

# Macroprudential policy tools

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**The financial crisis that began in 2007 has demonstrated that financial market disruptions can have substantial effects on the economy. There have been calls for reform of the regulations governing credit institutions, insurance companies, derivative markets and securities trading, in order to foster financial stability. This article explores various means available to government for both preventing financial market crises and mitigating the economic consequences of any disruptions that do occur. The main focus is on identifying means for enhancing the stability of the banking system.**

## Macroprudential policy and tools

The operation of financial markets is often said to reinforce cyclical fluctuations. Strong credit supply and rising asset prices further bolster economic growth in an upswing, while financial market problems aggravate the negative state of the economy in a downswing. These movements have a strong impact, as banks tend to encounter similar difficulties at the same time. Banks are exposed to the same cyclical fluctuations, with the problems of troubled banks spilling over to healthy ones through the complex interlinkages within the banking system. Asset and real estate bubbles appear occasionally in the markets as speculative demand is sustained by expectations of price increases. Such bubbles are bound to be

temporary in nature and will inevitably burst, often putting the functioning of the whole banking system in jeopardy.

According to the capital adequacy requirements for banks, the own funds held by banks must amount to at least 8% of their calculated risks. In a downturn, individual banks may improve their capital adequacy by reducing their lending and selling securities, thus being relieved of the imputed risks inherent in these assets. Following this reduction in assets and holdings, the amount of own funds held by the banks remains practically unchanged, with a resulting improvement in their capital-to-risks ratio. However, this is a dangerous approach in terms of macroprudential stability, as large-scale recourse to this practice will tend to turn a recession into a depression. Declining credit supply during a recession will further discourage investment by companies dependent on bank financing, while the sale of securities will serve to lower asset prices, causing problems for pension funds and other investors.

Government has not previously attempted a systematic approach to reducing the procyclical tendencies of banking operations, but this is changing, with increasing importance being attached to macroprudential policy.

A report by the G30<sup>1</sup> defines macroprudential policy as the means

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<sup>1</sup> G30 (October 2010).



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*The operating principle of a countercyclical capital buffer: capital requirements are tightened during credit cycle upswings and relaxed during downswings.*

for mitigating systemic risk in the financial system. Effective promotion of macroprudential stability requires the identification of appropriate instruments. This article introduces both existing macroprudential tools and new tools currently being formulated for the conscious pursuit of macroprudential stability.

The above-mentioned G30 report distinguishes between fixed and variable tools of macroprudential policy. A fixed approach is designed to interfere with the operation of the financial system so as to reduce its procyclicality. It does not provide any easy recourse to regulatory intervention, nor is it geared towards adjusting regulations, for example in response to changes in the economic outlook. For example, accounting or tax legislation can scarcely be fine-tuned on a quarterly basis to reflect cyclical conditions, even though such regulatory change could be in the interest of macroprudential stability.

Variable tools, in contrast, are based on ongoing monitoring and regular adjustment of government requirements. Decision-makers' understanding of the prevailing situation and the measures required is a necessary prerequisite for the success of a variable macroprudential policy regime.<sup>2</sup> The countercyclical capital buffer currently being developed is a typical example of a variable policy tool.

<sup>2</sup> Heidi Schauman and Katja Taipalus discuss the identification of risks to macro stability in issue 1/2011 of the Bank of Finland Bulletin.

## Countercyclical capital buffer

The countercyclical capital buffer is probably the most important policy tool currently being developed. Adoption of this tool was proposed in a Bank of England Discussion Paper,<sup>3</sup> and the Basel Committee arranged its own public consultations on the proposed tool in July 2010. The European Commission also published its own consultation document in the same year.<sup>4</sup> A countercyclical capital buffer is likely to be adopted as a policy tool in, for example, the EU. In an economic upswing, the authorities would require banks to accumulate capital well above the normal minimum requirement, allowing them to reduce this capital in a downturn to avoid them having to cut lending and dispose of securities. The additional requirement would amount to a maximum 2%.

The buffer requirement would reflect a bank's country-specific exposures. For banks with exposures in several countries, the buffer add-on would represent the risk-weighted average of country-specific exposures. Each country would itself define the capital buffer add-on for credit granted to entities within the country. Only the most indisputable Tier 1 capital, eg share capital, would qualify as eligible assets for meeting the additional capital requirement.

<sup>3</sup> Bank of England (November 2009).

<sup>4</sup> European Commission (October 2010).

As a general rule, decisions on the capital requirement should be based on the deviation from the trend of the credit/GDP ratio. The capital add-on could, in principle, also be related to other factors, such as asset price developments.<sup>5</sup>

There could be problems in applying the capital buffer. In an economic upswing, it could be difficult to introduce a buffer requirement that restricts profitable business opportunities and public access to credit, as this would meet with fierce opposition considering the apparently low level of risk. In a downswing, other problems would surface: banks dependent on market confidence may not wish to very openly communicate lower reported capital ratios despite a reduction in the regulatory minimum requirement. As the duration of a recession is hard to predict, banks could not make optimal use of their buffers by exhausting their excess capital just as the economic cycle begins to climb.

### Minimum reserve requirement

In the late 1980s, Finland experienced excessive growth in bank lending. Among the responses considered, adoption of an additional minimum reserve requirement was finally chosen as the way to contain credit growth.<sup>6</sup> In March 1989, the Bank of Finland was authorised to raise the

minimum reserve requirement to 12%, with no interest being payable on deposits above 8%. The additional reserve requirement was to be set individually for each bank, reflecting developments in lending volumes. Thus, this requirement had the nature of a fine, as the banks would have been required to tie up assets in interest-free deposits, instead of investing them productively.<sup>7</sup> Given that the additional reserve requirement was set individually for each bank, this was not purely a macroprudential measure.

The measure may have had the desired effect, judging from the marked deceleration in the rate of lending growth witnessed in nearly all banks around the same time.<sup>8</sup> The housing price bubble also began to unravel at around the same time.

It is, in principle, possible for example in the euro area to apply an interest-free additional minimum reserve requirement related to the lending growth of the banking group and based on certain indicators measuring the overheating of the macro economy. This measure would probably be less effective now than in the late 1980s, as the prevailing much lower level of nominal interest rates means the additional costs of the compulsory interest-free deposit would be lower. Off-balance-sheet financial

*When nominal interest rates are low, a minimum reserve requirement is not a very effective macroprudential tool.*

<sup>5</sup> Goodhart, C (2005).

<sup>6</sup> Korhonen, T (2011), p. 187.

<sup>7</sup> Aaltonen, E – Aurikko, E – Kontulainen, J (1994), pp. 76–77 and Bank of Finland Monthly Bulletin (4/1989), p. 13.

<sup>8</sup> Kullberg, R (1996).

intermediation would not be covered by this scheme, which would make it less effective. It would, of course, be possible to come up with another method of imposing additional burdens on banks whose credit growth appears exuberant in an economic upswing.

### Through-the-cycle credit risk models

Under the Basel II and III regulatory frameworks, banks may choose not to apply the fixed risk weights and, subject to the regulator's consent, assess for themselves the credit risks of individual debtors. Given the cyclical sensitivity of credit risks and capital charges for credit risk, this approach has been presumed to involve a problem of cyclical escalation. Credit risk modelling points to rising credit risks in the wake of economic downturns, which impairs the banking system's lending ability, causing the recession to deepen further. In an upswing, a reverse spiral may develop.<sup>9</sup>

Adoption of a through-the-cycle approach to capital adequacy calculations could be one solution to the problem. The concept of through-the-cycle could mean the following approaches, among others:

- 1) Assessment of each debtor's loan loss risk in a downturn taken as the basis for the risk weight assigned to the debtor, ignoring the actual, prevailing cyclical conditions.

<sup>9</sup> This topic has been discussed by Gordy and Howells (2006) and Drumond (2009).

- 2) Assessment of each debtor's loan loss risk during average cyclical conditions taken as the basis for the risk weight assigned to the debtor.

- 3) Consideration of not only the current loan loss risk but also the cyclical sensitivity of the debtor: debtors whose creditworthiness is likely to suffer more from a recession will be assigned a higher risk weight.

In the through-the-cycle approach to ratings, it should be possible to rapidly filter out temporary, cyclical fluctuations from permanent changes with an acceptable degree of precision. However, there is very little evidence to the effect that the probability of default of an individual company includes a separate wave-like cyclical component that does not cause permanent changes to the probability of default.<sup>10</sup> Available through-the-cycle ratings are often based on historical averages the justified application of which is conditional on genuine cyclical recurrence. Public rating agencies in principle adopt a through-the-cycle approach to credit ratings, but the ratings change sluggishly in response to new information, hence providing an outdated picture of the situation, rather than balancing off temporary fluctuations in credit risk.<sup>11</sup>

### The Tobin tax

In 1972, James Tobin proposed the introduction of a tax on foreign

<sup>10</sup> Kauko, K (2010).

<sup>11</sup> Altman, E – Rijken, H (2005).

exchange transactions. The idea originated in a need to safeguard monetary autonomy and discourage speculative trading in foreign currencies, which is assumed to amplify market fluctuations. As the stabilisation of exchange rate movements may well serve to reduce banks' risks, too, the tax could also qualify as a macroprudential tool. The idea of a transaction tax has attracted widespread support.

The proposal has, however, also met with criticism. Profits on successful foreign exchange speculations would not be curtailed much by the tax in the case of very large exchange rate movements. Furthermore, the tax could easily be avoided through recourse to tax havens.<sup>12</sup> The potential impact of the tax on market volatility is difficult to predict, as it would encourage the market exit of not only noise traders who cause volatility, but also well-informed rational actors whose presence in the market is likely to reduce volatility.<sup>13</sup> In an artificial foreign exchange market created under laboratory conditions, the transaction tax was, in fact, observed to increase exchange rate volatility, and would therefore have had a negative, rather than positive, effect on market stability.<sup>14</sup> In Finland, stamp duty on stock exchange transactions was abolished in May 1992, but no level

shift in the volatility of share prices occurred at that time.

### Convertible debt and capital insurance

One potential macroprudential instrument could be the conversion of banks' debts into equity, where necessary. The conversion would only apply to debt instruments whose terms of issuance provide for this option. Such instruments have been issued by Lloyds Bank, among others. In December 2009, Lloyd's exchanged subordinated debt for bonds that are automatically converted into equity if the bank's Tier 1 capital ratio falls below 5%. In early 2011, Credit Suisse issued convertible debt instruments providing for debt to equity conversion if its Tier 1 capital ratio falls below certain predefined levels. The Dutch Rabobank has also issued a similar instrument. These instruments have met with strong demand, but Goodhart<sup>15</sup> has made some sceptical comments about the scheme, arguing that the only immediate cash flow effect of conversion is termination of compulsory interest payments, and that the experience gained of hybrid instruments of debt and equity in the financial crisis was negative.

Kashyap, Rajan and Stein have proposed some kind of bank crisis insurance.<sup>16</sup> If the losses sustained by

<sup>12</sup> Suvanto, A (2001).

<sup>13</sup> Shi, K – Xu, J (2009).

<sup>14</sup> Mannaro, K – Marchesi, M – Setzu, A (2008).

<sup>15</sup> Goodhart, C (June 2010).

<sup>16</sup> Kashyap, A – Rajan, R – Stein, J (2008).

*Capital insurance would offer banks protection against losses across the banking sector as a whole, but not against their own difficulties.*

the banking sector were to exceed a certain limit, the insurer would pay the agreed compensation to the policyholder (bank). In other words, banks could take out insurance against banking sector-wide losses, but not against their own difficulties, so as not to be encouraged to take an indifferent attitude to their own losses. The insurer would be required to post collateral in the form of interest-bearing securities carrying as little risk as possible and deposited in a custodian account. A certain amount of the capital insurance taken out by a bank would already under normal conditions qualify as own funds in the calculation of capital adequacy. To investors, the instrument would represent a largely stable fixed-income investment yielding an additional return on premiums on top of the regular rate of interest, but also involving the risk of massive loss upon materialisation of the unlikely scenario. The advocates of this instrument presumed that there would be ample market demand for an instrument yielding a rate of return above the risk-free interest rate in most cases, but generating massive loss in certain unlikely scenarios. However, Goodhart, for example, thought this to be a highly unattractive yield profile for convertible debt.<sup>17</sup>

Especially in the case of bank crisis insurance, it may prove challenging to find investors willing to participate in the scheme whose partici-

pation would not jeopardise stability elsewhere, and whose potential losses would be fairly harmless in their implications for society. If, for example, the employee pension funds were to sell these insurance policies, the costs of a potential banking crisis would have to be borne by the pension funds concurrently with losses on many other investments. Preferably, the insurer should be an entity whose other business involvement is all located in a far-away country showing as little cyclical correlation as possible with the home country of the policyholder, and whose potential losses would be fairly harmless to society as a whole.

#### **Focus on influencing EU regulations**

Most of the potential instruments could not be implemented in Finland as a national solution alone. In many areas, the existence of EU-level regulations poses a legal impediment to national approaches. In addition, the Finnish banking sector is dominated by subsidiaries of Nordic banking groups. The operations of these groups are largely in the hands of units based in countries beyond the reach of Finnish law. Moreover, there has been little Nordic–Baltic cooperation on issues that come under national rather than EU competence. Thus, for Finland, the reasonable approach is to seek to influence EU regulations.

*Keywords: macroprudential policy, systemic risk, bank regulation, cyclical fluctuations*

<sup>17</sup> Goodhart, C (June 2010).

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