



FINANCIAL STABILITY COUNCIL

Ministry of Finance and Economic Affairs, Armarhvoli, 150 Reykjavík

Tel: (+354) 545 9200

fjarmalastodugleikarad.is

Reykjavík, 22 January 2016

Recommendation concerning the countercyclical capital buffer: rationale

Introduction

According to Article 84(d) of the Act on Financial Undertakings, no. 161/2002, the Financial Supervisory Authority is authorised, upon prior receipt of recommendations from the Financial Stability Council, to impose a special countercyclical capital buffer. The countercyclical capital buffer is a separate capital requirement that must be met with Tier 1 capital (own funds Part A). The main purpose of the countercyclical capital buffer is to increase the resilience of the financial system, thereby mitigating financial cycles. The rate of the buffer shall be reviewed on a quarterly basis. It shall be built up in tandem with an increase in systemic risk. The buffer is released, all at once or incrementally, during a downturn in the financial system. The countercyclical capital buffer enhances credit institutions' resilience and reduces the likelihood of financial crises.¹ Releasing the buffer gives credit institutions the scope to lend money during a financial cycle downturn, thereby mitigating its impact on the real economy. When deciding to impose the buffer, the financial cycle position is considered, as is the buffer's expected impact on credit growth, which is determined, among other things, by the scope of the capital increase which must take place as a result of the decision.

Lending activity and financial markets have rallied in the recent past, in terms of the overall picture that can be sketched out from indicators of credit growth, asset prices, and the condition of the financial markets. The financial cycle bottomed out in 2011, when both the real value of total lending (at book value) and real house prices were at a low point. Default and insolvency also peaked. Since then, the frequency of additions to the default register has fallen in line with declining default in the banking system.

Core indicators and a buffer guide for the countercyclical capital buffer

All of the countries that impose a countercyclical capital buffer consider the same key indicator when imposing it, in line with the recommendations of the Basel Committee and the European Systemic Risk Board (ESRB). The indicator is based on the deviation of the credit-to-GDP ratio from trend. The credit-to-GDP ratio is defined as total lending to households and businesses, at book value, divided by GDP in the last four quarters. The trend is determined using a one-sided Hodrick-Prescott (HP) filter, assuming an average international financial cycle length of just over 20 years.²

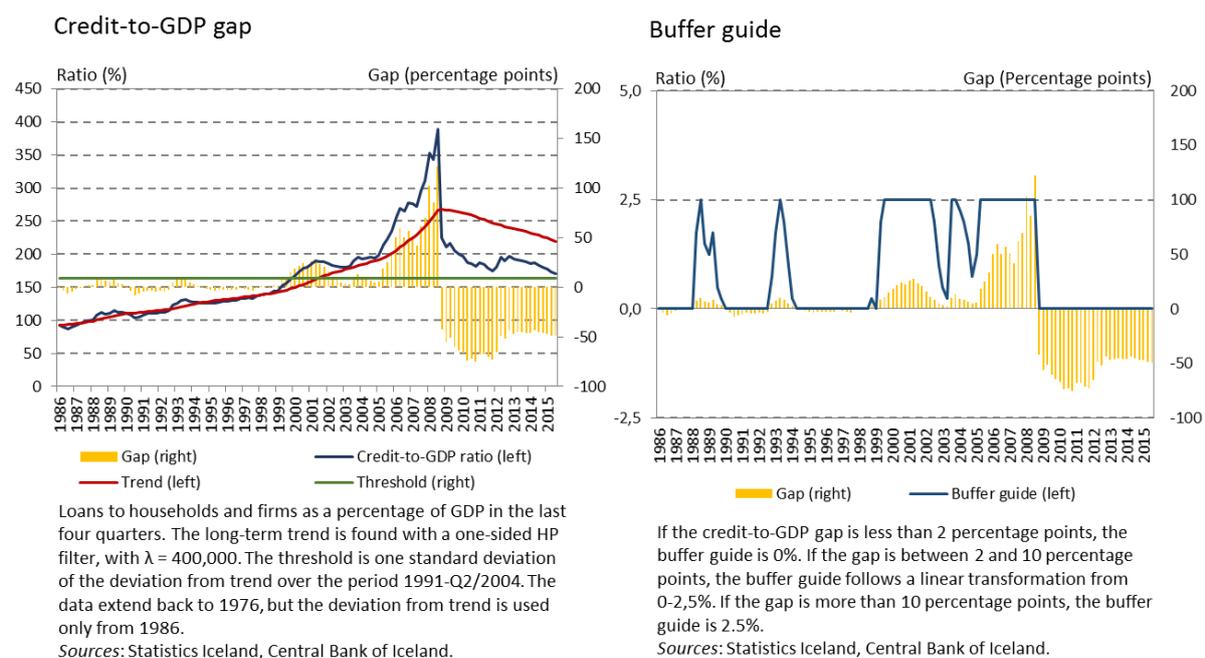
The ratio is now 170%, broadly similar to that in mid-2000, after having peaked at nearly 390% in Q3/2008. It has fallen at a relatively even pace in the past two years, and the decline is now driven mainly by GDP growth and not a contraction in lending.

¹ Staff Guidance Note on Macroprudential Policy. IMF Policy Paper, 2014.

² The HP filter has the smoothing parameter $\lambda = 400,000$.

The buffer guide is a common point of departure for the decision-making process in all countries that have adopted frameworks on countercyclical capital buffers. The guide is based on the deviation of each country's credit-to-GDP ratio from long-term trend, the credit-to-GDP gap. The gap determines the guide by means of a simple formula. If the credit-to-GDP gap is less than two percentage points, the guide signals an appropriate buffer of 0%. If the gap is X percentage points, where $2 < X < 10$, the guide signals a $((X-2)/3.2)\%$ buffer. If $X > 10$, the guide signals a 2.5% buffer.

This guide is usually an indication of when it is timely to begin building up the countercyclical capital buffer. A gradual build-up in 1977-1982 was timely before the 1985-1986 banking crisis, but it should be borne in mind that the trend estimation prior to 1986 is not reliable because the data only extend to a short period before then. In 1987-88, the guide indicated rapid build-up and then an early release in 1990. A short-lived banking crisis occurred in 1993, but in that instance the guide signalled the need for the buffer too late and was therefore not countercyclical. From the end of 1998 until the systemic financial crisis that began in 2008, the guide gave constant signals that a buffer was needed – for most of that time, a full 2.5% capital buffer.³ The capital buffer guide therefore appears to be useful; however, it is not possible to rely on it alone, without consideration of other quantitative and qualitative information, in addition to expert judgment. This is stated explicitly by the ESRB and the Bank for International Settlements (BIS) in Basel.^{4,5} This proviso is particularly applicable to the Icelandic financial system today.



In publications from both the International Monetary Fund (IMF) and the BIS, it has been pointed out that the buffer guide can prove ineffective for small, volatile economies where economic variables fluctuate widely; the signal can become distorted.^{6,7} The last Icelandic financial cycle was unusually

³ The timing of the banking crisis is based on Einarsson *et al.* The long history of financial boom-bust cycles in Iceland. Part I: Financial crises. *Working Paper* no. 68, August 2015, Central Bank of Iceland.

⁴ European Systemic Risk Board. Operationalising the countercyclical capital buffer: Indicator selection, threshold identification and calibration options. *Occasional Paper Series*, no. 5, June 2014.

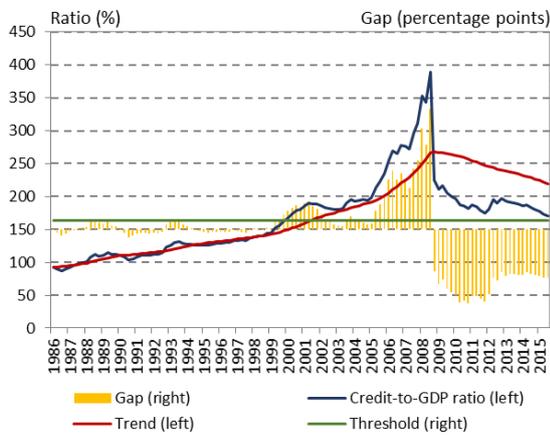
⁵ Drehmann & Tatsaronis. The credit-to-GDP gap and countercyclical capital buffers: questions and answers. *BIS Quarterly Review*, March 2014. Bank for International Settlements.

⁶ *ibid.*

⁷ International Monetary Fund. Staff Guidance Note on Macroprudential Policy. Detailed Guidance on Instruments. December 2014.

large. Credit growth during the last decade therefore skews trend measurements sharply upwards. Furthermore, nominal GDP has risen rapidly in international context since 2011, which causes a continuing decline in the credit-to-GDP ratio and a continuing negative gap, in excess of the decline seen in other countries.⁸

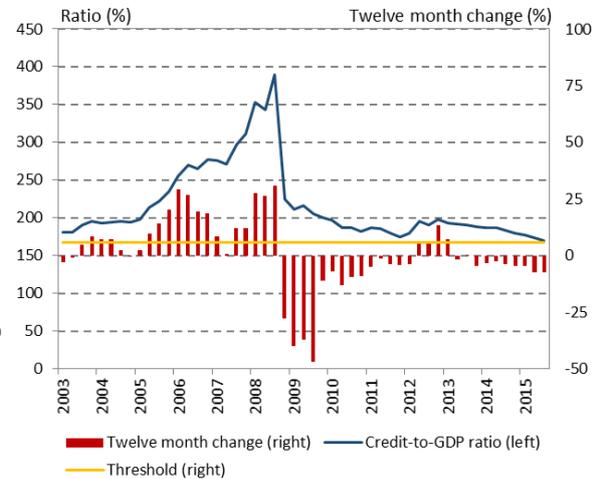
Credit-to-GDP gap



Loans to households and firms as a percentage of GDP in the last four quarters. The long-term trend is found with a one-sided HP filter, with $\lambda = 400,000$. The threshold is one standard deviation of the deviation from trend over the period 1991-Q2/2004. The data extend back to 1976, but the deviation from trend is used only from 1986.

Sources: Statistics Iceland, Central Bank of Iceland.

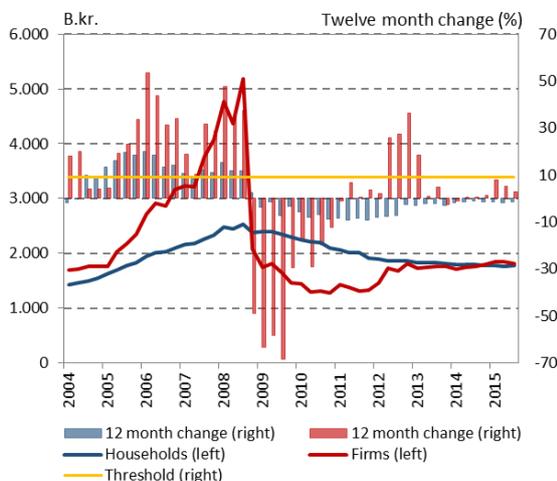
Growth in the credit-to-GDP ratio



The credit-to-GDP ratio is defined as total lending to households and businesses, at book value, divided by GDP in the last four quarters. The twelve-month change refers to the relative change from the same quarter in the prior year.

Sources: Statistics Iceland, Central Bank of Iceland.

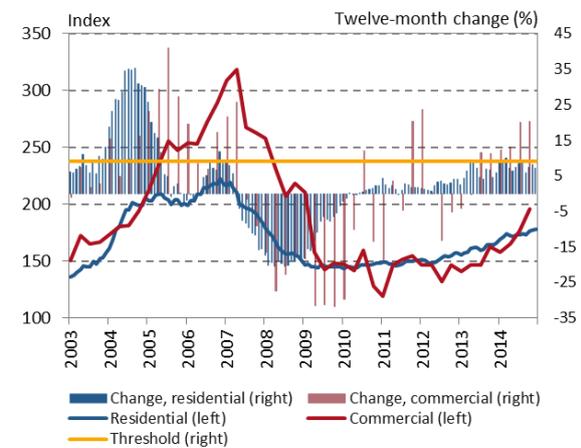
Real value of total credit



Loans to households and businesses at book value, at 2014 prices. The 9% threshold for credit growth is from Laina, Nyholm & Sarlin (2015). Adjusted for the Government's household debt relief measures.

Sources: Statistics Iceland, Central Bank of Iceland.

Real property prices



Price indices for the greater Reykjavik area, deflated with the CPI. Commercial property prices are the avg. of industrial, retail, and office property. Data are subject to uncertainty due to sparsity and divergence of measurements. The 9% threshold is from Laina, Nyholm & Sarlin (2015).

Sources: Statistics Iceland, Registers Iceland, Central Bank of Iceland.

Now, more than seven years after the 2008 crisis, a sizeable increase in total lending in Iceland would be needed in order for the buffer guide to give a clear signal of the need for a countercyclical capital buffer. It is estimated that financial cycles in Iceland since 1875 have had a median length of fifteen years. This is consistent with the research findings on financial cycles in other developed

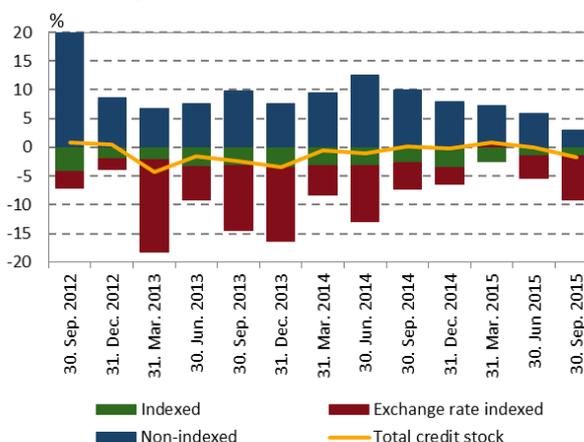
⁸GDP growth data on the World Bank website. See: <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG/countries/IS-EU?display=graph>

countries.⁹ For this reason, and with reference to other data, the ESRB’s core indicator seems to give an inaccurate view of current conditions in Iceland. The financial upturn has begun, although the ESRB’s core indicator suggests otherwise.

An examination of historical data from Iceland reveals that, in most cases, this international buffer guide has moved quickly from indicating a 0% countercyclical capital buffer to indicating a 2.5% buffer. In all three instances since 1986, it rose from 0% to 2.5% in one year or less. In practice, however, it is desirable to activate the countercyclical capital buffer early and then build it up steadily in line with the financial upturn, with the desired effect on credit growth.

Other indicators that are considered in connection with the imposition of a countercyclical capital buffer in Iceland are related to the Financial Stability Council’s intermediate objective 1 for financial stability, which is to “combat excessive credit growth, indebtedness, and imbalances in asset markets”, according to the public policy on financial stability. In April 2015, the Financial Stability Council confirmed four core indicators, which are shown above, and the threshold values for them. The thresholds are based on deviations from long-term averages in domestic data or foreign research.¹⁰ The objective of the thresholds is to show when systemic risk has begun building up. The core indicators are the above-mentioned credit-to-GDP gap, growth in the credit-to-GDP ratio, real growth in credit to households and firms, and a real rise in residential and commercial property prices. In addition to the core indicators are seven additional indicators, which take account, among other things, of developments in individual sectors’ credit-to-GDP gaps, household debt service, developments in house prices, and developments in other asset prices. The selection of additional indicators for the assessment of systemic risk can change from one period to another; furthermore, the imposition of the buffer must always rely in part on experts’ subjective assessment of the underlying risk. Indicators for the release of the countercyclical capital buffer are still under development, both in Iceland and elsewhere, but will be based to a greater degree on data collected with a higher frequency and subject to shorter lags than the data considered here.

Twelve-month change in credit stock
- exchange rate- and price-adjusted credit stock



Year-on-year quarterly change in the credit stock at book value, total and by loan type. Indexed loans at 2014 price level, exchange rate-linked loans at 2014 exchange rate, non-indexed loans at current prices. Write-downs of corporate loans in the last three periods are estimated. Distribution of write-downs to households, by loan type, is estimated based on the amount of each loan type. Source: Central Bank of Iceland.

Developments in total credit

In 2015, the real value of total credit at book value began to grow again. In Q1/2015, twelve-month year-on-year growth measured 3.1%, after adjusting for the Government’s household debt relief

⁹ Einarsson *et al.* (2015). The long history of financial boom-bust cycles in Iceland. Part II: Financial cycles. Working paper (first draft), December. Central Bank of Iceland. The authors concluded that the average length of the financial cycle in Iceland over the period 1875-2013 is fifteen years.

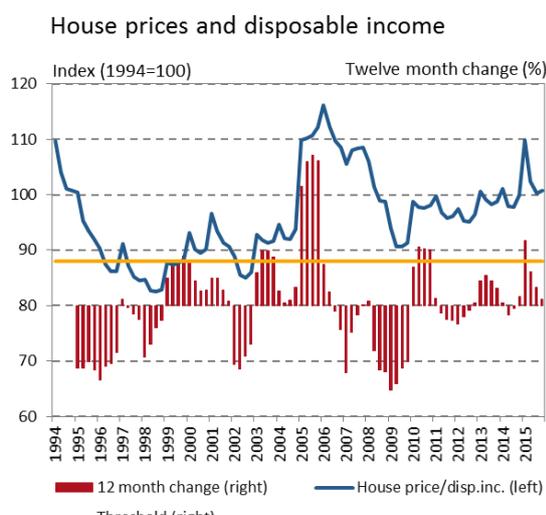
¹⁰ The threshold is then found by minimising the noise-to-signal ratio for a sample of European Union countries. Laina, Nyholm, and Sarlin. Leading Indicators of Systemic Banking Crises: Finland in a panel of EU countries. Working Paper no. 1758. European Central Bank. February 2015.

measures.¹¹ In Q2/2015, twelve-month growth was 1.8%, and in Q3 it was 0.2%. In real terms, total lending at book value is now at roughly the level seen in H1/2005.

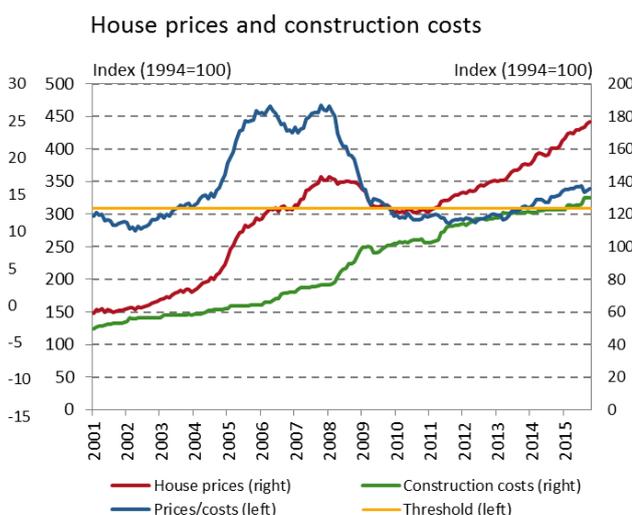
The increase is due mainly to an increase in corporate credit. Growth in the real value of total lending to firms measured 8.1% year-on-year in Q1/2015 and 5.4% in Q2, followed by a contraction of 0.6% in Q3. The real value of total credit to households declined by 1.6% year-on-year in Q1/2015 and by 1.7% in Q2, and then rose by 1.0% in Q3. The real value of total credit, at claim value, contracted marginally, however.

Examining the credit stock adjusted for changes in exchange rate and prices reveals that twelve-month growth measured 0.8% in Q1, followed by 0.1% in Q2. In Q3, however, it contracted by 1.8% year-on-year. The main difference is a contraction in exchange rate-linked corporate lending in the amount of 73 b.kr. year-on-year in Q3.

Net new loans from deposit-taking institutions have been positive in recent years and have grown considerably in the past few months. During the first eleven months of 2015, net new lending by deposit-taking institutions totalled 263 b.kr., including 100 b.kr. to households and 163 b.kr. to firms. After adjusting for the Government's household debt relief measures, net new lending totalled 289 b.kr.; therefore, net new lending by deposit-taking institutions in the first eleven months of 2015 was 85% greater than in all of 2014. From July through the end of November 2015, net new lending totalled 150 b.kr., as compared with 73.6 b.kr. over the same period in 2014, therefore doubling between years. Over the same period in 2015, net new lending by the Housing Financing Fund was negative by 31 b.kr., and for the year as a whole it was negative by 41.8 b.kr. This is an 80% larger contraction than in 2014.



House prices are estimated from the capital area house price index. Disposable income is from the Central Bank's QMM-database. The threshold is one standard deviation of the twelve month change in the ratio over the period 1995-Q2/2004. The graph presents a four quarter moving average of the ratio.
Sources: Statistics Iceland, The Central Bank of Iceland.



House prices are estimated from the capital area house price index and construction costs from the Statistics Iceland building cost index. The threshold is the average ratio of house prices to construction costs over the period 1994-2015.
Sources: Statistics Iceland, Registers Iceland, Central Bank of Iceland.

Developments in property prices

Real property prices are rising, and at a quickening pace. Real commercial property prices have risen more or less uninterrupted since Q3/2014. The real year-on-year increase in Q3/2015 measured 20.3%. At the turn of the year, the increase measured 12.2%, and at mid-2015 it was 11.5%. Commercial

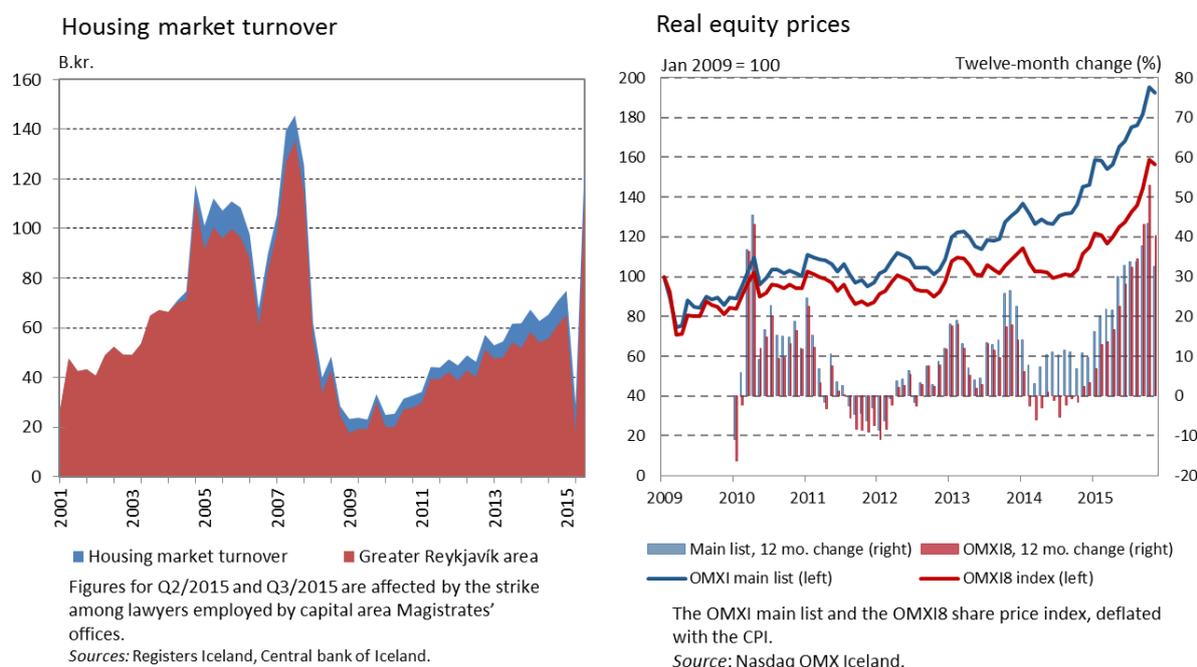
¹¹ The reduction of debt due to the Government's debt relief measures is not a sign of reduced demand or supply; therefore, it is deemed appropriate to adjust for it. On the other hand, such a reduction in debt could be the premise for new borrowing in some instances. The real value of total lending at book value, without adjusting for the Government's debt relief measures, grew by 1.5% in Q1 and 0.1% in Q2, and then contracted by 1.1% in Q3.

housing prices rose rapidly in 2015, much more than in 2014. They have now been over the 9% threshold for a year and a half.¹²

Real residential property prices in greater Reykjavík have risen steadily since mid-2012. The year-on-year change measured 7.3% in September. In December 2014, it was 8.8%, and then, in January and February of this year, it was above the threshold. In June 2014, the change was much less pronounced, or 4.4% year-on-year.

The ratio of capital area house prices to disposable income is rising. The increases were above the threshold in 2010 and then again in Q1/2015. The threshold is one standard deviation of annual changes in the ratio over the period from 1995 through Q2/2004, or 6%.¹³ The annual change in the ratio was 8.8% in Q1/2015. While staying positive, the annual change lowered towards the end of the year.

Furthermore, housing market turnover has grown since 2010 and is still rising. It is now similar to that in 2004, in real terms. Since then, however, the population of Iceland has grown 13.2%. In terms of a constant population and constant prices, turnover is similar to that in 2003.



Developments in equity securities prices

The real value of the Nasdaq Iceland OMX18 index has risen during this period, and the rise has accelerated this year. The twelve-month rise in the real value of the index was greatest in October, at 52.9%, as compared with a 3.2% increase in December 2014. The twelve-month rise in the index was also substantial in November and December, around 40%. The GAMMA share price index rose by 49.9% in 2015.¹⁴ The Nasdaq Iceland Main List index has risen markedly since 2009.

¹² Laina, Nyholm, and Sarlin. Leading Indicators of Systemic Banking Crises: Finland in a panel of EU countries. *Working Paper* no. 1758. European Central Bank. February 2015.

¹³ The use of the standard deviation as a threshold was approved at a meeting of the Financial Stability Council in spring 2015 and is based on internationally recognised methodology. See, for example, Ishihara (2005). *Quantitative Analysis of Crisis: Crisis Identification and Causality*. World Bank *Working Paper* Series no. 3598.

¹⁴ GAMMA indices – summary for 2015. Press release on the GAMMA website, 4 January 2016. <http://www.gamma.is/frettir/nr/1541>.

Condition of the financial system and markets in other respects

Returns in the Icelandic financial markets in 2015, in terms of the GAMMA market index, measured 18.2%. All of the GAMMA indices rose during the year.¹⁵ Banks' access to foreign credit is improving. In 2015, the banks' foreign bond issues totalled 158.3 b.kr. as opposed to 20.9 b.kr. in 2014 and 20.3 b.kr. in 2013. Their domestic market funding has also increased. Issuance of covered bonds totalled 39.3 b.kr. in the first nine months of 2015, up from 16.4 b.kr. over the same period in 2014. The banks' terms in foreign markets have improved as well. Standard & Poor's upgraded the commercial banks' credit ratings from BB+/B to BBB-/A-3, with a stable outlook for Arion and Íslandsbanki and a positive outlook for Landsbankinn. Icelandic firms' foreign debt – i.e., foreign marketable bonds and debt to foreign financial institutions – continued to contract overall in Q3/2015. Icelandic firms continue to have access to foreign capital, however, and access is growing easier.

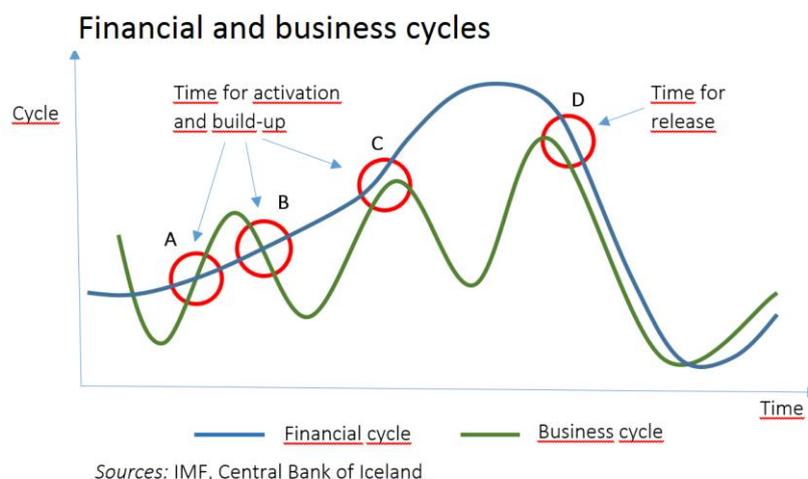
The capital position of the three commercial banks, which constitute the vast majority of the financial system that must meet requirements for countercyclical capital buffers, is also strong. As a result, it is unlikely that imposing the buffer under current conditions would restrict credit growth in an undesirable manner.

Last June, 2.1% of the three largest commercial banks' loans, in terms of book value, were 90 days or more in arrears, as opposed to 3.2% a year earlier. The ratio peaked at 20.5% in December 2010. The banks' non-performing loans have therefore declined significantly. Real payment card turnover is on the rise, and households' domestic credit card turnover has risen in line with disposable income. Households' debt service burden is relatively stable. It measured 14.2% of disposable income in Q3/2015, about 1.1% higher than in Q3/2014.

The business cycle position

The real economy is now in an upward cycle, with robust GDP growth, a widening output gap, and declining unemployment. The situation in Iceland today is therefore closest to point A on the stylised diagram below.

GDP growth is forecast at 4.6% this year and 3% per year for the next two years. Domestic demand is projected to grow by 7.2% year-on-year, and private consumption by 4.6%. Further increases are forecasted in the coming years. The Central Bank of Iceland's key interest rate has been increased, and inflation expectations are above target by some measures. A countercyclical capital buffer would therefore support monetary policy at this juncture.



¹⁵ *ibid.*

The Central Bank's baseline forecast for 2015-2016 assumes that the output gap will average 1.3%. In 1998, two to three years before the economic contraction at the turn of the century, it was 1.6%, and in 2004-2006, during the run-up to the 2008 crisis, it averaged 1.7%.

The current account surplus has been growing, and the underlying surplus measured 3.8% of GDP in H1, as opposed to 0.6% in the first half of 2014 and 2.7% in the first half of 2013. In 1996-1997, there was an underlying current account deficit of 2.4%, and in 2004-2005 it averaged 12.8%.

When consideration is given to interactions between the financial cycle and the business cycle, it can be considered highly likely that an expansionary period is ahead, with an associated growth in total credit. As is stated above, the first signs of credit growth are already showing at deposit-taking institutions. Households will be ever better prepared to take on additional debt. With rising real property prices, the collateral capacity in homeowners' balance sheets increases, as does their capacity to take on more debt. With GDP growth and rising purchasing power, households' ability to service their debt increases. These two things together lead to improved household access to credit. Also, rising house prices contribute to an increase in amounts loaned to first-time home buyers.

The real value of total credit to firms is also similar to that in 2005, and firms' financial position is improving as well. The average equity ratio of the 500 largest firms in terms of turnover rose continuously from 2008-2013, reaching a 21st-century peak in 2013. At the same time, these firms' average total debt-to-EBITDA ratio declined, falling to a 21st-century low in 2013. In September 2015, the economic outlook index according to information from Iceland's 400 largest firms measured 182 points, its highest since the 2008 crisis. The Gallup Consumer Sentiment Index measured 117.9 points in November 2015, its highest since October 2007. In 2015, the number of firms on the CreditInfo default register began to decline after having remained virtually unchanged since 2011.¹⁶

Conclusion

A comprehensive examination of all key indicators of the financial cycle position reveals that an upswing has already begun. There are signs that credit growth could pick up strongly in the near future. The slack in the domestic economy has turned into an output gap. In addition, the capital position of the three commercial banks, which constitute the vast majority of the financial system that must meet requirements for countercyclical capital buffers, is strong. As a result, it is unlikely that imposing the buffer under current conditions would restrict credit growth in an undesirable manner. The conditions for the introduction of a countercyclical capital buffer are therefore good. In this context, it should be borne in mind that the main purpose of the countercyclical capital buffer is to increase financial system resilience during the downward cycle by releasing the buffer.

The Financial Stability Council recommends to the Financial Supervisory Authority that a 1% countercyclical capital buffer be imposed on all financial undertakings – each institution individually and at the group level – apart from those institutions that are exempt from capital buffers pursuant to Article 84(d), Paragraph 4 of the Act on Financial Undertakings, no. 161/2002, and that the buffer take effect twelve months after the date of the Financial Supervisory Authority's decision. The Council also recommends to the Financial Supervisory Authority that the calculation of capital take account of the weighted average of the countercyclical capital buffers that a financial institution maintains on its operations abroad. The Financial Stability Council can be expected to recommend at a later time that the countercyclical capital buffer be increased in line with the financial cycle position, possibly with shorter advance notice than in the current case.

¹⁶ For further analysis of the position of households and businesses, see *Financial Stability* 2015/1 and 2015/2, Central Bank of Iceland, <http://www.sedlabanki.is/utgefid-efni/rit-og-skyrslur-safnsidur/fjarmalastodugleiki/>