Appendix 1

Financial dollarisation and the effectiveness of monetary policy

The question of the increased use of the euro in financial company accounting and in settlement of transactions in the domestic equity market have been increasingly debated lately. This issue came to the fore after Straumur-Burðarás investment bank was authorised to enter its accounts in euros. A number of other companies appear to be interested in following suit and the idea of listing shares on Iceland Stock Exchange has been discussed, especially after its recent merger into OMX Nordic Exchange.

It is useful to divide an analysis of the impact that increased use of foreign currencies by domestic financial companies has on monetary policy effectiveness into two main questions, which are nonetheless closely related. One is the probable impact on monetary policy effectiveness of dollarising financial companies' *accounting*, and the other the impact of using a foreign currency as the *settlement currency* in financial transactions.

Impact of dollarised accounting

As long as the relative scale of lending and deposits in domestic currency does not decrease substantially, there do not appear to be grounds to expect a significant impact on monetary policy transmission and effectiveness if domestic financial companies account for their assets and liabilities (and hence equity) in a foreign currency. Monetary policy would continue to affect the lending rates of financial companies, and thereby the expenditure decisions of households and businesses borrowing in krónur.

It would probably make little difference even if the relative importance of lending in krónur in these companies' operations diminished as their activities outside Iceland expand. Credit institutions will need to fund most of their króna-denominated lending with deposits, issuance of króna-denominated bonds, Central Bank credit facilities or derivative agreements with other financial companies to hedge against currency risk.[1] Ultimately, a corresponding entry in krónur will be formed on the liabilities side of the credit system balance sheet, which the Central Bank prices directly or indirectly. Direct market financing (i.e. not through the credit system) will be affected in broadly the same way through the yield curve (where long-term interest rates are determined by expectations about the development of short-term rates, which the Central Bank can affect directly or indirectly) while funding is in krónur.

1. Even if financial companies fund part of their domestic credit activities with unhedged foreign borrowing or bond issues, this does not imply that monetary policy will become correspondingly less effective. A temporary appreciation of the króna caused by a policy rate hike will raise the risk on foreign borrowing, which financial companies will need to take into account when fixing their lending rates.

The situation could change if a switch to euro accounting caused a gradual waning of the supply of króna-denominated credit. For example, credit institutions might become reluctant to lend in krónur or might set "abnormally" unfavourable terms. However, it should be borne in mind that as long as households and businesses continue to demand króna-denominated credit, for example to avoid risks connected with exchange rate volatility, credit institutions (or other companies while access to this market remains unrestricted) will still have the opportunity to profit from such activities, so it is difficult to foresee them disappearing entirely, although some decline from the current level cannot be ruled out.[2]

The Central Bank's impact on the price of money (i.e. on interest rates) depends upon its ability to influence money supply. Whatever accounting methods financial companies may use, the Central Bank has the exclusive right to issue krónur. Thus the króna is unlikely to cease to be used as a medium of exchange unless the government takes measures to do so. As long as krónur are still needed for business transactions, for example cash payments for cash-in-advance goods, settlement of contracts, tax payments, etc., monetary policy will still have some effect. Iceland's relatively limited use of notes and coin would not make much difference, because a large share of transactions would still be settled in krónur.[3]

Impact of dollarisation of settlements

On first impression, dollarisation of financial transaction settlements would appear to have a greater impact than dollarisation of accounting. Settlement of financial transactions in a foreign currency could reduce turnover in domestic financial markets, i.e. where króna-denominated securities are traded, and thereby hamper the Central Bank in impacting interest rates across the yield curve. This would also complicate monetary policy conduct, since it relies on the data implied in market prices, which would be handicapped by less efficient markets.

A contraction in domestic lending would reduce domestic financial institutions' need to issue króna-denominated securities. This would have an adverse effect by making domestic money and bond markets less liquid. Iceland already faces a considerable problem in this respect due to limited Treasury bond issuance. There is reason to encourage the Treasury to pay closer attention to its role of providing a sufficient supply of marketable bonds to improve market price formation. With their near-zero creditor risk, Treasury bonds provide an important benchmark for market interest rates.

Another unfortunate consequence of dollarised accounts might be to reduce financial companies' incentives for market making with government securities. Their withdrawal from market making agreements

2. However, demand for króna-denominated credit may also conceivably decline, which could likewise mute the effectiveness of monetary policy, at least through the interest rate channel. Such a development is really outside the scope of this Box, as it represents one manifestation of the increasing globalisation of the Icelandic economy in recent years, which will probably continue irrespective of whether financial companies begin to dollarise their accounts or not.

3. It may be pointed out that households appear to be very reluctant to abandon their domestic currencies, even in hyperinflation countries, see Giovannini and Turtelboom (1994).

could have a highly adverse effect on domestic markets and on the Central Bank's ability to influence domestic interest rates.[4]

The impact that the replacement of the króna as a settlement currency for financial companies would have on payment settlements in Iceland, and on the role played by the Central Bank in that process, is also worth pondering. Financial companies could hardly conduct transactions and settlements with the Central Bank in a currency other than the króna. Questions also arise about the Central Bank's function as a lender of last resort, since it is natural for any conceivable bale-out to be made in the domestic currency.

Conclusion

A decision by financial companies to dollarise their accounts would not seem likely, on its own, to dampen the effectiveness of monetary policy. As long as the króna is used in domestic purchases of goods and services, the need to provide credit in krónur will remain. While such lending continues, monetary policy will have an impact. On the other hand, if a switchover reduced the use of the króna in domestic lending, especially coinciding with dollarisation of financial companies' transaction settlements, the Central Bank would probably have a reduced influence on domestic interest rates. Monetary policy would not be completely impotent provided that the króna remained the dominant currency in domestic transactions. But adopting a foreign currency for goods and services transactions would substantially erode the effectiveness of monetary policy.[5] The probability of this happening must nonetheless be considered minimal. It is only likely to be catalysed by serious economic policy mistakes, leading to hyperinflation.

Finally, it is worth pondering whether such a change could alter the relative importance of different monetary policy transmission channels. An increased share of household borrowing in foreign currencies is likely to increase the importance of the exchange rate channel for monetary policy transmission at the expense of the interest rate channel.[6] This could complicate monetary policy conduct due to the unforeseeable nature of exchange rate volatility, i.e. uncertainty about the pass-through would increase.

Dollarisation of domestic equity prices would also affect monetary policy transmission through the asset price channel. An appreciation of the króna after domestic monetary policy is tightened erodes the purchasing power of assets denominated in a foreign currency relative to domestic goods and services, other things being equal, even though the price of the equity remains unchanged in the currency in which it

4. Stanley Fischer (2006) has pointed out that although the empirical answer to whether dollarisation helps create financial depth seems to be uncertain, when one takes into account that capital controls are never totally watertight, the answer must be that dollarisation helps preserve a larger domestic financial system than would otherwise exist; otherwise much of the financial system would move offshore.

5. International research indicates that monetary policy would become less effective if households increasingly used the euro for their goods and services transactions. See e.g. Castillo, Montoro and Tuesta (2006). The Peruvian experience, on the other hand, does not indicate that the monetary policy impact would disappear entirely – the Central Bank of Peru has managed to keep inflation on target even though 80% of the economy is dollarised.

6. This is one finding of international studies. See, e.g. Castillo, Montoro and Tuesta (2006).

is listed. Thus the wealth effect of equity assets would become more sensitive to exchange rate movements.

Conceivably, dollarisation of financial companies' accounts could have some positive effects on monetary policy transmission. It has been argued that an appreciation of the króna following a policy rate hike – which has a positive effect on financial companies' capital ratios and thereby boosts their lending capacity – works counter to the Central Bank's efforts to tighten the monetary stance. If the balance sheet were denominated in another currency, the impact could be reversed, strengthening monetary policy transmission through the exchange rate channel.

As a rule, increased dollarisation could have an undesirable effect on financial stability if it entails a greater exchange rate risk for domestic economic agents with expenditures in krónur.[7] However, this can by no means to be taken for granted – nor is exchange rate risk a new phenomenon.

Increased use of foreign currencies in the Icelandic economy may be regarded as a normal consequence of globalisation and economic and financial deregulation. But it is no less the result of the overheating and instability of recent years, as reflected in high inflation, high interest rates and volatility of the króna.

Restrictions and controls aimed at hindering this development are unlikely to be successful. The economic costs of barriers to capital movements are probably greater than the benefits. The most prudent contribution to the króna's role as a useful currency in Icelandic financial markets is to conduct an economic policy that reduces the incentive to use other currencies. Ensuring economic stability is the best means to achieve this aim. If the government manages to ensure that economic activity is aligned with potential output, prices will be more stable and the króna's role as a medium of exchange, an accounting unit and a vehicle currency for contracts will improve.

Sources

Castillo, P., C. Montoro and V. Tuesta (2006). *An estimated stochastic general equilibrium model with partial dollarization: A Bayesian approach*, Central Reserve Bank of Peru.

Fischer, S. (2006). *Dollarization*, speech presented at the 75th anniversary of the Central Bank of the Republic of Turkey, December 13-15, 2006.

Giovannini, A. and B. Turtelboom (1994). Currency substitution, in *The Handbook of International Macroeconomics*, ed. F. Van der Ploeg, Blackwell.

7. In this context it may be pointed out that even if credit institutions hedge their own exchange rate risks, a substantial exchange rate risk remains among borrowers who do not have access to natural hedges, as clearly borne out by the Asian financial crisis in the 1990s.