Icelandic experience of cross-border transmission of financial stability risks

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June 2019

Teaser: Many of the problems due to the cross-border transmission of financial stability risk that accumulated during the build up to the 2008 crisis in Iceland were foreseeable and even foreseen. The actual pathways for the cross-border problems in banking were different from previous crisis and policy actions and regulation changes during the build-up of risk were narrowly focussed on solving apparent, often technical, problems which appears to have on occasions added to the overall problems.

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[A] Recent boom and bust cycles in Iceland

The Icelandic economy is prone to sizable fluctuations. In about 30% of the past 75 years GDP per person grew more than 5% and in another 30% it contracted. The variations in growth were smaller during the latter half of this period. The growth during 2003 to 2008 was characterised by the privatisation of the Icelandic banks, their rapid growth and increasing reliance on foreign funding, growing domestic investment and widening current account deficit, and increasing debt by households and firms. At the end of 2002 the combined balance sheets of the three largest banks stood at roughly 100% of GDP. By 2008 it had grown beyond 900%.

[1] The opinions expressed in this paper are those of the author and should not be interpreted as the views of the Central Bank of Iceland.

From 2004 to 2008 the Central Bank's policy rate continued to rise and the interest rate differential with other countries increased in tandem. This, on top of an appreciating currency, caught the eye of savers in international markets which were look at emerging markets where in some places condition were somewhat similar to Iceland.

The three largest banks, accounting for over 95% of the banking system, failed within a week in early October 2008.

[A] Cross-border transmission of financial stability risk

Around the time of the Asian financial crisis the IMF was contemplating whether to start pushing for free capital movements between countries (Kenen ed. 1998). Free movement of capital has also been a cornerstone of the European Economic Area. Capital, however, behaves somewhat differently than goods and services and flow of short-term debt can amplify economic swings. Rodrik (1998, p. 59) concluded that: "(1) financial crisis will always be with us; and (2) there is no magic bullet to stop them." Therefore we should be "wary about statements of the form, 'we can make free capital flows safe for the world if we do x at the same time,' where x is the currently fashionable antidote to crisis." Now it seems that x equals "applying macro-prudential regulation."

[B] *"Monetary and exchange rate policy in small open economies: the case of Iceland"*

In 2001 the Central Bank published a working paper, written by Stiglitz, titled "Monetary and exchange rate policy in small open economies: the case of Iceland". The author made many recommendations for Icelandic policy makers on how to avoid the perils of uncontrolled capital flows. He suggested speed limits on lending growth at banks and in particular limiting the exposure to foreign exchange risks. Also highlighted were the risks of real estate lending since real estate prices are highly volatile and separation of such lending from other was suggested in order to reduce the contagion effect of a collapse in real estate prices. He emphasised the importance of having a strategy for addressing the crisis when it occurred, such as having laws that allowed the imposition of taxes on capital outflows and enhanced bankruptcy procedures. The main point was to limit short term exposure to foreign debt, in particular by curbing the credit boom and limiting foreign exchange exposure of sectors without natural hedges. For the stabilization of capital flows he suggested using taxes as well as disclosure requirements and regulation, particularly on banks.

Stiglitz was particularly worried that competition amongst the newly privatised Icelandic banks for market shares would lead to rapid credit growth. He therefore recommended that regulatory policies would be used to affect short-term capital flows with price-based interventions and controls imposed through prudential banking regulations and that tax interventions would also be used to address both inflows and outflows. This was in 2001.

[B] *The Icelandic banking-bubble*

Systemic financial vulnerabilities accumulated on the balance sheets of many Icelandic companies in the years prior to the 2008 banking crisis, as well as at banks, and towards the end of the upswing on the balance sheets of households. The bulk of the currency imbalances were due to the access of domestic banks to foreign funding, which was facilitated by Iceland's being part of the European Economic Area. In 2004 and 2005 the three Icelandic banks issued heavily in foreign bond markets (Benediktsdóttir et al. 2017). The three banks had outstanding debt in European and U.S bond markets of about 45 billion euros, 350% of GDP, when they fell in 2008.

[B] *Glacier bonds and foreign deposits*

The stock of bonds denominated in Icelandic krónur but issued abroad by foreign entities, known as glacier bonds, topped at ISK 450 bn. in 2007 or about 33% of annual GDP. At that time the total amount outstanding of government bonds in Iceland was about ISK 92 bn. The glacier bonds were partly hedged through short-term currency swaps with Icelandic banks. By swapping their foreign currency for ISK, bought in the foreign exchange market by the glacier bond holders, the Icelandic banks lent their funds acquired through foreign currency bond issues domestically in Icelandic currency, while the foreign glacier bond holders held the currency risk. This practice put a further pressure on the króna to appreciate as long as the stock of glacier bonds was growing. The pressure would, however, turn, leading to depreciation of the currency, once appetite for new glacier bonds fell short of repayments. The Central Bank reacted by repeatedly stating that it would do everything that was necessary to fend against inflationary pressures from weakening of the currency (Central Bank of Iceland 2005a, 2005b, 2005c, 2008b, Hreinsson et al. 2010 pp. 147-8). This may have been seen by some carry trade speculators as an informal put option on the currency.

Foreign bank analysts criticised the low deposit coverage at the Icelandic banks at the beginning of 2006 (Hreinsson et al. 2010 vol. 6 p. 5) and the three banks responded by growing their deposit base abroad. Initially they focussed on wholesale deposits and later they shifted

their focus to so called internet deposits. The foreign deposits grew rapidly, particularly at Landsbanki after it established its Icesave accounts, first in the U.K. in October 2006 and later in the Netherlands in June 2008. However, the deposits started to flow out as early as 2007.

Reserve requirements at the Central Bank became a burden on the fast growing base of foreign deposits, particularly as the reserves were in Icelandic krónur. Early in 2008 the Central Bank decided to exempt foreign deposits from the reserve requirement, in line with what was practised in other countries. In addition the Central Bank loosened the requirements for securities accepted as collateral in its repo transactions. These actions by the Central Bank along with unsterilized purchases for increasing the foreign reserves fed the banking system with liquidity facilitating the ongoing credit growth (Hreinsson et al. 2010 vol. 1 p. 164).

The total amount of securities held as collateral against liquidity at the Central Bank increased from ISK 18 bn. at the beginning of 2007 to ISK 304 bn. in August 2008. This suggests that the Central Bank knowingly took on the counterparty risk of providing liquidity to the banks against collateral in short term bonds issued by the banks themselves although the issues were placed with the Central Bank by other banks.[2]

The banks were required, by the Central Bank, to keep their foreign currency balance within 30% of their equity base and this was lowered to 10% in June 2008. Since 2005 the large banks had permission, which they used increasingly until they fell, to keep an extra positive balance for hedging their equity position. At the end of September 2008 the net total foreign currency balance of the three large banks was about 57% of GDP.

[B] *Critique on the growth and size of Icelandic banks*

In March 2006 Merrill Lynch issued a report on the Icelandic banks (Thomas 2006) pointing out that their dependence on continued access to short term foreign funding, with debt equivalent to about 1.3 times the GDP of Iceland maturing by the end of 2007. This meant they were particularly vulnerable to changes in market confidence which was of importance in an environment of rising premia. The banks' growth model, driven by co-investment with owners and customers in risky projects where they were also the main lender, was also criticized. This report was among the first to stress that the Icelandic banks were literally too big to be rescued.

The government and banks responded, providing information to foreign analysts and investors intended to clarify why the Icelandic banking system was solid. However, the rapid

[2] The CEO of Icebank, discussing the bank´s operations in a newspaper interview in January 2008, pointed out that the large banks were unable to repo their own securities and Icebank acted as a middleman in these operations (*Viðskiptablaðið* 18 January 2008).

accumulation of foreign currency funding put pressure on growing lending in foreign currencies. The fastest way to achieve that was by giving in to the increasing demand for foreign currency loans by Icelandic companies, and households. Foreign currency borrowing by households had been limited, accounting for 4.5% of household credit from banks at the end of 2004. This ratio stood at 13% at the end of 2007 and 23% three months later (Central Bank of Iceland 2008a, p. 24).

Foreign deposits at the Icelandic banks at the end of 2005 were almost equal in size to the foreign reserves of the Central Bank. At the end of 2007 deposits amounted to eight times reserves and the nation's short term foreign debt totalled 18 times the reserves.

[B] *Policy responses*

In 2008 the Icelandic government and the Central Bank of Iceland tried repeatedly to secure swap lines or other forms of formal cooperation with the other central banks as well as boosting the foreign reserves. The Central Bank of Iceland's only successful attempts to boost its foreign reserves in the summer and fall of 2008 were a sale of a couple of short term papers, one to three months, in foreign currency adding as much as ISK 61 billion to the reserves[3] and a EUR 255 million loan provided at 90 bp over euribor at the end of September by a group of foreign banks.

In April 2008 the Central Bank formally requested currency-swaps with the European Central Bank, The Bank of England, and the central banks of Sweden, Denmark and Norway. The Bank of England declined the request on the grounds that it was too little, the banks were too big, and any program would have to include a reduction of the Icelandic banking sector. In May 2008 the central banks of Sweden, Norway and Denmark signed an agreement for a EUR 1.5 bn. total swap agreement with the Central Bank of Iceland (Hreinsson et al. 2010 vol. 1 p. 176). In June 2008 the bank again requested a swap arrangement with the Federal Reserve. The Federal Reserve explained that for a swap arrangement with the Icelandic central bank to work it would have to be too big for the Federal Reserve and that "An IMF adjustment package would be a precondition for any participation" by the Fed (Hreinsson et al. 2010 vol. 1 p. 179-180).

During 2007 and 2008, after the onset of the global financial crisis, many Icelandic companies with close ties to the Icelandic banks found themselves unable to roll over their funding overseas. Despite their increasing difficulties with foreign currency liquidity the Icelandic banks stepped in and refinanced many oversees venture, thus effectively "repatriating

[3] Holdings of foreign denominated government issued short term papers at Icelandic pension funds increased by a similar amount in the late summer of 2008.

the credit risk that had formerly been diversified out of the country." (Benediktsdóttir et al. 2018, p. 224).

In early October 2008 it became clear that the banks would be unable to service their payments over the coming days. The Icelandic banks were taken over by the Icelandic Financial Supervisory Authority and an agreement on a package was signed with the IMF on 24 October.

Recent changes in policy and regulation, largely under the banner of macroprudential policies, include, at least in the case of Iceland, methods for dampening the flow of short term credit across borders, which time and again has been shown to be an indicator of the accumulation of cross-border risks to financial stability (Elíasson 2018).

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