National stabilisation policy for Sweden in Stage Three of EMU

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If Sweden were to be exposed to asymmetric shocks after moving to Stage Three of EMU, fiscal policy would be entirely responsible for the national stabilisation policy. Its has been suggested in the economic literature that stabilisation policy could be delegated to a politically independent authority even if the policy instruments are of a fiscal nature. The arguments behind the delegation of monetary policy to independent central banks should presumably also apply to stabilisation policy in a fiscal policy regime. In this article we discuss the significance of a delegation of national stabilisation policy decisions with Sweden in Stage Three of EMU, as well as whether some stabilisation policy instruments are more suitable for delegation than others. An interesting question is whether fiscal policy instruments can be constructed that resemble the interest rate. We show that a cyclically dependent taxation of net interest earnings has similar effects to a change in the level of interest rates and that such an instrument may be of interest in a situation where an individual euro country wishes to influence its own real interest rate at a given nominal euro interest rate. We also discuss in more general terms the issue of when national stabilisation policy measures should be called for in a single euro country.

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Stabilisation policy – a matter for both monetary and fiscal policy

There is nothing to prevent the simultaneous use of fiscal and monetary policy for the purpose of stabilisation policy.

Most political decision-makers agree on that from the viewpoint of welfare policy there is value to be gained from stabilisation policy. Relevant questions are what is to be stabilised, *how* should it be stabilised, *who* should do the stabilisation and *when should* this be done.

In practical politics the objective of stabilisation policy is usually defined fairly pragmatically in terms of, for instance, the output gap (a mea-

sure of resource utilisation) or inflation.[1] The stabilisation policy objective can be achieved with the aid of either fiscal or monetary policy. In a fixed exchange rate regime, fiscal policy is generally considered to be more effective than monetary policy, while the reverse applies with a flexible exchange rate. There is, however, nothing that prevent the simultaneous use of fiscal and monetary policy for the purpose of stabilisation policy. On the contrary, in certain situations combining the two may be preferable.

Stabilisation policy has often been subject to protracted political negotiations.

A good deal has happened in the past decade regarding the question of who is to be responsible for stabilisation policy. Historically, the full responsibility has rested on elected institutions – in Sweden the government and the Riksdag (parliament). Experience has shown that stabilisation policy managed by the government and the parliament is not necessarily conducted in a way that stabilises cyclical fluctuations. An effective stabilisation policy is liable to be obstructed by various forms of political incentive and conflicting goals. Decision-making lags – the time that elapses between the detection of a problem and the implementation of a countermeasure – are liable to be long in that stabilisation policy decisions often tend to be subject to protracted political negotiations. As a result, measures may be introduced too late, with a risk of them acting in the "wrong" cyclical phase. This in turn means that in certain cases stabilisation policy is liable to be procyclical, that is, instead of stabilising the economy it tends to accentuate the cyclical fluctuations.[2] Moreover, political difficulties in making fiscal policy sufficiently tight in an upward phase may contribute to increased government debt. Taken together, there is a risk of these problems leading to low credibility for the long-term direction of stabilisation policy. These arguments have prompted many economists to recommend monetary policy and its delegation to an independent central bank that neither can nor needs to take short-term political considerations into account.[3] As noted above, this conclusion should be conditioned by the choice of exchange rate regime.

In the 1990s the Riksbank was given a clear political mandate to be independently accountable for monetary policy.

During the 1990s central banks in many countries – including the Riksbank in Sweden – were given a clear political mandate to be independently accountable for monetary policy. One purpose was precisely to enhance the credibility of stabilisation policy. In Sweden the new regime was introduced in the aftermath of the stabilisation policy failures in the 1970s and 1980s. In the Bill (1997/98:40) that formally confirmed the

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1 In strictly theoretical models the choice of the optimal stabilisation policy objective depends on the occurrence of various market imperfections, for example imperfect competition and price and wage rigidities.

2 These problems can apply to fiscal as well as monetary policy in cases where both are at the disposal of the government and parliament.

3 See e.g. Auerbach (2002) and Feldstein (2002a).

Riksbank's increased independence the Government stated: "By delegating the responsibility for the formation of monetary policy to an independent Riksbank with the clearly specified objective of price stability, policy can be given the long-term perspective that creates conditions for the object to be credible." The experience to date, in Sweden and elsewhere, of delegating monetary policy to an independent authority has been good.

The effectiveness of stabilisation policy presupposes that the policy is perceived as credible.

The effectiveness of stabilisation policy accordingly presupposes that the policy is perceived as credible. Besides the problem inherent in the political decision-making process, stabilisation policy in the 1970s and 1980s suffered from its lack of a clear framework. Put bluntly, it was unclear what *was* to be stabilised *how* and *when*. These questions have been important for the past decade's work of building up the credibility for monetary policy.[4] With reference to these questions, we discuss how stabilisation policy could be constructed with Sweden in Stage Three of EMU.

The article is arranged as follows. The changes that stabilisation policy would undergo with Sweden in Stage Three of EMU are discussed briefly in the next two sections. The matters considered include the effect that a common nominal interest rate may have on the real interest rate in a single euro country that is subjected to an asymmetric shock relative to the rest of the euro area and how the objective for the national stabilisation policy can be formulated for Sweden as a full participant in EMU. This is followed by a section where, against the background of the introductory discussion of the credibility problem, we discuss the advantages of also delegating the stabilisation policy decisions in a fiscal policy regime to an independent authority. Then we consider whether some fiscal policy instruments are more suitable for delegation than others. In our opinion this issue should be approached in the light of a more general discussion about which fiscal policy instruments are appropriate for stabilisation. Our starting point is therefore the analysis of fiscal policy instruments that was presented in the report "Stabilisation policy in the monetary union" (SOU 2002:16). In the next section we consider whether there are fiscal policy instruments that can influence corporate and household behaviour in a similar way as interest rate adjustments. We show that a cyclically dependent taxation of net interest income has effects that broadly resemble those of a change in the interest rate and that such an instrument may be of interest in a situation where a single euro country wishes to influence its own real interest rate (after tax) at a given nominal euro interest rate.

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[4] See the Riksbank's statement (Dnr 02-773-DIR) regarding the report "Stabilisation policy in the monetary union" (SOU 2002:16); the statement and a summary of the report are available in English in *Sveriges Riksbank Economic Review* 2002:4, pp. 90–127.

We argue that such an instrument is also pertinent to the feasibility of delegating fiscal policy instruments to an independent authority. In the final section we discuss with reference to Blanchard (2000) and Calmfors *et al*. (2003) whether various types of asymmetric shocks ought to occasion stabilisation policy measures in a single euro country.

Sweden in Stage Three of EMU

With Sweden in Stage Three of EMU, the conditions for stabilisation policy would change.

The conditions for stabilisation policy would change again if Sweden were to move to Stage Three of EMU. An economic argument in favour of full participation in the monetary union is that with a single currency, that is valid in many countries, transaction costs are reduced for households and firms.[5] A move to Stage Three of EMU would, however, deprive Sweden of its own monetary policy as an instrument for national stabilisation policy.[6] The common monetary policy is the responsibility of the European Central Bank (ECB), which decides the level of the interest rate in the light of an assessment of the weighted average path of inflation in the euro area. When setting the interest rate the ECB is not concerned if inflation in a small euro country is deviating markedly from the euro area average.[7] Individual countries may be exposed to asymmetric shocks of various kinds. With a common monetary policy this means that the economic activity and inflation in a single euro can deviate markedly from the rest of the euro area for a relatively long period.[8] There is a risk, for instance, that the labour market organisations will show less restraint because they need not fear that high wage increases will lead to increased interest rates. This problem should be particularly pertinent for small member states where the welfare consequences may be substantial. In Sweden's case the problem might be handled within the framework of fiscal policy.[9] This presupposes, however, that fiscal policy's framework for stabilisation policy is strengthened and clarified before a move to Stage Three of EMU.

Besides the problem of asymmetric shocks, there is another argument for having a national stabilisation policy readiness in Stage Three of EMU.

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5 See Mundel (1961).

6 Sweden also relinquishes the flexible exchange rate, which can be seen as an automatic cyclical shock absorber.

7 Based on Eurostat's country weights for 2001, Sweden's weight in a (hypothetical) composite HICP (the price index that is used in EMU) would be 2.29 per cent (according to unofficial calculations at the Riksbank). If the United Kingdom and Denmark were also to be included, Sweden's weight would be 1.78 per cent. The rate of inflation in Sweden would therefore be of very limited importance for the ECB's interest rate decisions. When the new applicant countries join the monetary union, Sweden's weight would be even smaller.

8 Studies of inflation in the United States have shown that the rates of inflation in major American cities have diverged by more than 1 percentage point for periods of up to a decade. See Cecchetti et al. (2000).

9 Using a formal model, Cooper & Kemp (2002) show that if fiscal policy is used for stabilisation, participation in a monetary union can enhance welfare regardless of the extent to which the member states are hit by country-specific shocks. But this does assume that stabilisation policy is effective, that is, free from the type of problem in the political decision-making process that we described earlier in this article.

Japan and the United States are examples which show that fiscal stimuli may be called for in "low interest rate economies" where monetary policy has been rendered "impotent".[10] Situations may arise where the single monetary policy in the euro area is also at risk of becoming "impotent". Since there is no common fiscal policy for the euro area, such a situation would require each euro country to conduct its own fiscal stimuli.

A successful participation in Stage Three of EMU will also accentuate the need for various kinds of structural reform in Sweden.

A successful participation in Stage Three of EMU will also accentuate the need for various kinds of structural reform in Sweden. The absence of an automatic shock-absorber in the form of a flexible nominal exchange rate will heighten the importance of increased nominal wage flexibility. Other reforms that strengthen the mobility and flexibility in the labour market will also be desirable. Our discussion in the article is confined to the need to supplement the single monetary policy with a national stabilisation policy. Some economists and debaters consider that focussing too strongly on the need for a national stabilisation policy is liable to undermine the discussion about the need for structural reforms. They also argue that one should rely in the first place on strengthening the function of the automatic stabilisers. Experience shows, however, that extensive structural reforms take time to achieve. As to the automatic stabilisers, they are a result of the construction of tax and subsidy systems and not created specifically to stabilise the economy. While a Swedish move to Stage Three would increase the need to strengthen the automatic stabilisers, it is doubtful whether this could be done to a major extent without exacerbating the distortionary effects of taxes and subsidies. A reduction of the large marginal effects of taxes and subsidies may in fact be desirable in order to improve labour market flexibility. That would have the paradoxical effect of diminishing the automatic stabilisers.

The starting point for this article is that we presuppose that structural reforms and a complementary national stabilisation policy will both be needed. The United States, where the labour market and wage formation are far more flexible than in Sweden and the rest of Europe, has performed an active stabilisation policy with monetary as well as fiscal elements.

What is to be stabilised?

Stabilisation policy is not to be used for cyclical "fine tuning".

The primary aim of the national stabilisation policy should be to counter the occurrence of unduly large asymmetric cyclical fluctuations.[11] Thus, stabilisation policy is not to be used for cyclical "fine tuning". The national stabilisation policy is to function in the first place as an *adjunct* to the

[10] See also Feldstein (2002b).

[11] The question of which shocks ought to occasion national stabilisation policy measures in a single euro country is discussed more fully in a later section.

single monetary policy in that the latter will not always be optimal for each euro country. Active fiscal measures should be used as far as possible for preventive purposes. However, as a forward-looking stabilisation policy is obviously not easy, the policy must also include a readiness for cases where large shocks have already occurred.

One of the major issues when constructing the framework for the national stabilisation policy for Sweden in Stage Three in EMU is what the objective or target for the stabilisation policy should be. The "Committee for Stabilisation Policy for Full Employment with Sweden in Stage Three of EMU" proposed the output gap as the target for stabilisation policy.[12] In its statement on the Committee's report, the Riksbank argued that there may be reasons for considering whether an inflation target for fiscal policy would be preferable.[13] Different targets have different advantages and drawbacks. The stabilisation policy decisions should presumably be based on an analysis of a variety of economic indicators. For credibility it is important that the motives and the forecasts behind the stabilisation policy decisions are presented in a clear and open fashion. In any event, a central indicator for stabilisation policy decisions ought to be the difference in inflation between Sweden and the rest of the euro area. A development of prices and wages in Sweden that matches the euro area will be crucial for achieving a stable development of output and employment in the longer run.

For credibility it is important that the motives and the forecasts behind stabilisation policy decisions are presented in a clear and open fashion.

The common monetary policy implies that nominal interest rates will be broadly the same in every euro country. It follows that in countries, for example Ireland, where inflation is clearly above the euro area average at present the real interest rate is low, while it is high in countries, for example Germany, where inflation is below the euro area average. In so far as these differences in the rate of inflation reflect a necessary adjustment of the so-called real exchange rate, the differences in the real interest rate are motivated in real economic terms and therefore do not constitute a problem.[14, 15] But to the extent that the difference in inflation stems from internal demand-driven or structurally generated price and wage increases, unduly large differences in real interest rates are likely to be a considerable problem. In Ireland, the low real interest rate is fuelling the over-

The common monetary policy implies that nominal interest rates will be broadly the same in every euro country.

[12] "Stabilisation policy in the monetary union", SOU 2002:16.

[13] See the Riksbank's statement (Dnr 02-773-DIR) on the report "Stabilisation policy in the monetary union", SOU 2002:16; see note 4.

[14] The real exchange rate is defined as the amount of domestic goods that has to be provided in exchange for a given amount of goods from abroad. In a flexible exchange rate regime the real exchange rate is expressed as a ratio; the numerator is the product of the nominal exchange rate and a price index for foreign goods and the denominator is an equivalent domestic price index. With Sweden in Stage Three of EMU, the nominal exchange rate is locked but the real exchange rate can still vary if domestic inflation deviates from the average in the monetary union.

[15] Identifying the situations where the real exchange rate ought to be adjusted may, however, be difficult in practice.

heating, while the high real interest rate in Germany is tending to accentuate the slowdown.

In the long run, the rate of inflation in a single euro country will be adjusted to the euro area average regardless of whether or not the country in question has a national stabilisation policy. Permanently higher inflation ultimately impairs a country's competitiveness and that in turn can generate unemployment and lead to lower inflation. The ECB's inflation target will therefore function as a nominal anchor for the Swedish economy too, at least in the long run. But an adjustment to lower inflation can take time and be associated with large social costs in the form of high unemployment. Discretionary fiscal measures can help to avoid a situation where economic activity in Sweden deviates excessively from the euro area. The national stabilisation policy will have the important task of recognising in time whether regional differences in inflation stem from necessary changes in the real exchange rate as opposed to unmotivated wage and price increases.

Fears have been expressed that a national stabilisation policy, as a complement to the ECB's policy, might blur the responsibility for stabilisation policy. The division of responsibility is not a problem. The ECB's monetary policy always has to be based on an assessment of the direction of fiscal policy in each member state, whether or not the fiscal policy has an explicit stabilisation policy objective. Of course the stabilisation policy conducted by an individual euro country has to be compatible with the ECB's inflation target as well as with the common rules for fiscal policy (the Maastricht Treaty and the Stability and Growth Pact).[16]

Who is to make the stabilisation policy decisions?

If Sweden moves to Stage Three of EMU, the Government and the Riksdag will be fully responsible for the national stabilisation policy.

If Sweden moves to Stage Three of EMU, the Government and the Riksdag will resume full responsibility for the national stabilisation policy. To some extent, the fiscal policy rules and targets that have been introduced in recent years, nationally as well as in the European Union, should have strengthened the long-term credibility of fiscal policy. They may also have reduced the risk of stabilisation policy failures of the type that occurred in the 1970s and 1980s. There is, however, a danger of non-compliance with such rules. That is evident not least from recent developments in certain euro countries. An important issue is how the credibility of the national stabilisation policy could be maintained as far as possible with Sweden in Stage Three of EMU.

[16] At the same time, the provisions in the Maastricht Treaty and the Stability and Growth Pact limit the scope for stabilisation policy and this may cause problems in certain situations. For a discussion of these problems and conceivable solutions, see Calmfors et al. (2003).

There are a number of measures that to a varying extent should help to reduce the problem of credibility. The afore-mentioned "Committee for Stabilisation Policy …" proposed the appointment of an *advisory* independent body of experts who would analyse economic developments and put forward stabilisation policy measures.[17] Other important ways of maintaining stabilisation policy's credibility are increased transparency, improved evaluations, clear decision-making processes and a reinforcement of existing authorities.[18]

Even when its instruments are of a fiscal nature, stabilisation policy could be managed by an independent authority.

There have been suggestions in the economic literature that stabilisation policy could be delegated to a politically independent authority even if the policy instruments are of a fiscal nature.[19] Such a far-reaching delegation of stabilisation policy decisions is clearly complicated, not least in political terms, but in our opinion the arguments put forward for the increased independence of the Riksbank and other central banks should also be relevant in a regime where fiscal policy is used for stabilisation.

Delegating fiscal instruments to an independent authority might perhaps be perceived as undemocratic.

Delegating fiscal instruments to an independent authority might perhaps be perceived as undemocratic, partly because of the difficulty in holding an independent authority responsible for a stabilisation policy failure.[20] A government that fails with this policy can always be dismissed. A decision to delegate fiscal instruments to an independent authority must, of course, have a democratic foundation in the same way as the decision to delegate monetary policy to the Riksbank.

If the Riksdag were to decide to delegate fiscal instruments to an independent authority, the decision would by definition be democratically founded.

If the Riksdag were to decide to delegate fiscal instruments to an independent authority, the decision would by definition be democratically founded. In the context of welfare policy, the credibility and effectiveness of stabilisation policy decisions are no doubt more important than whether or not the decisions are made by elected institutions.[21] It is, however, important that these decisions are very transparent and that clear rules are set up for scrutiny and accountability.

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17 See note 12.

18 See note 4. In its statement, the Riksbank also writes that a matter which should be considered is whether the government ought to be entitled to decide measures of stabilisation policy without recourse to the Riksdag; such a delegation could shorten the long decision lag. Furthermore, the Riksbank writes that a more far-reaching delegation to an independent authority should not be ruled out without further consideration. See also the Riksbank's press release no. 5 2003: Comments on an article on Dagens Nyheter's debate page.

19 See e.g. Ball (1997); also Blinder (1997), Gruen (1997, 2001), Hemming & Kell (2001) and Wyplosz (2002). This literature mainly discusses a delegation of fiscal policy instruments as an adjunct to a national monetary policy. In our opinion such a delegation should be even more interesting in a situation where the national monetary policy has been delegated to the ECB.

20 The current regime specifies a procedure whereby the governor of the Riksbank attends hearings by the Parliamentary Finance Committee on the conduct of monetary policy. A similar construction could be employed if fiscal policy instruments were to be delegated to an independent authority.

21 For a fuller discussion of the democratic aspect, see Gruen (2001).

How is stabilisation policy's objective to be achieved?

Fiscal policy has a variety of instruments for stabilisation policy on both the revenue and the expenditure side of the government budget.

Thus there are arguments in favour of delegating stabilisation policy decisions to a politically independent authority. When it came to delegating monetary policy, the choice of stabilisation policy instrument was self-evident. Fiscal policy, on the other hand, has a broad spectrum of instruments for stabilisation policy on both the revenue and the expenditure side of the government budget. The question is whether some fiscal instruments are more suitable for delegation than others. We consider that the instruments which ought to be used in the first place for stabilisation policy are taxes. Decisions about public expenditures ought to be founded on long-term considerations.[22]

The question of which fiscal policy instruments it could be appropriate to delegate to an independent authority must necessarily be approached via a more general discussion of which instruments are generally suitable for stabilisation purposes. The "Committee for Stabilisation Policy …" considered that the instruments for stabilisation policy should have the following characteristics:[23] (*i*) The measures are to act as generally as possible, that is, the base for the change in taxes or expenditures should be so broad that the measures affect a large segment of the economy. (*ii*) The measures are to be used temporarily and symmetrically over time, that is, a tax increase in an upward phase is to occasion a corresponding decrease in a downward phase. (*iii*) Stabilisation policy is to be distinguished as far as possible from distribution and allocation policy.

Changes in taxes or expenditures that are temporary, symmetric and aimed at broad bases reduce the risk of generating long-term effects of a distributional and allocational nature. A symmetric application over a business cycle can be difficult in the case of measures that give rise to large distributional effects; cutting taxes and raising expenditures in a downward phase is politically easier than raising taxes and cutting expenditures in an expansionary phase.[24] The, in average, too expansionary fiscal policy in the 1970s and 1980s is an illustration of this problem.

The Committee also pointed out, that fiscal measures with a more general effect are a natural choice, since fiscal policy is to replace the

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22 See also Ball (1997).

23 See note 12.

24 Note, however, that fiscal instruments with large distributional consequences may generate stronger stabilisation effects than those where the distributional consequences are small, given that they are used symmetrically over the business cycle. Private consumption and demand can be increased in a downward phase, for example, by a redistribution from high-income groups with a low marginal consumption propensity to low-income groups with a high marginal consumption propensity. A delegation to an independent authority would ensure that such measures could be implemented symmetrically over the business cycle.

national monetary policy, which the Committee sees as having general effects. Compared with an interest rate adjustment, fiscal instruments probably affect more sectors of the economy and their impact on demand probably comes sooner, given that the long political decision lags can be avoided.[25]

In this context it should be noted that while monetary policy is general in the sense that it influences inflation expectations and inflation via a single instrument (the interest rate), it does also have certain (temporary) allocational and distributional effects. An interest rate adjustment affects particular sectors of demand, such as investment, foreign trade (via its effect on the exchange rate) and private consumption (via its effects on the provision of credit and asset prices).

While monetary policy is general in the sense that it influences inflation expectations and inflation via a single instrument, it does also have certain temporary allocational and distributional effects.

TAX POLICY INSTRUMENTS

Starting from the view that the impact of stabilisation policy is to be general, with small effects on distribution and allocation, the Committee identified a number of appropriate instruments on both the expenditure and the revenue side. Here, we have chosen to concentrate on the Committee's proposals on the revenue side; they comprise personal income taxes, value-added tax, payroll taxes and internal devaluation.[26]

A change in personal income tax affects household disposable income, thereby having some impact on consumer demand.[27] In this way, demand can be stimulated in downward phases and subdued in upward.[28, 29] However, there is a risk that income tax increases or decreases can be subject to protracted distribution policy discussions. This problem would be eliminated if such an instrument were delegated to an independent authority.

By varying the rate of value-added tax (VAT), the household's consumption can be redistributed over time. A temporary VAT increase can subdue private consumption in situations with economic overheating, just as a temporary reduction can help to increase private consumption when the economy is slackening. The effect on consumption comes trough two

[25] The full effect of an interest rate adjustment is usually considered to materialise after one to two years.

[26] A stabilisation policy based on variable taxation is completely contrary to the theory of optimal taxation, which holds that taxes ought to vary as little as possible over time so as to minimise their effects on household and corporate behaviour. However, this notion is derived from models that ignore more general stabilisation policy objectives. One of the purposes of altering taxes over time for stabilisation policy is precisely to influence the behaviour of households and firms.

[27] Crucial matters for the pass-through to private consumption include the extent to which households are forward-looking and the degree to which the credit market enables households to redistribute consumption over time.

[28] Income tax adjustments can also have some effect on labour supply.

[29] Using a general equilibrium model, Duarte & Wolman (2002) show that small countries in a monetary union tend to have relatively higher inflation in connection with productivity shocks but that governments in such countries can check incipient inflation by varying the rate of income tax.

different channels; the temporary change in VAT alters the relative price of consumption in different periods but it also changes the general price level which in turn affects the households' real disposable income.[30, 31] A major potential problem with varying the rate of VAT is that when the households become aware of a future VAT increase, they might step up consumption just before the increase is implemented. Similarly, they can postpone consumption just before an increase is cancelled.[32] These problems can be minimised by making the tax change effective as soon as possible after it has been decided. If an independent authority were to be entitled to alter the VAT rate in the context of stabilisation policy, the change could in principle come into force on the same day as the decision is made.

A reduction of payroll taxes improves the competitiveness of export firms in much the same way as a depreciation or devaluation of the national currency.

A change in the rate of payroll taxes affects the firm's total wage costs provided it does not lead to an immediate and equivalent change in gross wages. Empirical research shows that nominal wages are comparatively rigid one to two years ahead, so a change in payroll taxes is capable of affecting wage costs and thereby employment and output in the short run. To some extent, at given nominal wages, the change would also affect aggregated demand; reducing payroll taxes tends to shift demand from imported goods to domestic products. Thus, a reduction of payroll taxes could be used to sustain employment in downward phases, just as increasing payroll taxes can serve to cool off employment when the economy is overheated. Moreover, a payroll tax adjustment can, to some extent, have the same function as a change in the nominal exchange rate. A payroll tax reduction improves the competitiveness of export firms in much the same way as a depreciation or devaluation of the national currency. Thus, with Sweden in Stage Three of EMU, varying payroll taxes could replace exchange rate movements, at least to some extent.

Frequent changes in payroll taxes are likely to encounter some opposition among Sweden's main competitor countries.

A reduction of payroll taxes can be financed by increasing other taxes or cutting public expenditures so that the government budget balance is unaffected. Such an arrangement, commonly referred to as an internal devaluation, may be preferable if the public finances are strained. However, internal devaluation is not without problems. Frequent changes in payroll taxes are likely to encounter some opposition among Sweden's main competitor countries, above all in the EU area. Another problem is

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30 In a formal model where rational households are assumed to maximise utility over time, it can be shown, given certain conditions, that a consumption tax adjustment and an interest rate adjustment affect the relative price of consumption in different periods in a similar way. However, changes in consumption tax do not directly affect corporate investment decisions or asset prices.

31 The effect on the consumer price index depends on how much of the tax change is shifted onto consumer prices. The shift in the short and long run is determined both by the elasticities of supply and demand and by potential price rigidities.

32 Variations in the rate of VAT are, however, also associated with other problems, such as increased border trade and additional administrative costs for re-marking prices.

the difficulty in arriving at the optimal combination of payroll tax reductions and the compensatory changes in other taxes and expenditures. The "Committee for Stabilisation Policy …" pointed out that another central problem is the difficulty of achieving simultaneous political decisions to adjust payroll taxes and make compensatory changes of other taxes or expenditures. A delegation of stabilisation policy decisions to an independent authority would, however, eliminate this problem.[33]

ECONOMIC ACTIVITY PARAMETER

An independent authority could adjust an economic activity parameter that temporarily affects the total tax levy.

It is difficult to find any clear economic arguments against the delegation to an independent authority of decisions to alter particular taxes temporarily in the context of stabilisation policy. Legislation on and decisions about tax changes are, however, traditionally a matter for the Riksdag, so a proposal to delegate the right to decide certain tax changes to an independent authority would probably encounter strong political resistance. An alternative would be to give the independent authority the right to adjust an economic activity parameter (measuring the state of the market in Sweden relative to the euro area) that instead temporarily affect the tax levy; the economic consequences would naturally be the same as if the tax rates had been changed.[34] Such a model is also more attractive pedagogically in that it makes the stabilisation policy decision clearer. Provided the activity parameter is raised and lowered symmetrically over a business cycle, the model would guarantee that the independent authority neither influences distribution and structural policy in the long term nor determines the long-term level of taxes and expenditures.[35] In such a regime, those functions would thus continue to belong to the Riksdag. Moreover, if the activity parameter affect all taxes, then stabilisation policy would not have a sizeable effect on the uniformity of the tax system, meaning that the problem of tax arbitrage would be minimised.[36]

A TAX POLICY INSTRUMENT WITH EFFECTS THAT RESEMBLE AN INTEREST RATE ADJUSTMENT

An interesting question is whether there are fiscal instruments that have similar effects as the Riksbank's current instrumental interest rate as regards their impact and their distributional and allocational effects. It has

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33 This would, however, require that more than one instrument is delegated to the independent authority.
34 Such an arrangement has been proposed by Gruen (1997, 2001).
35 The activity parameter could in principle also be used to influence the size of the non-taxable transfers to households and firms.
36 We return to this problem later in this article.

Are there fiscal instruments with similar effects as an interest rate adjustment?

been politically feasible to delegate interest rate decisions to an independent authority since the interest rate is believed to be a general instrument in the sense that it influences major sectors in the economy. For the same reasons, there ought to be a case for some form of delegation of a fiscal instrument with similar effects. If such a fiscal instrument can be found and an institutional framework similar to that for monetary policy can be constructed, then much of the criticism that has been directed in the academic literature against stabilisation policy in a fiscal policy regime would be less valid. Moreover, a fiscal instrument that, with a given nominal interest rate in the euro area, can *directly* affect the real interest rate in a single euro country should be of interest in situations where the single monetary policy has led to a real interest rate that is suboptimal for that country.[37, 38]

The transmission mechanism

Before considering whether there is a fiscal instrument that has similar effects as an interest rate adjustment, we need to briefly discuss the nature of the transmission mechanism for monetary policy. Transmission mechanism is a generic term for the channels through which monetary policy affects the economy. The simplest macro models assume that the central bank controls the money supply directly. With reference to the quantity theory of money, it is generally considered that in the long run inflation is determined by the growth of the money supply relative to output at a given velocity of circulation. This implies that, assuming a constant velocity of circulation, the central bank can steer inflation in the long run by managing the money supply.[39]

In general, interest rate adjustments by the central bank primarily affect the interest rate for securities with short maturities.

In practice, however, the Riksbank, the ECB and many other central banks use an interest rate rather than a money supply instrument. The central bank is obliged to supply the amount of money demanded by the banks at the given interest rate. In other words, the money supply is determined by demand at the given interest rate.[40] In general, interest rate adjustments by the central bank primarily affect the market's rate of interest for securities with short maturities. The central bank's actions can

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37 All the instruments discussed in the previous section can also affect the real interest rate, albeit *indirectly* via the potential effect on inflation.

38 We should underscore that even if a fiscal instrument that has similar effects as the interest rate can be found, it may not necessarily be the optimal instrument for stabilisation policy. This holds whether or not such an instrument is delegated. Different fiscal instruments may be appropriate for different types of shocks.

39 It should be noted that there is considerable uncertainty about the nature of the transmission mechanism in practice. The quantity theory of money has been questioned by some researchers. An interesting issue is whether the money supply affects the economy in other ways than via the effect on the level of interest rates; opinions about this differ in the literature on monetary theory. See Nelson (2002).

40 See also Mitlid & Vesterlund (2001).

also influence the market's long-term interest rates via their potential effects on long-term inflation expectations.[41] The impact on market interest rates has effects in turn on the demand for money and credit.

The most common models for monetary policy analysis presuppose rigid prices and monopolistic competition. The argument behind the price rigidity assumption is that the cost of adjusting prices deters firms from changing their prices to match fluctuations in demand.[42] Price rigidity enables the central bank to influence the real interest rate by altering the nominal interest rate. The real interest rate movements have effects in turn on, for example, investment and consumer demand. The theory holds that a higher real interest rate weakens demand for corporate investment.[43] Changes in the interest rate alter the relative price of consumption over time; a higher rate is assumed to encourage saving and decrease consumption, both by increasing the return on savings and by making it more costly to finance consumption with loans. It follows that, at least in the short run, monetary policy can affect real economic activity *directly* by altering the real interest rate. Real economic effects also arise in that monetary policy influences long-term inflation expectations. A credible inflation target leads, for instance, to lower wage demands.

In the short and medium term, inflation is affected by other factors than monetary policy, for example resource utilisation, wage formation and the direction of fiscal policy.[44] These factors are central indicators behind the Riksbank's Inflation Report and monetary policy decisions.

In the short and medium term, inflation is affected by other factors than monetary policy, for example resource utilisation, wage formation and the direction of fiscal policy.

Cyclically dependent taxation of net interest earnings

The models used in monetary theory usually disregard the fact that most countries, including Sweden, tax nominal capital incomes.[45] According to Feldstein (1980), the lack of an analysis of the interaction of the tax system with inflation and its significance for monetary policy led to unduly high inflation in the 1970s. Despite this insight, monetary policy research

[41] The extent to which changes in the repo rate also affect the long-term interest rates is mirrored in the yield curve, which shows the interest rates that apply in the market for securities with different maturities. The slope of the yield curve is commonly interpreted as an expression of market expectations of future interest rates and future inflation.

[42] The assumption of monopolistic competition means that an individual firm is not able to take over the market on its own by adjusting its prices to demand in contrast to other firms. This is, of course, not the only reason for assuming imperfect competition.

[43] The traditional view in economic literature is that interest rate changes lead to increased/decreased corporate investment. However, as a firm's financing structure ought to be a long-term decision, it will not necessarily be modified to meet an interest rate adjustment. If that is the case, firms may – to an extent that varies with supply and demand conditions for the firm's products and to menu costs – pass through the increased financing costs (for new as well as existing investments) to consumer prices. So in such situations an interest rate adjustment can give rise to effects on supply.

[44] There are theories where fiscal policy is shown to effect inflation even in the long run, at least under certain special conditions; see Sargent & Wallace (1981), Woodford (1995) and Kocherlakota & Phelan (1999).

[45] The models for monetary theory usually disregard taxes; alternatively, all taxes are assumed to be of the lump sum variety (taxes that do not influence economic decisions) but in practice there are no such taxes.

has largely continued to ignore the tax system's importance for monetary policy. A recent article by Røisland (2002) shows that taxation of nominal capital income can have important consequences for how monetary policy should be constructed.

Taxation of nominal capital income also has important implications in the search for a fiscal policy instrument that has similar effects as the interest rate. In an economy where nominal capital incomes are taxed, it is the interest rate after tax (not before) that should be relevant for decisions by households and firms. From their point of view, there seems to be little difference between an interest rate adjustment and a change in the tax on net interest earnings (at a given interest rate) if they have the same net economic effects. The tax rate on capital incomes can always be changed so that the effect on the post-tax interest rate is the same as that of an interest rate adjustment.[46]

How can a cyclically dependent taxation of net interest earnings be constructed so that an individual euro country is able to affect its domestic after tax real interest rate?

In this section we show how a cyclically dependent taxation of the net interest earnings of households and firms might be constructed so that an individual euro country is able to affect its domestic real interest rate (after tax). The starting point for the analysis is that the value of an activity parameter (representing the state of the market in Sweden relative to the euro area as a whole) is varied so that, at a certain established nominal interest rate for the euro area, the effect on net interest earnings after tax will be the same as if the national level of the interest rate had been adjusted instead.

In the present regime a household's net interest earnings after tax can be written

$$(1) \qquad i^{cr}(S - L)(1 - \tau)$$

where i^{cr} is the nominal interest rate in the current regime, S is savings in interest bearing assets, L is the stock of debt and τ is the tax rate on capital income when net interest earnings are positive or, alternatively, the value of the tax deduction for interest expenditure when net interest earnings are negative. An individual whose savings in interest bearing assets exceed liabilities will have positive net interest earnings that are taxed at the general rate for capital income (30 per cent with the current tax rules); if liabilities exceed assets, net interest earnings will be negative, which (subject to certain limitations) gives a general tax reduction of 30 per cent of the negative figure. An interest rate increase is advantageous

[46] The distortionary effects of altering the tax rate for capital income should therefore resemble those of a change in the nominal interest rate. It should be noted that if taxes are used for stabilisation policy, the distortionary effects will vary over time. Distortionary effects actually play an essential role in practical stabilisation policy – the aim of this policy is to influence the behaviour of households and firms.

for households and firms with a net interest surplus and disadvantageous for those with a deficit, while the opposite applies if the interest rate falls.

If, in Stage Three of EMU, Sweden were to be exposed to shocks that are asymmetric relative to the euro area, the Riksbank would not be in a position to alter the interest rate. At a given European level of interest rates it would, however, be possible to affect the taxation of net interest earnings in Sweden by adjusting the activity parameter so that the effect on net interest earnings after tax is similar to that of a change in the national level of interest rates. The problem then lies in setting the activity parameter (KP) so that the following expression holds:

$$(2) \qquad i^{EMU}(S-L)(1-KP\tau) = i(S-L)(1-\tau)$$

where i^{EMU} is the established nominal market rate of interest in the euro area. This expression can be rewritten as

$$(3) \qquad KP = 1 + \left(\frac{i^{EMU} - i}{i^{EMU}}\right)\left(\frac{1-\tau}{\tau}\right).$$

This condition applies for the households. Corporate net interest earnings are declared in the profit and loss account and taxed at the rate for corporation tax. The corresponding expression for a cyclically dependent taxation of corporate net interest earnings is

$$(4) \qquad KP^B = 1 + \left(\frac{i^{EMU} - i}{i^{EMU}}\right)\left(\frac{1-\tau^B}{\tau^B}\right).$$

where τ^B is the rate of corporation tax.[47] If the corporate and capital income tax rates coincide, the activity parameter will be of the same magnitude for households and firms in all cyclical situations.[48]

Equations (3) and (4) provide preliminary guidance for setting the activity parameter for households and firms, respectively. An adjustment of the parameter calls for an assessment of the level of interest rates (the value of *i*) that would have been optimal for the economic situation in Sweden.

A simple example will help to clarify the implications of the "reaction functions" (3) and (4). Take the equation for households and assume that there are two households, whose net interest earnings are positive and

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47 A derivation of this expression is presented in an appendix to this article. Under the current fiscal rules, a cyclically dependent taxation of corporate net interest earnings would need to take the form of so-called tax adjustments.

48 The corporate tax rate in Sweden is 28 per cent and thus somewhat lower than the rate of 30 per cent for the general tax on capital income. In practice, allocations to untaxed reserves and tax adjustments result in an *effective* corporate tax that is considerably lower than the nominal capital income tax rate.

negative, respectively (assets exceed liabilities and vice versa). Table 1 shows how interest rate adjustments in the present regime affect net interest earnings after tax for these households. The "equilibrium interest rate" is assumed to be 5 per cent.[49] An interest rate increase from 5 to 7 per cent is assumed when economic activity is high and a reduction from 5 to 3 per cent when activity is low.[50]

TABLE 1. EFFECTS ON POSITIVE AND NEGATIVE NET INTEREST EARNINGS OF DIFFERENT INTEREST RATES IN THE PRESENT REGIME

Net assets	100	–100
Interest rate	Net interest earnings after tax	
7 % (high activity)	4.90*	–4.90
5 % (normal activity)	**3.50**	**–3.50**
3 % (low activity)	2.10	–2.10

* Example: 100 x 0,07 x (1–0,3) = 4,90.

Table 2 show how the activity parameter would be set so that the effects on net interest earnings after tax (at a given interest rate for the euro area) are the same as those of an equivalent notional national interest rate adjustment.

TABLE 2. EFFECTS ON POSITIVE AND NEGATIVE NET INTEREST EARNINGS OF DIFFERENT VALUES OF THE ECONOMIC ACTIVITY PARAMETER (IN THE OUTLINED MODEL), GIVEN AN EMU INTEREST OF 5 PER CENT

Net assets		100	–100
Activity parameter	Effective tax rate	Net interest earnings after tax	
0.07* (high activity)	0.02	4.90	–4.90
1.00 (normal activity)	0.30	3.50	–3.50
1.93 (low activity)	0.58	2.10	–2.10

* Exempel: $KP = 1 + \left(\frac{i^{EMU} - i}{i^{EMU}}\right)\left(\frac{1-\tau}{\tau}\right) = 1 + \left(\frac{0{,}05 - 0{,}07}{0{,}05}\right)\left(\frac{1-0{,}3}{0{,}3}\right) = 0{,}07$

To achieve the same effect as an interest rate adjustment, the taxation of net interest earnings may need to vary relatively strongly.

The results show that, to achieve the same effect as an interest rate adjustment, the activity parameter and thus the taxation of net interest earnings may need to vary relatively strongly. In the present example the effective tax rate would need to range from 2 to 58 per cent. In the extreme case with high economic activity, the value of the tax deduction can even be negative for households whose net interest earnings are negative. This problem could be avoided by setting a lower limit so that the value of the activity parameter does not fall below 0.

When economic activity is normal the value of the activity parameter

[49] The equilibrium interest rate is the level that applies when actual GDP coincides with potential output and inflation is stable and low.

[50] Note that this is a highly simplified example and thus does not describe all the criteria for repo rate adjustments in the present regime.

would thus be 1. In periods of overheating the value would be less than 1. This means that the net taxation of households whose liabilities exceed their assets would be heavier when activity is high (because the value of the tax deduction then falls). For households with positive net interest earnings, on the other hand, the measure would be advantageous, just like an interest rate increase in the present regime. In downward phases, the value of the activity parameter would move up above 1, thereby easing the net taxation of households with more liabilities than assets (in that the value of the tax deduction then rises), while households with positive net interest earnings would be at a disadvantage, just as they are when interest rates fall in the present regime.

A reduction of the effective rate of the capital income tax affects the relative price of consumption over time in the same way as an interest rate adjustment.

At first sight it may seem remarkable that the effective tax rate for capital incomes is to be lowered when economic activity is high. A tightening of fiscal policy usually refers to an increase in total tax pressure that reduces household disposable income and thereby aggregated demand. However, a reduction of the effective tax rate on capital income affects the relative price of consumption over time in the same way as an interest rate adjustment. The lower effective tax rate and the decreased possibility to deduct interest expenditures both lead to increased saving and decreased consumption in that they increase the return on saving as well as the cost of consumption financed with loans. A change in the effective rate of corporation tax affects corporate costs for financing investments in much the same way as an interest rate adjustment. Lowering the effective corporate tax rate (which only applies to net interest earnings) reduces the tax value of corporate deductions for interest expenditure. This is accompanied by an increased return on investments in interest bearing assets. Lower demand for investment and consumption (and higher saving) reduces total demand in the economy. The effect on aggregated demand comes from the changes in the relative price of consumption in different periods.

Can a variable taxation of net interest earnings influence inflation expectations, money demand and credit in the short and medium term?

Our argument so far has been that, in an economy where the existence of money is disregarded, a variable taxation of net interest earnings should affect the consumption and investment decisions of households and firms in much the same way as a change in the nominal interest rate. The next question is to what extent this instrument can also influence money demand, credit and inflation expectations in the short and medium term.

We have assumed that the money supply is driven by demand. Presumably it is not the nominal interest rate but this rate after tax that influences the demand for money. In that case, it should be possible to affect the alternative cost of holding money by adjusting either the effective tax rate or the nominal interest rate.

The significance of credit facilities for the transmission mechanism is still an open question in the literature on monetary theory. One of the issues here is the extent to which bank lending is determined by supply or demand. In the Riksbank's latest Financial Stability Report[51] it is noted that under normal conditions supply factors do not seem to influence the provision of credit, which is mainly determined by demand. The activity parameter alters the post-tax cost of credit and should therefore influence demand for credit in much the same way as an interest rate adjustment.

In the absence of a national monetary policy, a change in the taxation of net interest earnings is likely to influence domestic supply and demand conditions in a similar way to a change in the level of interest rates and should therefore also affect the short-term inflation expectations in a similar way as an interest rate adjustment. However, this conclusion presupposes that the stabilisation policy is credible.

An advantage for stabilisation policy compared with an interest rate adjustment is that post-tax net interest earnings would be affected for loans and savings with fixed as well as flexible interest rates.

An advantage of this instrument for stabilisation policy – compared with the present interest rate adjustments – is that post-tax net interest earnings would be affected for loans and savings with fixed as well as flexible interest rates. Repo rate adjustments in the present regime only affect savings and loans with flexible interest rates, and the interest on new loans and savings with fixed rates to the extent that changes in the short-term interest rate have an impact on long-term interest rates. The stabilising effect of the changed activity parameter would therefore probably be greater than that of the present interest rate adjustments. In other words, the activity parameter (and thereby the effective tax rate) could be adjusted much less than indicated in Table 2 and still generate the same total stabilising effect as the interest rate adjustments in Table 1.[52]

A problem with cyclically dependent taxation of net interest earnings is that the effect does not necessarily occur at the time when the tax is altered.

A potential problem with cyclically dependent taxation of net interest earnings is that the households might not adjust their tax adjustments for interest expenditure, when the activity parameter is changed. For these households, the cash effect of the altered activity parameter will occur, not during the current income year but in the following year (in connection with the tax assessment).[53, 54] This potential problem could be solved if, for example, the provider of credit charged the borrower only the costs of the loan after tax deductions and the lender is regularly refunded for the remainder by the tax authorities (in much the same way that banks

[51] *Sveriges Riksbank Financial Stability Report*, 2002:2 (November).

[52] In can be deemed inappropriate that variations in the activity parameter hit borrowers with fixed-interest loans. This could perhaps be handled by forcing the credit institutions to provide information of whether savings and loans have fixed or flexible interest rates. However, such a solution would probably not be particularly practical.

[53] Although the cash effect is lagged one year, the whole or a part of the economic effect can still occur during the current income year in that households are presumably aware of the tax liability that will fall due when tax is assessed in the following year.

[54] There is a similar problem for firms.

already deliver preliminary tax on interest income on a monthly basis).[55] Such an arrangement would also make it possible to alter the activity parameter more frequently. Neither would tax adjustments have to be made for interest expenditure.[56]

A point to note is that the model outlined here is associated with a number of potential tax arbitrage problems.

A point to note is that the model outlined here is associated with a number of potential tax arbitrage problems. If the taxation of net interest earnings varies cyclically, there will be periods when the norm of uniformity in the tax system from 1991 is partly negated in that the model creates incentives to switch between different categories of asset when economic activity is high and low, respectively.[57] The tighter taxation of interest bearing assets in a downward phase gives the households incentives to transfer capital from such assets to equity, for example. A non-uniform taxation of interest income and other capital income may also give rise to more extreme tax planning in the form of so-called "money machines", which make it profitable for tax planners to borrow large sums and make forward contracts with the lender.[58] The first type of arbitrage problem exists already in the present regime but is caused by variations in the level of interest rates, whereas in the model outlined here the opportunity for arbitrage lies in taxation. The problem of money machines in a regime with variable taxation of net interest income would probably be smaller than in a tax system that is permanently non-uniform, particularly as the players who are in a position to make such forward contracts would not know when the activity parameter will be changed.[59, 60]

In a globalised world where financial capital is readily transferred across borders, the model outlined here may also seem unpractical. The

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55 Such a solution ought to be technically feasible in that each individual and firm in Sweden has an interest-bearing tax account.

56 Such a construction might perhaps be of interest in the existing tax system, irrespective of whether or not cyclically dependent taxation is introduced. The practical and legal aspects would, of course, have to be examined more closely.

57 The norm of uniformity requires, for example, that all types of capital income are to be taxed at the same rate and this rate shall be the same as the value of deductions for interest expenditure.

58 If the value of interest expenditure deductions exceeds that of, for example, the capital gains tax on equity, it will pay a tax planner to make a forward contract with a bank whereby the former obtains a loan and uses it to buy equity; the equity is deposited in the bank, which for a fee undertakes to buy it back for the equivalent of the initial purchase price plus the interest the tax planner has paid on the loan. In this way the tax planner and the bank can make a handsome profit, while the cost of the tax planner's interest deductions is carried by the state. An illustrative example of such a forward contract in practice is to be found, in Swedish, in the report "Our Taxes" (SOU 2002:47, pp. 219–220).

59 To avoid situations where owners of closely held companies transform earned income into capital income, the Swedish tax system has so-called 3:12 rules, whereby a standard proportion of the earnings is taxed as capital income and any remainder as earned income. Cyclically dependent taxation of net interest earnings would affect only the amount of earnings that is taxed as either capital income or earned income. So as long as the 3:12 rules are retained in their present form, it seems that cyclically dependent taxation of net interest earnings would not increase the incentive to transform earned income into capital income or vice versa.

60 Note that these kinds of arbitrage problem could be eliminated entirely if the activity parameter were constructed to apply to the taxation of all capital income, not just net interest earnings. In certain cyclical phases, however, this would create incentives to transform earned income into capital income and vice versa. This would also be the case, to some extent, with a cyclically dependent variable taxation of earned income. In both cases the 3:12 rules would probably have to be revised.

In a globalised world where financial capital is readily transferred across borders, the model outlined here may seem unpractical.

tighter taxation of interest bearing assets when activity is weak is an incentive to move capital to countries where the tax is lower.[61] However, these incentives already exist in the present system, albeit with an exchange risk; when the Riksbank lowers the repo rate in a downward phase, holders of interest bearing assets have an incentive to move capital to countries where the return is higher.[62]

The potential problem of capital flight should not be exaggerated.

However, the potential problem of capital flight should not be exaggerated. Capital investors must constantly make judgements about future changes in the activity parameter and the more frequently this parameter is adjusted, the harder it will be to use cross-border capital transfers to profit from arbitrage.[63]

The potential tax planning problems have to be weighed against the advantages for stabilisation policy.

While a variable taxation of capital income can lead to some increase in tax planning, the incentive here should be weaker than in a tax system that is permanently non-uniform. Tax rules that permanently provide opportunities for tax arbitrage should, of course, be avoided. In the model outlined here, there would be no such opportunities in normal cyclical situations. Moreover, the potential tax planning problems have to be weighed against the advantages for stabilisation policy. In any event, there should be some scope for varying the taxation of capital income in the context of stabilisation policy.

In any event, there should be some scope for varying the taxation of net interest earnings in the context of stabilisation policy.

It should be emphasised that we do not claim that a cyclically variable taxation of net interest income can replace monetary policy as an instrument of stabilisation policy if Sweden chooses not to move to Stage Three of EMU. Such an instrument could possibly be used in certain situations as a complement to monetary policy, not least in that monetary policy acts primarily on the short-term interest rates while a variable taxation of net interest income affects both the short- and the long-term interest rates.

When should an individual euro country use national fiscal policy measures?

Earlier in this article, we argued that in certain situations there is a need for adjusting the real exchange rate. In a fixed exchange rate system, there are situations which motivate that inflation in Sweden deviates from the euro area average. In this final section we use an analysis by Blanchard (2000) and Calmfors *et al.* (2003) to identify shocks that ought

[61] Note, however, that tax evasion of this type is illegal.
[62] This is known in the economic literature as interest rate arbitrage.
[63] This potential problem would probably be considerably smaller if the EU Saving Directive for Interest-Bearing Assets is adopted.

to be countered with stabilisation policy and those that call for an adjustment of the real exchange rate.

MEASURES FOR DIFFERENT TYPES OF SHOCK

How ought shocks of various kinds to be countered with Sweden in Stage Three of EMU?

The question of whether (country-specific) shocks of various kinds ought to call for national stabilisation policy measures in a single euro country is not easy to analyse in simple terms. An initial starting-point for how shocks should be managed if Sweden moves to Stage Three of EMU is provided by an analysis in Blanchard (2000), the main features of which are as follows:[64]

Assume the economy is in equilibrium initially, with both internal and external balance. Internal balance means that actual GDP is in line with potential output[65] and external balance refers to foreign trade, that is, that import and export demand are equal. Demand for imports is assumed to depend on GDP and the real exchange rate, export demand only on the latter.[66]

Now assume that domestic demand grows for some reason, all else equal, so that the economy moves into a situation with overheating where actual GDP exceeds potential output; this leads to a trade *deficit* (an increase in GDP at a given real exchange rate leads to increased imports). One option for those responsible for stabilisation policy would be to do nothing at all; inflation would then rise, which would lead to an appreciation of the real exchange rate. Export demand would then weaken and the actual production will fall to its potential level, albeit at the price of an even larger trade deficit. Thus, letting the real exchange rate appreciate cannot be the optimal strategy in this case. A preferable alternative would be to restrict domestic demand with fiscal measures as this can lead to both internal and external balance without any real exchange rate adjustment.

Now assume instead that the economy is hit by greatly increased export demand, all else equal.[67] With an unchanged real exchange rate this leads to a situation with a trade *surplus*. A tightening of fiscal policy would lead to internal balance, as in the previous case, but not to external balance because neither the real exchange rate nor export demand would be affected. If the objective is both internal and external balance, the

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64 Readers looking for a more formal presentation are referred to Blanchard (2000).

65 Potential output is the gross national product that results from using labour and capital at the normal intensity.

66 Imports grow when GDP rises and the real exchange rate appreciates; an appreciation of the real exchange rate leads to decreased export demand.

67 This would follow from, for instance, the assumption that preferences abroad for Swedish goods have risen.

optimal strategy in this case is to let the real exchange rate appreciate instead because that subdues export demand. The only way to appreciate the real exchange rate is to let inflation exceed its level in the euro area for a time.

A domestic demand shock ought to be countered with fiscal measures, while a shock to export demand ought to be managed by letting inflation in Sweden deviate from its level in the rest of the world.

The model in Blanchard's paper does not consider all the relevant problems but, given its conditions, it does point to two intuitive results, namely that a domestic demand shock ought to be countered with fiscal measures, while a shock to export demand ought to be managed by letting inflation in Sweden deviate from its level in the rest of the world, with the result that the real exchange rate changes.

A less self-evident result of Blanchard's analysis is that in certain cases a positive productivity shock both can and ought to be allowed to lead to higher inflation in Sweden compared with the rest of the world. In a model that does not differentiate between goods that are exposed to international competition and those that are not, the usual conclusion is that a positive productivity shock should tend to subdue inflation, at least in the short run. This, however, is not a self-evident conclusion in a model where the effect of the productivity shock is assumed to occur primarily in the exposed sector. Assume that productivity growth in the exposed sector (export production) is higher than in the rest of the economy (this seems reasonable for most countries) and that productivity growth in this sector is also higher (for a period) than in the rest of the world. At given world market prices, the exposed sector's productivity growth will generate higher real wages (via the higher marginal productivity) and an increase in the relative price of sheltered goods. This phenomenon, known as the Balassa-Samuelsson effect, is perhaps more relevant, as Blanchard points out, for "catching-up" economies, for example Ireland.[68] In such economies a higher relative price for sheltered goods will lead to higher inflation that should be allowed to generate an appreciation of the real exchange rate.[69] In other words, if higher inflation in a euro country compared with the rest of the world can be identified as a Balassa-Samuelson effect, no active fiscal countermeasures should be taken.

If higher inflation in a euro country compared with the rest of the world can be identified as a Balassa-Samuelson effect, no active fiscal countermeasures should be taken.

Blanchard applies the above analysis in a study of why inflation in Ireland in recent years has been considerably above the euro area average. On the demand side the expansion is attributed in equal parts to domestic and export demand. From the conclusions in Blanchard's analysis it follows that the optimal policy mix should be one part fiscal contraction and one part inflation (a real appreciation). A certain amount of the

[68] The Balassa-Samuelsson effect should be particularly relevant for the EU applicant countries; see Baldwin *et al*. (2001). The Balassa-Samuelsson effect is also often used to explain why developing countries generally have lower price levels than developed countries.

[69] For a more formal account of the Balassa-Samuelson effect, see Obstfeld & Rogoff (1996).

inflation's deviation from the euro area can be explained as a Balassa-Samuelson effect.

NOMINAL WAGE RIGIDITY, TEMPORARY VERSUS PERMANENT SHOCKS, AND BOOM-AND-BUST CYCLES

Blanchard's analysis disregards the degree of nominal wage rigidity and its conceivable consequences for the need of stabilisation policy measures in the event of temporary or permanents shocks to export demand. Neither does the model consider fluctuations in asset prices.

Calmfors *et al.* (2003) write that in the case of *permanent* structural changes (for example a lasting increase in relative export demand or an increase in a euro country's relative productivity), the development of relative prices ought to be left to "do the job". In other words, such situations should be handled via an adjustment of the real exchange rate. Applying measures of stabilisation policy to permanent structural changes is simply liable to delay a necessary adjustment to permanently altered conditions.

Calmfors *et al.* argue, however, that this strategy is not appropriate if the shock is temporary and wages show downward rigidity. The reason is that increased inflation in connection with temporary overheating tends to lead to permanent wage increases that result in turn in an appreciation of the real exchange rate. Applying a discretionary fiscal policy in a subsequent slowdown then becomes more complicated in that the higher real exchange rate calls for larger fiscal measures and budget deficits than would otherwise have been required. It follows that even a large temporary increase in export demand may call for fiscal contractions if wage increases to compensate for inflation when activity is high are tending to become permanent.

Even a large temporary increase in export demand may call for fiscal restrictions if wage increases to compensate for inflation when activity is high are tending to become permanent.

Calmfors *et al.* also write that the risk of boom-bust cycles can motivate fiscal countermeasures to temporary shocks in foreign trade and productivity growth. Variations in asset prices tend to accentuate cyclical upswings and slowdowns. Calmfors *et al.* refer to a study by Bordo & Jeanne (2002), who show that boom-bust cycles tend to characterise real estate prices rather than equity prices and also tend to occur more frequently in small countries.[70] As shocks in real estate prices are likely to be more country-specific than shocks in equity prices, Calmfors and colleagues consider that the risk of boom-bust cycles should be a central feature of a discussion about the formation of a national stabilisation policy in small euro countries. In that context, a variable taxation of net interest earnings

The risk of boom-bust cycles can also motivate fiscal countermeasures to temporary shocks in foreign trade and productivity growth.

[70] This result is explained in Bordo & Jeanne (2002).

appears to be a conceivable stabilisation policy instrument in that its effect on real estate prices is presumably relatively strong.

Summary and concluding comments

In this article we have discussed the conditions for conducting stabilisation policy with fiscal instruments in the event of Sweden moving to Stage Three of EMU and thereby relinquishing an independent monetary policy. The following issues have been considered: (*i*) What should be the objective of the national stabilisation policy? (*ii*) What are the advantages of delegating the stabilisation policy decisions to a politically independent authority? (*iii*) Are some fiscal policy instruments more suitable for delegation than others? (*iv*) Are there fiscal instruments that have similar effects as the present interest rate adjustments in their effectiveness and their impact on distribution and allocation? (*v*) When should fiscal measures be taken in a single euro country?

The need for national stabilisation policy measures should be appraised by analysing a variety of indicators.

As regards the choice of objectives for a national stabilisation policy, what matters most in our opinion is that the analyses and forecasts behind the policy decisions are presented openly and stringently. An analysis of whether Sweden is moving towards a cyclical position that deviates markedly from the euro area as a whole and, if so, whether this ought to occasion national stabilisation policy measures should presumably be based on a variety of indicators.

To be effective, stabilisation policy must be credible.

To be effective, stabilisation policy must be credible. Experience shows that the nature of the political decision-making process can lead to a weakening of stabilisation policy's credibility. This was a decisive argument behind the decision to amend the Riksbank Act as of 1999 and delegate monetary policy to an independent authority. With Sweden in Stage Three of EMU, the problem of credibility becomes again important in that fiscal policy will then be entirely responsible for the national stabilisation policy. It has been suggested in the economic literature that stabilisation policy could be delegated to a politically independent authority even if the policy instruments are of a fiscal nature. The arguments for delegating monetary policy to independent central banks are presumably also relevant when stabilisation policy is placed in a fiscal policy regime.

The institution of independent central banks has played a central role in bringing inflation down in many countries.

Even if the idea of delegating certain fiscal instruments to an independent authority may seem radical, the criticism should not be exaggerated. In its day, the proposal to introduce independent central banks aroused a similar scepticism. Today, independent central banks are a reality. Most observers consider that the advent of an independent central bank, along with rules and targets that have improved budget discipline, has played a central role in bringing inflation down in many countries.

It has been asserted in the debate that a decision to delegate certain fiscal instruments to an independent authority would be undemocratic. Provided such a delegation were approved by a Riksdag majority, the decision would by definition be democratic, in the same way as the decision to delegate monetary policy to the Riksbank.

If a Riksdag majority were to approve a delegation of stabilisation policy instruments to an independent authority, the decision would by definition be democratic.

Fiscal policy has a broad spectrum of potential instruments for stabilisation policy on both the revenue and the expenditure side of the government budget. The question of which fiscal policy instruments could be appropriate to delegate to an independent authority must necessarily be approached via a more general discussion of which instruments are generally suitable for stabilisation purposes. We argue that many of the decision-making problems associated with adjustments to income tax, value-added tax and payroll taxes – problems that have been the basis for much of the academic criticism of fiscal policy stabilisation – could be minimised if an independent authority makes the stabilisation policy decisions.

Fiscal policy has a broad spectrum of instruments for stabilisation policy on both the revenue and the expenditure side of the government budget.

There may be political reasons that make it inappropriate for an independent authority to change particular taxes, since this is and has always been a matter for the Riksdag. An alternative approach could be to allow the independent authority to temporary affect the tax levy by adjusting an economic activity parameter (an indicator of the state of the market in Sweden relative to the euro area as a whole). Such a model would guarantee that the independent authority cannot either influence distribution and structural policy in the long run or determine the long-term level of taxes and expenditures. In such a regime these matters would still be reserved for the government and the Riksdag.

An interesting question is whether there are fiscal instruments that have similar effects as the present interest rate changes. It has been politically feasible to delegate interest rate decisions to an independent authority since the interest rate is believed to be a general instrument in the sense that it influences major sectors in the economy. For the same reasons, there ought to be a case for some form of delegation of a fiscal instrument with similar effects. We show that a cyclically dependent variation of the taxation of net interest earnings should be capable of affecting the economy in much the same way as an interest rate adjustment. A fiscal instrument that, with a given nominal interest rate in the euro area, can *directly* affect the real interest rate in a single euro country should be of interest in situations where the common monetary policy has led to a real interest rate that is suboptimal for that country. The implementation of this instrument does pose some potential problems, for instance in that there are periods when it provides incentives for tax arbitrage. However, we also show that to some extent these problems already exist when the interest rate is adjusted in the present monetary policy regime. These

Fiscal instruments can be found that have similar effects as the present interest rate changes.

potential problems should be weighed against the advantages for stabilisation policy.

The need for fiscal measures in a single euro country depends on the type of shock.

The need for fiscal measures in a single euro country depends on the type of shock. Large domestic demand shocks should be countered with fiscal measures, whereas permanent shocks in foreign trade or in relative productivity growth ought not to occasion any countermeasures. Countering permanent structural changes with measures of stabilisation policy would simply be liable to delay a necessary adjustment to permanently altered conditions. But in the event of temporary shocks in foreign trade or productivity growth, stabilisation policy might be warranted if there is downward wage rigidity or asset prices are fluctuating markedly.

Finally, it should be emphasised that the purpose of this paper is not to present complete solutions to the problem of how the framework for stabilisation policy ought to be shaped with Sweden in Stage Three of EMU. Our aim instead has been to add to the analysis and the debate in certain respects and highlight conceivable solutions that have not received much attention. Different institutional arrangements for the decision-making processes, the objectives for stabilisation policy and various stabilisation policy instruments have different advantages and drawbacks. Solutions that are economically motivated may not always be politically acceptable. But that should not be a reason for refraining from analysing and discussing them. Solutions that are regarded as politically inconceivable today may turn out to be politically correct in the future.

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Appendix

The starting point is to vary the value of an economic activity parameter (an indicator of the state of the market in Sweden relative to the euro area) so that, *at a given European level of interest rates,* the effect on the taxation of corporate net interest earnings will be the same as if the national interest rate had been adjusted instead. The tax rules state that the calculation of taxable income is based on earnings before taxes (EBT). Net business income (NBI) is defined as receipts less costs and depreciations with an addition/deduction for allocations to untaxed reserves and various tax adjustments.

For simplicity, we disregard depreciations as well as additions/deductions for allocations to untaxed reserves and various tax adjustments. For the time being we also disregard all receipts and costs apart from interest income ($i^{cr}S$) and interest expenditure ($i^{cr}L$). Given these conditions, earnings before taxes corresponds to the firm's net interest earnings

$$EBT = i^{cr}\,(S - L). \tag{A.1}$$

Business income after corporate tax in the present regime is then

$$NBI = (1 - \tau^{B})\,EBT = i^{cr}\,(S - L)(1 - \tau^{B}). \tag{A.2}$$

where τ^{B} is the corporation tax rate. If savings in interest-bearing assets exceed liabilities, net interest earnings will show a surplus that is taxed at the general rate of corporation tax (28 per cent under the existing tax rules). If liabilities exceed assets, net interest earnings will show a loss that may be offset against future profits.[71] This possibility is not open to households.

With Sweden in Stage Three of EMU, the Riksbank will not be in a position to influence the national level of interest rates. But with a given European level of interest rates, the taxation of net interest earnings in Sweden could be affected by varying the activity parameter so that the effect on net interest earnings after tax is the same as that of a change in the level of interest rates. To illustrate this, let us start with the firm's earnings before taxes

$$EBT = i^{EMU}\,(S - L). \tag{A.3}$$

[71] However, the effective value of deducting this loss will be less than 28 per cent.

In accordance with the present taxation principles, the activity parameter would affect net interest earnings via the item tax adjustments (*TA*) in the tax return:

$$(A.4) \qquad TA = -i^{EMU}(S-L) + KPi^{EMU}(S-L)(1-\tau^{B}).$$

Business income after corporation tax would then be

$$(A.5) \qquad NBI = i^{EMU}(S-L) + TA = i^{EMU}(S-L)(1-KP\tau^{B}).$$

Thus, the problem is to set the activity parameter (*KP*) so that the following holds

$$(A.6) \qquad i^{EMU}(S-L)(1-KP\tau^{B}) = i(S-L)(1-\tau^{B}).$$

where i^{EMU} is the European level of interest rates. This expression can be rewritten as

$$(A.7) \qquad KP = 1 + \left(\frac{i^{EMU}-i}{i^{EMU}}\right)\left(\frac{1-\tau^{B}}{\tau^{B}}\right).$$