And we need to look closely at the credit agencies. In both examples credit

agencies – and especially their bank ratings – play a crucial role. Icelandic banks can ignore Icelandic interest rates but not downgrades by the international rating agencies, as downgrades would curtail their ability to obtain funds in any currency and increase the cost of funds.

In the Latvian example, negative rating action vis-a-vis Latvian sovereign debt and/or concerns about Latvian banking exposure by rating agencies would put pressure on the foreign banks active in Latvia, forcing them to tighten their credit policies. Again this would apply to lending in all currencies and instruments, and therefore would be much more effective than traditional monetary policy action by the Latvian central bank.

Interestingly, in both cases, rating action has been prompting market jitters. In Iceland this happened in spring 2006 with a Fitch downgrade and in Latvia it happened after an S&P downgrade in spring 2007.

3. Rating agencies and the global Financial Accelerator

Naturally this leads to questions about the nature of global financial accelerator effects in general and the rating agencies' role in particular.

It is obvious that the increasing integration of financial markets increases the role of credit agencies in the credit extension process. However, the inclusion of private ratings explicitly in the Basel II rules, implies that the regulatory process is also boosting credit agencies' role in a more formal way.

If a company is downgraded, it is not only the credit market that reacts by tightening credit standards. At least some banks are now also compelled to hold more capital against the risk on the firm, increasing the cost of capital of lending, and hence also pricing.

How did rating agencies end up in this role? And are they fit for it?

One way of understanding the role of credit agencies is to see them as the natural extension of the market. Bonds and debt are fixed income instruments. However risky borrowers imply that the lender has also sold a (far-out-of-the-money) put option. Equity owners can let the corporation go bankrupt if the value of the equity falls below zero. Equities on the other hand are (in-the-money) call options. In essence, rating agencies are a pricing/research technology, which allow bondholders to outsource the research needed in order to price the put option. This might be seen as a reflection of returns to scale in research, ie. many bondholders wanting the same information about a bond).

Empirical evidence generally points to pro-cyclicality in rating of firms, at least when focusing on active rating actions. Amato & Furfine, 2003 studied US corporate ratings in the 1982-2002 period. From a large dataset they found the relative rating changes (upgrades minus downgrades). The data is reproduced below and we have plotted the rating action against

economic activity (ISM) and profitability-to-debt changes. The BGG model implies that credit extension reacts positively to a rise in net worth-to-debt ratios. Chart 13 seems to confirm that ratings follow this rule. If anything, changes in profits seem to lead changes in ratings.

Chart 12. Upgrades minus downgrades, US corporate ratings 1982-2002, plotted against the ISM manufacturing index

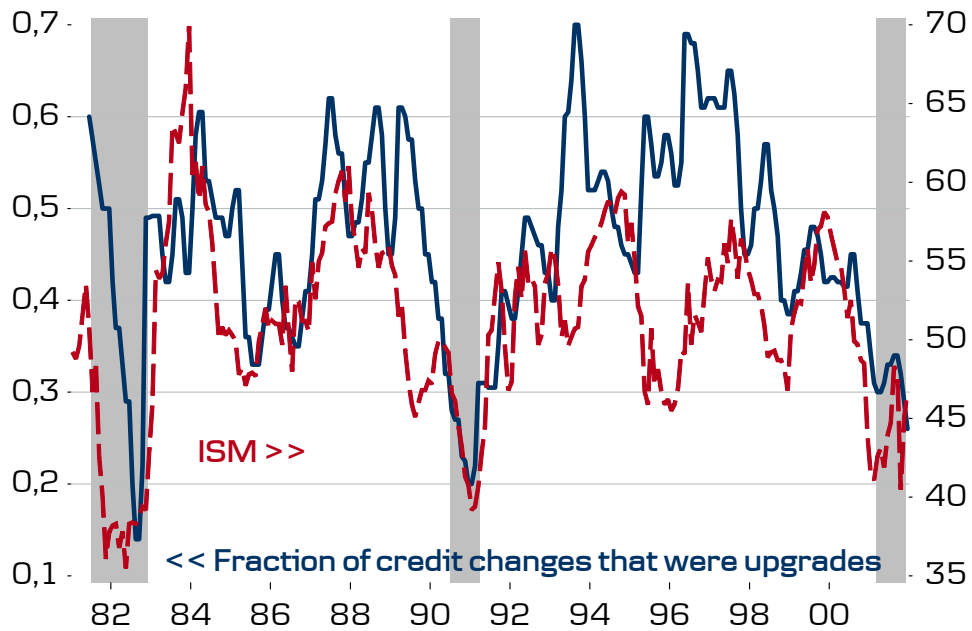
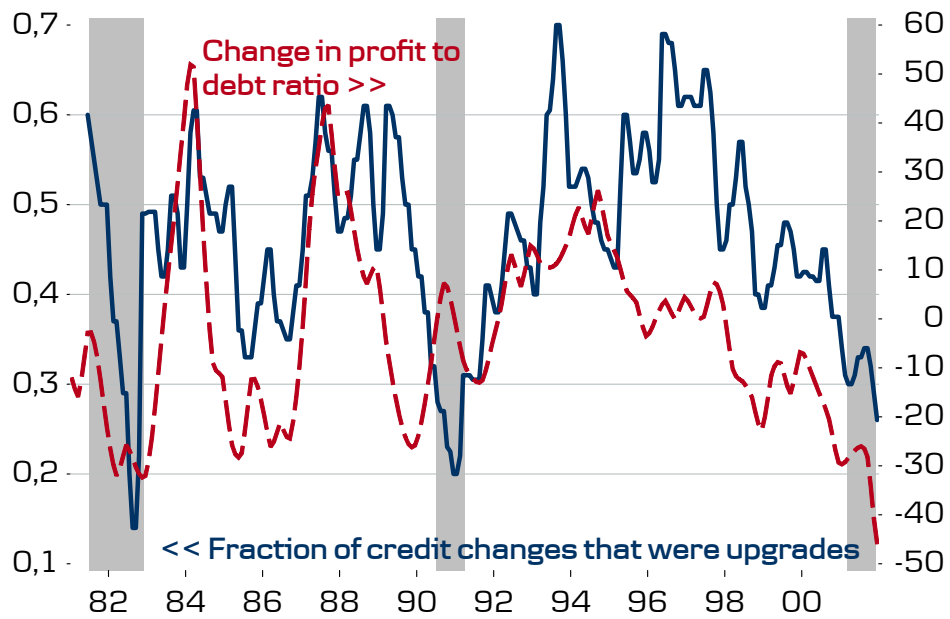


Chart 13. Upgrades minus downgrades, US corporate ratings 1982-2002, plotted against the change in the profit to debt ratio (servicing ability)



So, credit agencies tend to downgrade more often in economic downturns. This should not be surprising, although it is not the intention of rating agencies to have this characteristic in their rating actions. It seems that the rating agencies in general behave pro-cyclically in their rating action. In this sense their increased international role raises some questions. Rating agencies should not be expected to be effective in preventing the build-up of international monetary excesses. On the contrary, they will tend to accentuate them.

Not all blame should be directed at the rating agencies. It is unclear to what extent rating agencies just reflect the cycle in their rating behaviour and to what extent they contribute to it. But neither should they be expected to be effective “meta central banks”. But the fact remain, that they are a part of the emerging global financial accelerator, not a dampener of it.

This role seems to be left to the major central banks, which can influence the global credit cycle more effectively. Looking at Latvia and Iceland, it still looks as if these central banks have more work to do in this cycle.

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