Már Guðmundsson: Currency and exchange rate regime options

Introduction by Mr Már Guðmundsson, Governor of the Central Bank of Iceland, to a report issued by the Central Bank of Iceland on Iceland's currency and exchange rate policy options, Reykjavík, 7 September 2012.

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1.1 Introduction

In the near future, Icelanders must make important decisions concerning the framework for the currency and monetary policy, the structure of the financial system, and the degree of integration with the world economy. These decisions must be taken in view of what can be learnt from the financial crisis and from previous monetary policy implementation in Iceland.

Iceland has applied for membership of the European Union (EU) and, if membership materialises, it will define a clear path for most of these issues. If Iceland does not join the EU, the choices will be different. In both instances, Iceland must lift the capital controls that are currently in place. According to EU rules, this must be accomplished before accession. The experience of recent decades shows, however, that completely free movement of capital comes with significant risk. To reduce that risk, it is necessary to develop a regulatory framework that prepares the Icelandic financial system for the volatility that can accompany free movement of capital. That regulatory framework may entail some restrictions on Iceland's financial integration with other countries, particularly as regards domestic financial institutions' freedom to conduct international business. The scope of such restrictions will depend, however, on which currency option Iceland chooses.

This report was originally intended to explain in detail what EU membership and participation in the Economic and Monetary Union (EMU) would entail as regards exchange rate and monetary policy, and to analyse the pros and cons of Iceland's membership in the EMU. In 1997, the Central Bank of Iceland published a similar report, entitled *The Economic and Monetary Union of the European Union – EMU* (available in Icelandic). Much has changed since then. During the decade and a half of the EMU's existence, it experienced success for much of the period, followed by the current severe crisis. Iceland faces a much more decisive assessment of the pros and cons of EMU membership than it did in 1997. As a result, it is timely to issue a new report on this topic. This publication is considerably broader in scope than the earlier one, as it also contains an analysis of the advantages and disadvantages of other options, including an exchange rate peg within a defined fluctuation band, a currency board, or adoption of another currency. Some of these options have been the focus of recent public discussion as alternatives to euro area membership through EU accession or the current flexible exchange rate regime. Consequently, these options should be analysed just as other possible solutions are. The possibility of retaining a flexible exchange rate regime while making relevant changes to the economic policy and financial regulatory framework based on recent experience was discussed in the Central Bank's 2010 report entitled *Monetary policy in Iceland after capital controls*. The present report therefore does not discuss those options in as much detail. In Chapter 3, however, is an in-depth discussion of Icelanders' experience with independent monetary policy and a floating exchange rate. The strategy formulated in coming months must take into account this material if all options are to be considered. It is also necessary to examine which prudential rules would be applied in order to reduce the risks related to domestic financial institutions' foreign assets and liabilities and the risks related to unrestricted capital flows. These rules are discussed in a newly published Central Bank report entitled *Prudential rules following capital controls*. That report discusses the limitations on liquidity and foreign exchange risk and the restrictions on domestic financial firms' international operations that must be in place if movement of capital is unrestricted in other respects, particularly if Iceland retains its own currency. The discussion below also takes account of these two publications.[1]

1.2 Iceland's experience with its own currency

Iceland has had its own currency since 1885, maintaining parity with the Danish krone until June 1922, when it was devalued by 23%, followed by a temporary float (see Chapter 12). It can be said that the króna came into existence as an independent currency at that time. The experience with it has been mixed, and efforts to preserve the value of the currency have been largely unsuccessful. The króna is now worth only 0.05% of its value prior to the 1922 devaluation; in other words, it has depreciated by 99.95%. In terms of consumer prices, the króna has eroded in value even more, or about 99.99%. In other words, its purchasing power in terms of goods and services is currently only 0.013% of what it was in June 1944, when the Republic of Iceland was founded. Nevertheless, over this period, Iceland developed from being one of the poorest countries in Europe to one of the richest in per capita terms, despite the economic costs of persistent inflation. Currency depreciation and subsequent inflation episodes have sometimes expedited the necessary adjustment following economic shocks, however, thereby returning the economy more quickly to a path of economic growth.

Chapters 3 and 12 focus on certain aspects of Iceland's experience with an independent currency. In Chapters 9 and 13, two key questions are asked. First, how effective is monetary policy in achieving the goals with which it is tasked? Second, has the flexibility of the exchange rate facilitated economic adjustment and stability, or has it instead been a source of shocks? Summarising these findings reveals that Iceland's experience of independent monetary policy and a flexible exchange rate has been poorer than that in many other countries, in that monetary policy has not been successful in achieving its goals and the flexible exchange rate has tended to be a source of shocks rather than a shock absorber. It is likely, though, that the flexibility of the króna has facilitated adjustment to severe downturns under certain circumstances, such as the collapse of the herring stocks in the late 1960s and the steep contraction following the 2008 financial crisis.

The possible reasons for this are explored in the above-mentioned chapters. It is too soon to draw any final conclusions, however, and research beyond the scope of this report or conventional economic analysis is needed in order to shed light on why the objectives of low inflation and economic stability seem so elusive in Iceland, and why undisciplined stabilisation policy and an environment of loose financial regulation and supervision was allowed to flourish during the pre-crisis years. However, as is pointed out in the report, the ineffectiveness of independent monetary policy and the possible procyclical influences of floating currencies are not uniquely Icelandic phenomena, nor are they due solely to flawed stabilisation policy. To some extent, they can also be attributed to exchange rate volatility where, as with any other asset price, expectations and speculation play an important role. In addition, there are indications that smaller countries have more difficulty than large ones in pursuing independent monetary policy while they are becoming more integrated globally. In this context, it is worth noting that, prior to the financial crisis, Iceland was by far the smallest country in the world with a floating currency. Further discussion of the possible reasons for small countries' vulnerability to such problems can be found in Chapters 9 and 13.

1.3 The euro project

At the core of this report is a discussion of the euro project. It examines what euro area membership entails and what its strengths and weaknesses have proven to be so far. Chapters 2 and 16 focus on economic developments in the euro area since its

[1] See Central Bank of Iceland (2010), Monetary policy after capital controls, *Special Publication* no. 4, and Central Bank of Iceland (2012), Prudential rules following capital controls, *Special Publication* no. 6.

establishment, with particular emphasis on the post-crisis period, and Chapter 17 compares the effects of the financial crisis on countries inside and outside the eurozone, with emphasis on a comparison of Iceland and Ireland. The objective is to inform the reader and report on research findings, with the aim of promoting informed discussion and policy-making on this major issue. Chapter 24 explores the changes that would be needed in Icelandic laws and regulations with respect to the currency and the Central Bank should Iceland join the EU and adopt the euro.

Chapters 21-25 describe the Eurosystem and the EMU accession process. According to EU regulations, member countries are to adopt the euro once they have fulfilled the Maastricht criteria for economic convergence. To fulfil the Maastricht criteria, the candidate country's public sector debt and deficits must be within specified limits, its inflation and long-term interest rates may not deviate beyond a certain limit from the levels in the three EU countries with the lowest inflation, and it must participate in the European Exchange Rate Mechanism, ERM-II, for at least two years. Denmark and the United Kingdom are the only countries permanently exempted from euro area membership, and new EU member countries are unlikely to receive such an exemption.

Chapter 23 discusses the Maastricht criteria, and Chapter 21 describes ERM-II and how new member countries have fared under ERM-II. The conclusions of the analysis are far from unambiguous. The convergence that took place during the run-up to the euro collaboration proved risky for many countries, as capital inflows, declining interest rates, and increased optimism contributed to steep rises in asset prices and real exchange rates. This resulted in current account deficits and reduced competitiveness, which remained (and in some cases intensified) long after entry into the euro area, as the conversion rate upon entry into the currency area proved to be inconsistent with the underlying equilibrium exchange rate because of the above-mentioned developments (see Chapter 22). Similar developments could be seen before the financial crisis in countries participating in ERM-II, particularly the Baltics. ERM-II countries have avoided a currency crisis, however.

Iceland can draw a number of lessons from this if it takes this path. ERM-II is a useful prelude to full euro area membership and, other things being equal, will reduce exchange rate volatility. But ERM-II membership is not a magic solution, and the accession process can prove risky. As a result, it is important that economic policy and the regulatory framework be designed to maintain economic stability and keep financial risk within acceptable limits. Most of the changes that will improve economic policy under a flexible exchange rate will also be helpful in the run-up to euro area membership. These changes are discussed in greater detail later in this chapter.

Chapter 24 focuses on what euro area membership and full participation in European Central Bank (ECB) operations entails. A number of amendments must be made to the Act on the Central Bank of Iceland in order for the Bank to fulfil the requirements made of national central banks in the euro area, as regards independence and the ability to carry out the tasks entailed in euro area membership. In addition, increased requirements are made concerning central banks' participation in the formulation and implementation of financial stability policy (see Chapter 25).

Money serves as a medium of exchange, a unit of account, and a store of value. The better it retains its value against goods and services and other currencies, the better a store of value and the more reliable unit of account it is. The more it used in trade and the more generally it is recognised in settlement, the better a medium of exchange it is. In this sense, the euro has been successful, and the current crisis in the euro area has not yet changed this to any marked degree. The euro is the world's second-largest international reserve currency, after the US dollar, and is recognised in trade everywhere. Underlying it is one of the two largest and most efficient financial markets in the world. As is discussed in Chapter 2, inflation has been close to the 2% inflation goal for most of the euro's existence, averaging 2.1% from early 1999 until mid-2012 and currently measuring just under 2½%. On the whole, the euro has retained its value against other currencies. At the end of August 2012, it was nearly 6½% stronger against the US dollar than at the beginning of 1999, and 4% above the average over the intervening period. Euro area payment systems have proven effective, even in the financial crisis. No controls have been imposed on movement of euro-denominated assets, either within or outside the euro area. As a result, there is no currency crisis in the area, and it is therefore misleading to speak of "the crisis of the euro" as such.

This does not change the fact that the euro area is currently faced with a complex web of problems that, if worse comes to worst, could threaten its very existence if political support for the currency union wanes. The eurozone's current economic and financial difficulties are due in part to the fact that, together with the US, the UK, and Switzerland, the euro area was one of the sources of the financial crisis that began in mid-2007 and peaked in autumn 2008. In the beginning, the crisis had little to do with flaws in the design of the euro area. Ensuing developments unveiled those flaws, however. When all is said and done, the flaws stem from the fact that, even though the euro area is referred to as an economic and monetary union, the economic and fiscal aspects were largely missing (see Chapter 15). Furthermore, the EU regulatory framework for cross-border banking operations is severely flawed in that EU-wide operational freedom was coupled with national supervision and deposit insurance – and, in the case of non-euro countries in the EU, national liquidity facilities. This made it much more difficult to address problems in the banking system at the peak of the financial crisis. To some degree, this may explain why the European banking system was not sufficiently restructured at that time and to a lesser extent than, for example, in the US. The banking system was therefore more vulnerable when the sovereign debt crisis struck several euro area countries as a result of prolonged lack of fiscal discipline (see Chapter 15), economic policy, and the financial systems of the countries affected.

Therefore, the euro area is currently battling a fiscal crisis in some member countries, a competitiveness and current account crisis in the region as a whole, a deep banking crisis in some countries, and a fragile banking system in many others, which would be exacerbated if the sovereign debt crisis should end in default by any of the countries concerned. A currency crisis as such is not part of the problem, however, any more than it was in the US.

As is discussed further in Chapters 16 and 25, a number of reforms have already been adopted in response to the shortcomings in the design of the euro area, but it is not certain that they will suffice to preserve the currency union in its current form. Forecasting near-term developments in the euro area crisis is beyond the scope of this report, however. The results of the reforms made to date have not yet been fully tested. If they prove inadequate, the crisis could be amplified and, in the worst-case scenario, could have severe repercussions for the future of the euro area in its current form. If they are successful, the reforms could strengthen the eurozone. The outcome has yet to be determined.

1.4 Euro area membership: pros and cons for Iceland

According to the conventional economic theory of optimal currency areas (OCA theory; see Chapter 5), a given country is better suited for participation in a larger currency area the more its shocks are symmetric with shocks to the other countries in the currency area, the more open its economy is, the greater the share of trade is with the currency area, and the more flexible its labour market is. These OCA criteria centre on the balance between the cost of relinquishing monetary independence and the benefits of reduced transaction costs for trade (see also Chapter 6). If economic shocks hitting the candidate country and the currency area are symmetric, joint monetary policy will respond effectively to them, and a flexible exchange rate will not be needed as a shock absorber. The greater the share of external trade, the greater the benefits in lower transaction costs deriving from participation in a monetary union. At the same time, the effects of nominal exchange rate movements on the real economy will be less, particularly in small, open economies that price their exports in foreign currency and face given import prices in foreign currency. In other words, changes in the nominal exchange rate will have a smaller and more short-lived effect on the real exchange rate. Finally, if economic shocks extend only to the home country and joint monetary policy is insufficient to absorb the shock, labour market flexibility could take the place of nominal exchange rate adjustment once the domestic currency has been abandoned.

Consideration of these criteria based on historical data does not produce an unequivocal answer about Iceland's suitability as a member of the eurozone. The Icelandic business cycle has been rather weakly linked to that of the euro area – and actually, to most other regions and countries as well (see Chapter 10). Iceland's export sector differs in structure from that in most other industrialised countries (see Chapter 4). On the other hand, the economy is quite open to trade and the euro area is by far Iceland's largest trading partner (see Chapters 4, 8, and 20). In addition, the domestic labour market is quite flexible, although downward flexibility of nominal wages has not been tested much and available data suggest that it has been relatively limited to date (see Chapter 14).

The OCA theory has many shortcomings and does not take account of a number of potential benefits of participation in a large currency area such as the eurozone. Historical experience also suggests that currency unions can be successful even if the participating countries do not fulfil the OCA criteria at the outset (see Chapter 5). In this context, the following points are worth noting:

- Research indicates that currency union membership will stimulate trade with the currency union without reducing trade with other countries. In part, this is because domestic firms will be enabled to participate more readily in external trade because of the absence of exchange rate risk. According to an estimate of this trade boost effect if Iceland were a member of the euro area (see Chapter 8), goods trade relative to GDP could increase by 4–11 percentage points and, as a result, GDP per capita could rise permanently by 1½–11%.
- Research shows as well that the increased trade between member countries with a common currency could cause the business cycle in those countries to become more symmetric over time, so that OCA criteria are met to a gradually increasing degree.
- The use of money is subject to considerable economics of scale; for instance, in connection with currency issuance, the cost of providing monetary services (such as monetary policy and payment intermediation), and cross-border foreign exchange transactions. Other things being equal, participation in a larger currency area would lead to a more efficient and less expensive monetary system.
- In addition, small countries in a currency union can save foreign exchange reserves to a greater degree than is possible with an independent currency.
- The domestic foreign exchange market is small, undeveloped, and relatively expensive to trade in (see Chapter 12). Euro area membership would provide access to a large, deep financial market without exchange rate risk. This would facilitate risk diversification domestically. In addition, the pool of financial products would increase and competition in financial services would be enhanced, thereby reducing the cost of capital. Simulations using the stylised dynamic stochastic general equilibrium model in Chapter 7 indicate that domestic real interest rates would decline, the domestic capital stock would grow, and GDP per capita would rise permanently if a small country such as Iceland were to join a larger currency area (see also Chapters 2 and 21 for a discussion of other countries' experience).
- Upon joining the euro area, consumers would have access to a large market in which they could use their home currency. This would facilitate price comparison and boost competition. It would also be easier for domestic firms to gain a foothold in larger markets and benefit more from economics of scale in their operations and production.

- With euro area membership, the risk associated with cross-border banking operations would be reduced, as banking would take place in the home currency to a larger degree and the ECB would be responsible for providing liquidity. As a result, it would be possible to ease the restrictions on cross-border banking that would otherwise be necessitated by foreign exchange risk and maturity mismatches in the banks' foreign-denominated assets and liabilities.
- EU and euro area member countries are subject to requirements concerning public finances and other aspects of economic policy, which aim to improve policy discipline. In addition, member countries participate in a variety of consultative fora on economic policy and financial stability, which should also promote improved policy in these areas. Another benefit of euro area membership is access to rescue funds and a common safety net intended to address shocks in individual countries and reduce contagion among them.

But euro area membership also entails risks for Iceland. It would no longer be possible to apply independent monetary policy and a flexible exchange rate in response to shocks and to expedite adjustments to changes in national income. Under certain circumstances, this has been quite useful for the Icelandic economy. On the whole, however, domestic monetary policy has not proven particularly effective in achieving set goals, and more often than not a flexible exchange rate has proven a source of shocks rather than a shock absorber. Consequently, relinquishing domestic monetary policy may not prove to be a great sacrifice unless monetary policy can be improved and excess exchange rate volatility can be mitigated. This possibility is explored later in this chapter.

Another risk is the crisis currently facing the euro area and the design failures that are a partial cause of it. Because of this, it would be risky for Iceland to join the euro area before it can be determined, based on further developments, whether the euro area would be a better or worse choice in the long run.

1.5 Exchange rate targeting and adoption of another currency

In some respects, the structure of the Icelandic economy calls for a flexible exchange rate. Offsetting this are excess exchange rate volatility and studies indicating that the Icelandic króna has tended to be a source of shocks more than a shock absorber. Furthermore, there are various benefits of euro area membership through EU accession, such as increased international trade and access to a deeper financial market without exchange rate risk. But if EU membership proves not to be an option – for instance, if an acceptable solution to the euro area crisis cannot be found and/or if a majority of the electorate is opposed to it – and Icelanders are either unable or unwilling to address the pre-crisis flaws in monetary and economic policy without sacrificing exchange rate flexibility, other options should be examined, such as some type of exchange rate targeting or unilateral or bilateral adoption of another currency. These options are discussed in Chapters 18 and 19, while Chapter 20 focuses on the issues that must be considered in selecting a currency to adopt or use as an anchor.

Exchange rate targeting entails defining limits on exchange rate movements and applying monetary policy so as to keep the exchange rate within that band. Such bands can vary in width, the commitment to the exchange rate target can vary in strength, and the commitment can be backed by other declarations and policy actions that further support the target.

One form of exchange rate target familiar to Icelanders is a declared target of an exchange rate index with a defined fluctuation band. Such an arrangement prevailed in Iceland before the inflation target and floating exchange rate were adopted in March 2001 (see Chapter 12). The original fluctuation band was rather narrow, at ±2½%. It was then widened to ±6%, and again to ±9%, after it proved more difficult, and in some ways riskier, to hold the exchange rate within a narrow band once restrictions on capital movements were lifted. But it was also growing imbalances in the domestic economy that contributed to the demise of the exchange rate target. Those imbalances were due in part to excessively accommodative demand management, which provided insufficient support for the exchange rate policy.

An exchange rate peg of this type has an advantage in that, in the long run, inflation will tend to converge on inflation in the anchor currency area and exchange rate volatility will be reduced. However, Iceland's experience in this area – and that of many other countries – shows that it is difficult to maintain such a unilateral exchange rate peg when movement of capital is unrestricted and the exchange rate policy receives inadequate support from fiscal policy and other aspects of demand management (see Chapter 18). Thus it is not a given that this would be a viable option for Icelanders, as such a policy might lack credibility because of previous experience. Adopting an exchange rate peg and a deviation band in an international collaboration with other countries could prove more propitious, however. Such a policy would be more credible because it would be supported by the actions and credibility of the other countries. The Bretton Woods exchange rate system, which was in place from the end of World War II until 1973, is an example of this. The difference, however, was that most participating countries also had capital controls. ERM-II, on the other hand, is an example of an exchange rate targeting system based on international cooperation and unrestricted movement of capital. It works because of the ECB's credibility and its obligation to intervene, and because it is defined as a temporary arrangement with a clear exit path towards the euro area. The markets are thus not tempted for an unlimited period by a commitment to a peg that they can speculate against.

A currency board has the same advantages as a conventional exchange rate peg in that, in the long run, average inflation should align with that in the anchor area (see Chapter 18). Because a currency board is based on a pledge enshrined in law or even the country's constitution – a pledge to convert the domestic currency to the anchor currency at a predetermined exchange rate – volatility vis-à-vis the anchor currency disappears. Because the pledge is more stringent than that implied by a conventional unilateral peg, it can also be more credible. Furthermore, it is more difficult to force a change in the exchange rate peg through speculative attack, but the repercussions of a successful attack could also be much greater. As a result, it is extremely important that a currency board, like any other exchange rate peg, be supported by fiscal and economic policy. If fiscal policy is not consistent with the fixed exchange rate policy, the peg is likely to fail in the end, no matter how strong the formal commitment to it is.

The main disadvantages of a currency board are that the central bank's possibility of mitigating volatility in banking system liquidity is more limited, and the money supply fluctuates with the foreign exchange reserves. This could put excessive pressure on the domestic financial system and entails a risk to financial stability. The foreign exchange reserves must also be much larger than under a floating exchange rate regime. Most of the countries that have successfully used a currency board are small countries with close links to the anchor area or those planning to adopt the euro.

There has been some discussion of the possibility of adopting another currency in Iceland (see Chapter 19). When a country adopts another currency unilaterally, the foreign exchange reserves are used to purchase banknotes and coin in the anchor currency, which is put into circulation instead of the domestic currency. The central bank deposits held by the national treasury and the domestic financial institutions are then converted to the anchor currency, as are the financial institutions' domestic assets and liabilities. Technically, this can easily be done, but what comes next?

Many of the pros and cons of unilaterally adopting another currency are the same as those pertaining to the euro area: inflation is better anchored and exchange rate risk disappears in trade within the currency area, although independent monetary policy and exchange rate flexibility are relinquished as tools that can be applied in response to economic shocks. The fact that no formal agreements are needed and the process can be concluded swiftly could be viewed as an advantage over and above negotiated euro area membership. But the lack of a contractual framework embodies many of the disadvantages of this option in comparison with euro area membership or maintaining the domestic currency. The main problem is that the supply of the new currency in the country will fluctuate with capital in- and outflows, while counteractive measures are much more limited than with an independent currency or full euro area membership. For instance, capital outflows could quickly develop into a liquidity problem for the banking system and for treasury financing, which could ultimately lead to default and a financial crisis that the domestic authorities would be unable to stop. The likelihood of this could be reduced through preventive mitigating measures, such as running the central government at a significant surplus and requiring that domestic banks either maintain sizeable foreign exchange reserves of their own or have credit lines with foreign banks. But all such measures come at a significant cost, the foreign exchange reserves are always limited, and experience shows that credit lines with private banks are not secure, particularly when they are most needed. Measures of this type can therefore never fully replace the central bank's ability to provide liquidity support in its own currency, which is virtually unlimited so long as the banks are solvent and can provide eligible collateral. Unilateral adoption of another currency can therefore entail substantial risk to the stability of the financial system. In this connection, some argue, however, that providing central bank liquidity facilities to the banking system is harmful and that this is therefore not a disadvantage. But the problem is that even though a banking system based on a maturity transformation has contributed significantly to output growth and economic welfare, it is extremely risky without the back-up of a central bank, as previous experience has shown. The banking system could therefore fail "unnecessarily", at enormous cost in the form of economic contraction and elevated unemployment.

In addition, there is the disadvantage of needing to spend the country's foreign exchange reserves in order to acquire the anchor currency, whereas with negotiated adoption of the euro via EU accession, the ECB would provide the Central Bank of Iceland with euros to replace all outstanding domestic banknotes and coins. Seigniorage revenues would revert in full to the foreign central bank, and when banknotes and coin are lost or destroyed, it would be Iceland's loss and the anchor country's gain. With an independent currency or with participation in the euro area, however, such a loss is incurred by the individual concerned and not the economy.

As is discussed in Chapter 19, relatively few countries have unilaterally adopted another currency, and most of those that have done so are small in size. Most are former colonies of the anchor country or are European countries with a special status in the region. The few studies available suggest, however, that unilateral adoption of another currency yields little in the way of significant economic advantages. Panama has the longest experience of this arrangement, but it has been forced to apply 17 times to the International Monetary Fund (IMF) for assistance and has suffered its share of banking crises, due in part to lack of fiscal discipline.

Some of the disadvantages of unilateral adoption could be reduced by negotiating a bilateral agreement with the anchor country providing for central bank liquidity facilities for the domestic banking system, a share in seigniorage revenues, renewal of banknotes and coin, and participation in monetary policy formulation. Such an arrangement would somewhat resemble euro area membership. But it could be difficult to obtain such a commitment from another country, and there is no precedent for it. At all events, it is likely that such an agreement would be conditional upon giving the anchor country and its central bank a say in the domestic financial system regulatory framework and allowing it to participate in domestic financial supervision, as the historical origins of financial supervision are in central bank liquidity facilities and lending of last resort. In that case, a bilateral agreement of this type would entail relinquishing considerable sovereign powers, even more than in the case of euro area membership.

1.6 Flexible exchange rate and improved framework for demand management and the financial system

As has already been discussed, Iceland's experience of independent monetary policy and a flexible exchange rate has been mixed, to say the least. Monetary policy has not been effective enough, and more often than not the exchange rate of the króna has been a source of shocks rather than a shock absorber. For instance, fluctuations in private consumption are considerably larger in Iceland than in other developed countries, and much greater than can be explained by fluctuations in external conditions. But there is a certain problem concerning the implementation of various types of exchange rate peg, in that studies of the structure of the Icelandic economy suggest that a flexible exchange rate is in some ways a beneficial arrangement for Iceland. It is also clear that concluding Iceland's EU membership application will take some time and, if Iceland does choose to join the EU, adopting the euro will take even longer. As a consequence, it is very important to ask whether monetary policy, demand management in general, and the regulatory and supervisory framework of the financial sector can be reformed in such a way as to make a flexible exchange rate on the basis of the Icelandic króna an attractive option without sacrificing free movement of capital. Such a solution could benefit Iceland either in the run-up to euro area accession or for the longer term.

The Central Bank report entitled *Monetary policy in Iceland after capital controls* contains a discussion of possible reforms aimed at addressing the shortcomings in demand management and the regulatory framework before the financial crisis. A subsequent report, *Prudential rules following capital controls*, outlines the regulatory framework that would reduce the financial system risk that can accompany free movement of capital. Together, the recommendations in these two reports would make domestic monetary policy more effective and would hopefully reduce excess exchange rate volatility. Furthermore, the risk to financial stability would be less, in part because domestic parties' currency-related risk would be lower and because it would be possible limit the size and growth of the banking system. To summarise, the possible reforms are as follows:

- Fiscal policy must support monetary policy more effectively. Well-formulated fiscal rules could help in this context.
- Improved financial stability policy where prudential rules and other instruments are applied in order to reduce risk in the financial system as a whole and address the procyclical interactions between it and the real economy (so-called macroprudential policy).
- Intervention in the foreign exchange market with the aim of leaning against excessive capital inflows and mitigating the negative impact of capital outflows on financial system stability. Such intervention would also be applied to smooth out excessive exchange rate volatility.
- Prudential rules after capital account liberalisation:
    - Rules on domestic banks' foreign liquidity and foreign exchange balance aimed at reducing foreign exchange risk and foreign-denominated liquidity risk in domestic financial institutions, as well as making it more difficult for them to provide foreign-denominated loans to domestic borrowers without income in the borrowed currencies.
    - Restrictions on deposit accumulation in foreign branches of domestic financial institutions.
    - A ban or other restrictions on foreign-denominated lending to borrowers without foreign-denominated income.
    - A temporary tax or reserve requirements to temper excessive capital inflows.

- Possible improvements to the monetary policy framework, including a longer target horizon for policy formation, which offers greater flexibility to take account of longer-term risks to price stability, including those due to financial stability risk.
- Changes to the financial system should also aim at improving monetary policy transmission.

This option has the advantage that Iceland retains monetary independence and a flexible exchange rate and can therefore respond to future idiosyncratic shocks. Another advantage is that a domestic run on the Treasury and/or solvent banks would be manageable. Furthermore, there is reduced risk of financial instability due to excessive capital inflows and a subsequent run on the external funding of the banking system and the Treasury. The disadvantages of this option lie in the fact that the possibilities for external trade without exchange rate risk will remain limited, and the domestic financial system will continue to be more expensive and less integrated with the global financial system than it would otherwise be. In that case, prudential rules restricting domestic financial institutions' cross-border operations will be needed. The feasibility of this option is also dependent on support for the necessary reforms. But even though that condition is fulfilled, it is not likely that excess exchange rate volatility will disappear, as it is also rooted in the inherent volatility of asset prices and the small size of the domestic foreign exchange market. But the fluctuations need not be larger than many other and larger countries appear able to tolerate. Finally, it is appropriate to emphasise that independent monetary policy under a flexible exchange rate regime can take many forms, including different types of price stability target and taking into consideration the role of money and credit in policy formation. It can therefore change from one period to another without necessitating major decisions concerning the currency as such.

1.7 Capital controls and exchange rate regime options

Lifting the capital controls is one of the most important yet most complex challenges facing Iceland at present. The controls have proven an important means of achieving stability in the wake of the financial crisis. Because of this, they were approved by signatories of the EEA Agreement even though they are contrary to the spirit of the Agreement. In the long run, however, it is critical that they be abolished. There are at least two main reasons for this. First, the costs associated with the capital controls grow over time and will ultimately exceed the benefits. Second, they are in contravention of Iceland's international obligations. For the long term, it will be impossible to retain universal restrictions on capital outflows and remain in the EEA. Iceland must therefore make a genuine attempt to lift the controls. It may prove complicated and time-consuming, but there is no other option.

This gives rise to the question of how capital account liberalisation is related to the choice of currency and exchange rate policy. Do some policy options make it easier to lift the controls than others? Which comes first, lifting the controls or deciding the currency issue? At what exchange rate should so-called offshore krónur be converted if Iceland establishes a currency board or adopts another currency unilaterally? Is it possible that capital account liberalisation will wait until – or even beyond – accession to the EU? These questions are not easy to answer, and exhaustive answers are beyond the scope of this report, but a few points can be made nonetheless.

The most desirable option must be to lift the controls before deciding the currency issue. First of all, Iceland needs to lift them – for its own sake and due to international obligations – and the process has already begun. Second, it appears clear that either the controls must be lifted before Iceland adopts another currency or establishes a currency board, or onshore and offshore krónur must be converted at the same exchange rate. Any other course could be considered default, with severe repercussions for Iceland's future access to foreign credit markets. Third, the EU regulatory framework assumes that capital controls will be lifted prior to membership.

If liberalisation proves so difficult that Iceland cannot achieve it without outside assistance – which hopefully will not be the case – the most straightforward solution would be to refer the problem to the EEA, as free movement of capital is provided for in the EEA Agreement. Depending on the resolution there and the progress of the EU accession negotiations, the problem could be resolved in connection with the accession process itself. At this point, it is unclear what form such outside assistance would take, but the more it takes the form of declarations concerning limits to exchange rate fluctuations backed by credibility and strong ability to intervene in the foreign exchange market, and the less it takes the form of offering loans, the better. On the other hand, it appears inevitable that, if Iceland joins the euro area, it would be necessary to convert all krónur at the same exchange rate, for the same reasons as with a currency board or unilateral adoption of another currency.

Although the interaction between the capital controls and Iceland's currency options is complex in many respects, this is not true to the same extent of prudential rules restricting the international activities of domestic financial institutions. For instance, it would be safe to relax such rules if Iceland were a member of the euro area and its financial institutions could carry out a large share of its cross-border business in its home currency. This would be even more true if the EU framework for cross-border banking were reformed so as to provide for EU supervision of banks operating throughout the region, a pan-European deposit insurance scheme, and intervention in distressed financial institutions by a joint EU body.

1.8 Conclusion

At this point, no unequivocal conclusion can be drawn concerning Iceland's optimal currency and exchange rate policy option. All of the possibilities have advantages and disadvantages. Although the assessment of these options is based on a relatively sound economic foundation, there is no simple economic formula stating how these pros and cons should be weighted together so as to yield a clear answer. In addition, it is quite uncertain how these factors will develop in the future. But it should also be noted that this report contains numerous findings indicating that the selection of a currency and exchange rate policy may be less important for economic welfare and stability than might be expected in view of the public discussion on the issue. An example of this is how different countries have fared during the financial crisis (see Chapters 16 and 17) and how likely asset price bubbles are to develop inside and outside a currency union (see Chapter 11). Based on the limited experience to date, it appears that fiscal policy, financial system structure and regulatory framework, and the incentives and opportunities of private agents to borrow are much more important.

One of the reasons it is difficult at this point to draw a clear conclusion about which path Iceland should take is the uncertainty about near-term developments in the two most likely scenarios: an improved framework for the króna and removal of the capital controls, or EU membership and eventual adoption of the euro. It therefore appears sensible to continue to analyse and develop these two options for a while yet, both by preparing a stronger framework for the króna and by pursuing Iceland's application for EU membership.

If the euro area crisis is resolved in the near future and the currency union framework is strengthened, and if Iceland decides to join the EU and the euro area, reforms to the current monetary framework will also prove helpful during the run-up to adoption of the euro. In a best-case scenario, euro area membership will take several years at the very least. Iceland must make a decisive effort to lift the capital controls. It is therefore critical to develop the monetary and exchange rate policies that would be used afterwards. These policies must be adequate until Iceland adopts the euro if it so chooses, although some changes could take place along the way, such as with participation in ERM-II. But the monetary framework must also be suitable for the long term. To the extent possible, it must be a viable alternative to euro area membership so that Icelanders can assess the pros and cons of the options available to them. The Central Bank of Iceland has recently invested considerable work in these projects, including preparing the publications mentioned in this chapter, and further work is planned. The Bank has also invested a great deal of work in projects related to the EU application, as other candidate countries' central banks have done.

Although the choice of currency and exchange rate policies are in many respects technical issues, decisions regarding the monetary framework can never be severed from their political context. Countries take a position on this issue based on their own experience and their relationship with other countries. Full participation in the euro area cannot come to pass without formal negotiations and EU membership. Such a decision reaches far beyond the boundaries of economic analysis and cannot be taken except through a political process wherein the population itself has the last word. It is not the role of the Central Bank to take a stand on such a major issue. Whichever decision is taken, it will have a decisive impact on Iceland's monetary and exchange rate policy options. The Central Bank has a role to play in explaining what the options are. That is the function of this report. The Bank hopes that this publication will be useful in promoting informed, substantive discussion of currency and exchange rate policy.

In closing, I wish to thank the Central Bank of Iceland staff members who devoted innumerable hours to the preparation of this report. Special thanks are due the Chief Economist, Thórarinn G. Pétursson, who has steered this project for the past two years.