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Fiscal policy in a monetary policy perspective

Björn Lagerwall
The author works in the Riksbank's Monetary Policy Department[1]

Prior to the global financial crisis, the framework for stabilisation policy, in both Sweden and many other countries, gave monetary policy the lead role. Afterwards, this view has been partly reassessed – towards a greater focus on fiscal policy. Based on recent research and discussion, two main reasons for why this view has changed can be identified, both of which are discussed in this Economic Commentary. First, low global interest rates have reduced monetary policy's room for manoeuvre, while it may also have increased the scope for fiscal policy. Second, new empirical studies suggest that household consumption can be significantly affected by temporary fiscal policy measures. This economic commentary also discusses the interaction between fiscal and monetary policy. In conclusion, a number of outstanding issues are highlighted that may need to be analysed more closely in a monetary policy perspective.

In Sweden and many other countries, the framework for stabilisation policy prior to the global financial crisis was aimed at monetary policy playing the lead role and fiscal policy playing a more passive role. But in the wake of the global financial crisis, this view has at least partly been reassessed – towards greater focus on fiscal policy. What are in fact the arguments for this reassessment? We will look more closely at some of them in this Economic Commentary, based on recent research and discussion both internationally and in Sweden.

One argument has to do with **low global interest rates** having **reduced the scope of monetary policy** to, where necessary, provide further stimulus to the economy. But the low interest rates can also **increase the scope of fiscal policy** to stimulate the economy without jeopardising the sustainability of public finances. Another argument is that many empirical studies have shown that the **effects on household consumption of temporary fiscal policy stimuli** may be significantly **greater than previously thought**.

This Economic Commentary also discusses **the interaction between fiscal and monetary policy**. Theories that emphasise the relationship between the two policy areas have once again become topical in recent years. There are also some practical proposals for how the central bank could enlist the help of fiscal policy at "the lower bound", in other words a situation where the central bank might wish to cut the policy rate further but can't. In conclusion, a number of feasible outstanding issues are highlighted that may need to be analysed more closely in a monetary policy perspective.

Monetary policy has played the lead role in stabilisation policy for a long time ...

Prior to the global financial crisis, the framework for stabilisation policy in Sweden and many other countries implied that monetary policy would focus on stabilising inflation and actively contribute to stabilising economic activity within the framework of so-called flexible inflation targeting. The task of fiscal policy has mainly been to maintain long-term sustainability in public finances. [2] The contribution from fiscal policy when it comes to stabilising economic activity has therefore mostly been in the form of so-called automatic stabilisers, which, for example, cause tax revenue in a recession to automatically fall while expenditure for unemployment benefit rises, and the opposite occurs in an economic boom. There were several arguments for designing the stabilisation policy framework in this way.

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[2] In addition, fiscal policy has the tasks of maintaining socioeconomic efficiency and achieving an even distribution over generations. See, for instance, National Institute of Economic Research (2016) for a general description.

One argument was that, according to neo-classical theory, active fiscal policy measures could be expected to have minor effects. For example, household consumption should not be particularly affected by a temporary tax cut, as forward-looking households realise that their long-term "permanent" income will not change to any substantial effect. Furthermore, the theory of Ricardian equivalence states that the state must balance its budget in the long term, which means that tax cuts or expenditure increases must eventually be followed by fiscal policy tightening. Households realise this and increase their saving if fiscal policy is made more expansionary, which reduces the effect on demand. Another argument against using active fiscal policy to stabilise economic activity has been considered to be that its implementation is complicated and slow compared to the implementation of monetary policy.

In addition to these arguments against active fiscal policy, it was possible to claim that historical experience indicated that attempts to stabilise economic activity using fiscal policy could in itself be destabilising and systematically lead to excessively expansionary fiscal policy. The Swedish Fiscal Policy Council (2018) writes, for example, that stabilisation policy has historically been a source of macroeconomic instability in Sweden, which was a background to the current regime.[3]

The Swedish stabilisation policy framework follows the above-mentioned international trend, but also reflects to the highest degree our own experiences from the 1990s crisis. In many respects, we have changed from a "discretionary" to a "norm-based" framework.[4] The Riksbank's inflation target and greater independence reflect to a great extent the earlier problems of excessively high inflation. The fiscal policy framework is a consequence of the major public finance problems in connection with the 1990s crisis, but its roots go further back in history. Among other things, the framework contains requirements for public saving over the economic cycle, balanced budget requirements for municipalities and an expenditure ceiling. As from this year, the fiscal policy framework will be changed.[5] But fiscal policy continues to be characterised to a high degree by objectives for long-term sustainability and helps to stabilise economic activity mainly via automatic stabilisers.

… but fiscal policy has once again become topical

There are several reasons for the partial reassessment of the stabilisation policy framework after the global financial crisis – towards a greater focus on fiscal policy. We will now look more closely at two of the most highlighted arguments for this reassessment. The first argument has to do with the **low global interest rates**. This affects the scope of monetary and fiscal policy to stimulate the economy in a recession. The other argument concerns the **potential effects of fiscal policy stimulation measures** on demand in the economy, and in particular on **household consumption**.

What are the arguments for greater focus on fiscal policy?

Stabilisation policy when interest rates are low – reduced scope for monetary policy but increased scope for fiscal policy

It is well known that global real interest rates have been falling for a long time. This is due to several factors, including rising global saving.[6] These factors have also led to a fall in the so-

[3] The period referred to is the 1970s and 1980s. As Sweden had a fixed exchange rate during this period, stabilisation policy refers to fiscal policy, in addition to the frequent devaluations of the krona exchange rate up until 1982.
[4] See, for example, Ingves (2015) for a description.
[5] The framework includes requirements for public finance savings of 1/3 per cent of GDP (previously 1 per cent) and a new element in the form of a debt anchor for the so-called Maastricht debt of 35 per cent of GDP. See National Institute of Economic Research (2016).
[6] For a brief description, see for example Sveriges Riksbank (2016, p. 5).

called "neutral" interest rate. The neutral interest rate is the rate that neither stimulates nor tightens the economy. Put simply, it can be said that the policy rate must be set lower than the neutral interest rate in order to have an expansionary effect. Armelius et al. (2018) discuss how the neutral interest rate in Sweden has developed.

In the wake of the financial and debt crises, there has been a substantial need for monetary policy to stimulate the economy, i.e. to set the policy rate lower than the neutral interest rate. As inflationary pressures have remained so low even in the recovery phase in recent years, the need for an expansionary monetary policy has been very persistent. The combination of low neutral and actual policy rates has provided **monetary policy with less room for manoeuvre** when it comes to managing recessions.

There are two basic ways of solving this problem. **The first is to try to increase monetary policy's room for manoeuvre**. This can be done either by making more overarching changes to the inflation target framework, by for example increasing the level of the target or introducing price level targets, or by expanding the monetary policy tool-box, by for example considering even more negative policy rates or the purchase of a larger set of assets than has previously been the case. Jansson (2018) discusses the monetary policy options in more detail. **The other way of dealing with reduced room for manoeuvre in monetary policy is to use fiscal policy.**

The "interest rate-growth differential" and the need for future surpluses

Several studies in recent years have shown that the **low real interest rates may actually have increased monetary policy's room for manoeuvre.** We can understand this via a simple equation that describes the change in the public debt:

$$\Delta d_{t+1} = \frac{r_t - g_t}{1 + g_t} \times d_t - s_t$$

This equation states that the change in debt as a percentage of GDP, Δd_{t+1}, is determined by debt as a percentage of GDP in the previous period (d_t), the "interest rate-growth differential" ($\frac{r_t - g_t}{1+g_t}$) and the primary balance (s_t, i.e. the difference between public income and expenditure excluding net interest income) as a percentage of GDP. A consequence of the equation is that if the interest rate is higher than the growth rate in the economy, something that is often considered reasonable in economic theory, future primary surpluses are required in order to stabilise the debt ratio (debt as a percentage of GDP). But if the interest rate is lower than growth in the economy, the debt ratio may decrease without future primary surpluses. [7] Hassler (2017) describes this situation as a **free lunch**.[8]

Based on this reasoning, some analysts have drawn conclusions about the tightening of fiscal policy that occurred in many countries after the financial crisis. According to Stambaugh (2017), the recommendations from organisations such as the IMF and the OECD reflect a changed attitude to the need for tightening in relation to stimuli in fiscal policy. Ubide (2019)

[7] The above equation could also be applied in principle to the development of a household debt ratio, measured as debt in relation to disposable income. In the equation, the change in the debt ratio could be determined by the debt ratio in the previous period, the interest rate-growth differential and primary saving as a percentage of disposable income. The interest rate-growth differential would here refer to the difference between the lending rate after tax deductions and the growth in disposable income, and primary saving would refer to amortisations. If the lending rate after tax deductions is lower than growth in disposable income, the debt ratio may decrease without future amortisations. It should be noted that the National Accounts definition of disposable household income includes interest income and interest expenditure.

[8] It can be noted that within financial economics it has been known for a long time that the interest rate has empirically been "too low" in relation to growth in consumption. In theory, the real interest rate should be higher than growth in the economy as households want to even out their consumption over time and prefer to consume today rather than tomorrow. But historical data shows that the real short-term interest rate has often been lower than growth in consumption. This is usually called the *Risk-free rate puzzle* (see Weil, 1989). Sveriges Riksbank (2017) shows that growth in real GDP per capita in Sweden for the period 1960–2008 was 2.3 per cent, while the real three-month interest rate was 1.7 per cent. Data from Statistics Sweden shows that growth in real GDP was 2.8 per cent on average during the same period.

argues for a more expansionary fiscal policy in the euro area in light of the negative interest rate-growth differential. Blanchard (2019) and Furman and Summers (2019) discuss in more general terms how the costs for a higher public debt are affected by how growth relates to the interest rate.

For Sweden, the interest rate-growth differential is currently extremely negative. In 2017 and 2018, nominal GDP growth amounted to over 4 per cent, while the 10-year government bond yield amounted to only 0.7 per cent on average.[9] This signifies an interest rate-growth differential of just over –3 percentage points. Public debt ("Maastricht debt") as a percentage of GDP, the debt ratio, was about 40 per cent of GDP over these years. This means that the interest rate-growth differential made a negative contribution to the debt ratio of just over one percentage point per year.[10] The indications are that the interest rate-growth differential will be negative for a long period going forward. In its latest forecast, the National Institute of Economic Research (2019a) expects that the 10-year government bond yield will be around 2.2 per cent in 2023, when nominal GDP growth will be around 4 per cent, in other words an interest rate-growth differential of almost –2 percentage points.[11] But an assessment of the long-term sustainability of public finances naturally addresses more aspects. One such aspect is demographic development. The greying population in Sweden can, for example, affect the amount of tax revenue that can be generated from the working-age population to finance expenditure for health and social care services for the population not of working age.[12]

Effect of fiscal policy when the policy rate is at its lower bound

Another question much discussed in recent years is how **the effects of fiscal policy stimulation measures can be influenced by low interest rates**. This is intimately linked to how monetary policy reacts.

If the level of economic activity is normal to begin with, a more expansionary fiscal policy, in the form of, for example, increased public consumption, can be expected to increase GDP and inflation. If the central bank tries to stabilise inflation, it will need to raise the policy rate. This subdues private consumption and investment, which reduces the effects of fiscal policy stimulation measures.

But the pre-conditions change if the economy is in a "**liquidity trap**", where the central bank would like to cut the policy rate further, but is prevented from doing so because the **lower bound of the policy rate** has been reached. An expansionary fiscal policy would not then be counteracted by the central bank raising the policy rate, as it is already "too high". In this way, the effect of fiscal policy may be greater than in normal situations. Coenen et al. (2012), Erceg and Lindé (2014) and several other studies use so-called neo-Keynesian general equilibrium models, which are very common at central banks, to investigate this effect. The studies find support for a greater effect of fiscal policy on GDP when the economy is in a liquidity trap. Please note that it is **the reaction from the central bank**, in terms of the absence of rate increases, that creates the increased effect of fiscal policy on GDP and not that fiscal policy itself would be more effective when it comes to affecting demand in the

[9] In these calculations, I have simplified and added together GDP growth and CPIF inflation, while a more correct way is to add together GDP growth and inflation measured using the GDP deflator. But in this context, the differences are negligible. Furthermore, I have used a 10-year interest rate, and compared with growth over one year. But as the 10-year government bond yield is higher than for shorter maturity periods, this calculation is more "cautious".

[10] According to the formula above, the contribution to the change in the debt ratio is $(r_t - g_t)/(1 + g_t) \times d_t$. If we input the values for growth (g_t), the interest rate (r_t) and the debt ratio (d_t), we get (0.03/1.04)*0.4 ≈ 0.01.

[11] With a debt ratio that is then around 1/3, the dampening effect will still be more than 0.5 percentage points per year.

[12] A greying population tends to increase both the so-called demographic dependency ratio, which shows the relationship between the number of individuals outside the working-age population and the number of individuals of working age, and the so-called economic dependency ratio, which shows the number of individuals not in work in relation to the number of employed persons. But the extent to which the long-term sustainability of public finances is affected by the greying population depends to a high degree on the assumptions made. One significant assumption concerns whether the standard of public welfare services is to be maintained at its current level or continue to grow in line with historical patterns. See Swedish Fiscal Policy Council (2019), Chapter 3.7, for a discussion.

economy. At the same time, Erceg and Lindé (2014), for example, show that the effects of fiscal policy decline sharply as soon as the policy rate moves away from its lower bound.

The difference in fiscal policy effect therefore depends on the fact that a fiscal policy stimulus complements monetary policy when the monetary policy rate cannot be cut because it has reached its lower bound, while the two policy areas would work against each other if fiscal policy tried to stimulate an economy that was already in equilibrium.

It is important to point out that the interest rates on public debt can rise sharply, regardless of the actions of the central bank, if, for some reason, doubt spreads among investors over the credibility of the Government's ambitions of wanting to stabilise debt in the long term. Interest rate trends in several countries in the euro area after the financial crisis clearly illustrate that this is an important factor to consider.

Fiscal policy can have major effects on household consumption

Research into the effects of fiscal policy on demand has focused a great deal on how household consumption is affected. Mankiw (2000) describes a general theory for how fiscal policy works in an economy consisting of two groups of household, where one group is forward-looking, "permanent-income" households, and the other is "hand-to-mouth" households, whose consumption follows their current income. The theory is built on, among others, earlier studies by Campbell and Mankiw (1989, 1991) which try to explain the relatively strong correlation in data between income changes and household consumption. In recent years, similar thinking has also be integrated into analyses of fiscal policy effects in neo-Keynesian general equilibrium models. Such analyses have shown, for example, that the effects of fiscal policy stimuli on GDP increase the greater the number of "hand-to-mouth" households there are in the economy; see for instance Galí et al. (2007) and Coenen et al. (2012).[13] This is due to fiscal policy stimulation measures aimed at increasing disposable household income having a greater effect on total household consumption.

Many **new empirical studies of microdata** especially from the United States have also shown that temporary fiscal policy stimulation measures of different types have affected household consumption to a greater extent than is expected according to neoclassical theory. Blinder (2016) reviews several of the studies of US data. Two well-known examples are Johnson et al. (2006), who studies how household consumption reacted to a specific tax rebate in 2001, and Parker et al. (2013), who investigates the fiscal policy stimulus package in the United States during the financial crisis. Both these studies indicate that a) households consumed on average a significant amount of the extra income, and b) that there were differences between different groups of household. Japelli and Pistaferri (2014) use Italian survey data instead. They also find that different types of household react in different ways in their consumption. One of many feasible reasons for these results is the existence of credit constraints, which prevent a smoothing of consumption among certain households. But an interesting conclusion they draw is that even a simple redistribution of income among households can have significant effects on total consumption, as the marginal propensity to consume (MPC) differs among households. In this way, fiscal policy can increase total consumption at no cost to public finances.

There are major parallels between these empirical studies and studies that in recent years have demonstrated the so-called cashflow effect of monetary policy. When the interest rate rises, interest income increases for savers and interest expenditure increases for borrowers, and vice versa when the interest rate falls. If all households have the same MPC, such a redistribution of income should not have any aggregated effects on consumption. But if borrowers have a higher MPC than savers, effects on consumption may arise, something

[13] The National Institute of Economic Research's new macroeconomic model SELMA is another example of a neo-Keynesian model with these two groups of household; see National Institute of Economic Research (2019b) for a description

which several empirical studies have also provided support for.[14] Gustafsson et al. (2017) describe the cashflow effect in more detail. An important common insight from the studies of both fiscal policy effects and the monetary policy cashflow channel is that households react differently to changes in income. The empirical studies demonstrating that monetary policy has a cashflow channel can therefore also be seen as further support for the claim that fiscal policy measures that redistribute income in a similar way may have aggregated effects on consumption.

How substantial can the effects of fiscal policy stimulation measures be in Sweden?

There are a few new studies based on Swedish data of the effects of fiscal policy on GDP. National Institute of Economic Research (2017) describes the short-term effects of different fiscal policy measures. The findings are based on a study by Hjelm and Stockhammar (2016), who analyse time series of fiscal policy and macroeconomic variables in Sweden in the period 1980–2015. The analysis shows estimates of so-called **fiscal policy multipliers** (see fact box below). National Institute of Economic Research (2017) focuses on the period with a floating exchange rate from 1993. The measures that appear to have the greatest effect on GDP are public consumption and public investment, which show a multiplier significantly above 1, which means that GDP rises more than the increase in public consumption or public investment.[15] But the estimates are not normally statistically significant, which means that they are very uncertain.

Ankargren and Shahnazarian (2019) examine, among other things, the fiscal policy multiplier in Sweden based on data between 1997 and 2018. They also found that the fiscal policy multipliers are above 1, and that this is a robust finding in that the multipliers are stable over time. They use public financial saving as a fiscal policy indicator, which means that it is not possible to draw any conclusions regarding the types of measure that would have the greatest effect.

[14] An effect that also comes into play in Sweden is that households' interest-bearing assets are significantly less than their interest-bearing debts, which means that total disposable income among households decreases when the interest rate rises.
[15] The multiplier is measured as the change in the public finances variable compared with the change in GDP over 8 quarters.

Fiscal policy multipliers

Fiscal policy multipliers are a very common concept in the literature on the effects of fiscal policy on the macroeconomy. The concept of multiplier comes from the simple Keynesian model that describes the level of output in the economy, or GDP (Y), as completely demand-driven. Household consumption is assumed to depend on current disposable income, or income after tax: $Y - T$. If we, for the sake of simplicity, assume a closed economy without foreign trade, total income or GDP (Y) can be described as the sum of household consumption, investment and public consumption as follows:

$$Y = C(Y - T) + I + G$$

What happens if public consumption (G) increases? In a first step, GDP rises by the same amount. But the higher income increases household consumption, which in turn increases GDP, and so on. This results in a **multiplier effect**, which means that GDP changes more than public consumption. If the government cuts taxes, there is no immediate effect on GDP, only on disposable income ($Y - T$), which increases consumption, which increases GDP, and so on. Based on this theory, the multiplier effect can be expected to be greater for public consumption than for tax cuts. A simple way of demonstrating the multiplier effect is to assume a linear relation between disposable income and consumption:

$$C(Y - T) = a + b * (Y - T)$$

The coefficient *b* comprises households' MPC, which shows how consumption is effected by a change in disposable income. We can now make the replacement $b = MPC$ and solve for GDP (Y) as a function of demand in the economy:

$$Y = a + MPC * (Y - T) + I + G$$

$$\Rightarrow Y = \frac{1}{1 - MPC} * [a - MPC * T + I + G]$$

The coefficients $1/(1 - MPC)$ and $-MPC/(1 - MPC)$ show the multipliers for public consumption and taxes respectively. If households' MPC is for example 0.5, the multipliers will be 2 and -1 respectively. This means that a rise in public consumption of 1 billion increases GDP by 2 billion, while a tax cut of 1 billion increases GDP by 1 billion. Please note that an assumption in this theory is that there is spare capacity in the economy so that output can actually increase in line with the increase in demand.

Galí et al. (2007) provide an excellent description of how households' marginal propensity to consume and other assumptions about the functioning of the economy affect the size of the fiscal policy multipliers in more complicated models. There is a myriad of ways of empirically estimating multipliers, which can make comparisons between different studies difficult. For example, we may be interested in the immediate or maximum effect of fiscal policy on GDP, or the relation between the change in fiscal policy and GDP over a certain time horizon; see Hjelm and Stockhammar (2017, p.12). Ramey (2019) provides a review of the literature on fiscal policy multipliers over the last ten years.

As we saw earlier, empirical studies based on microdata abroad indicate that households' marginal propensity to consume differs among households, which means that fiscal policy need not be more expansionary at all in order to have a stimulating effect on the economy. The question is then how applicable these studies are to Swedish data. As mentioned earlier, the mechanisms are very similar to those for the monetary policy cashflow channel, as in both cases it is a question of a redistribution of disposable income among households affecting their total consumption. Therefore, studies that find support for a cashflow channel for monetary policy can indicate that a fiscal policy measure that redistributes disposable income can also affect household consumption. Flodén et al. (2017) find support for the monetary policy cashflow channel in Swedish microdata for the period 2000–2007 and point out significant differences in propensity to consume among households, which probably reflects the presence of credit limits.[16] This indicates that fiscal policy measures that redistribute disposable income in a similar way can have effects on household consumption in Sweden and therefore could stimulate demand at no cost to public finances.

[16] The reason why data from this period is used is that there is data available on household assets, which enables estimates to be made of consumption among individual households.

Higher degree of coordination between fiscal and monetary policy?

As we have seen, low real interest rates can reduce the scope for monetary policy to manage a recession while on the other hand make it easier for fiscal policy to "step in". And many studies indicate that temporary fiscal policy stimulation measures can also have significant effects on household consumption. A question that then arises is whether a higher degree of coordination between fiscal and monetary policy may be required in the future. For some time now, there have been different ideas on how **the combination** of fiscal and monetary policy can achieve the stabilisation policy objectives.

"Fiscal Theory of the Price Level" emphasises the role of fiscal policy in the development of inflation

The earlier discussion in this Economic Commentary has focused on how fiscal policy could help stabilise *economic activity*. "Fiscal Theory of the Price Level" (FTPL) focuses instead on the significance of fiscal policy for the *development of inflation*. FTPL is much debated, not least as it goes against the generally accepted view among both academics and central banks, which instead emphasise the role of monetary policy in inflation. It can also be perceived as rather complicated. A *very simplified description* is given below which is only intended to capture the main features in the intuition for the theory.

A basis for FTPL is that the national debt is issued in nominal terms, and its real value is therefore affected by price developments. And price developments are affected by how fiscal policy is conducted. In simple terms, the following equation describes how this works:

$$\frac{D_t}{P_t} = E_t \sum_{j=0}^{\infty} \frac{s_{t+j}^R}{(1+r_{t+j}^R)^j},$$

where D_t denotes the nominal national debt, P_t the price level, s_{t+j}^R the real primary surplus and r_{t+j}^R the real interest rate. The equation can be said to be the equilibrium condition in FTPL and says that *the real value of the national debt is equal to the expected present value of future real primary surpluses.* This can be seen as an asset price equation: The real value of a government bond consists of the expected present value of all future real primary surpluses, in approximately the same way as the value of an equity consists of the expected present value of future dividends. As the price level is linked to future *real* surpluses, this theory is sometimes called the *Real Theory of the Price Level* (see Leeper, 2015).

We can now see what happens if the central bank tries to conduct a more expansionary monetary policy so that the price level (P_t) rises. According to the equation above, a higher price level causes the real value of the national debt to fall. For the equation to hold true, fiscal policy must therefore be expected to be more expansionary in the future; the future primary surpluses (s_{t+j}) must be expected to be smaller. The expansionary monetary policy must therefore be "backed up" by more expansionary fiscal policy to enable the price level to rise, as emphasised by, for example, Leeper (2016).[17]

"Fiscal Theory of the Price Level" may have different interpretations

How FTPL is to be interpreted is not entirely clear. Hassler (2017) describes the theory as "reversing" the responsibility for fiscal and monetary policy respectively: Monetary policy is

[17] Here we did not consider *how* the central bank tries to achieve the higher price level. If the central bank lowers the nominal interest rate, the real interest rate also falls in the short term. The present value of the expected future primary surpluses therefore rises, according to the equation in the text. This means a higher real value of the national debt and a falling price level. To prevent this, and for the price level to eventually rise, fiscal policy must be expected to be more expansionary in the future (s_{t+j} must be expected to be smaller).

responsible for the long-term sustainable development of the national debt, while fiscal policy is responsible for controlling inflation. A less far-reaching interpretation is instead that the combination of fiscal and monetary policy has a bearing on the development of inflation, and not just monetary policy. A fiscal policy that is consistent with monetary policy is therefore required to achieve the objectives of monetary policy. Leeper (2016) describes the less far-reaching interpretation in terms of one regime, *active monetary policy – passive fiscal policy*, and the more far-reaching interpretation in terms of another regime, *active fiscal policy – passive monetary policy*.

Another interpretation of FTPL is that the issue of whether the national debt is issued in real or nominal terms plays a major role. If the national debt is issued in real terms, the government must conduct a so-called *Ricardian fiscal policy*, which means that a higher debt today must be countered by future surpluses, so that the debt stabilises in the long term.[18] But if the debt is issued in nominal terms, the government can choose a so-called *Non-Ricardian fiscal policy*, which basically means that the increased debt is not countered by future surpluses but the real debt is stabilised with the help of higher inflation.[19]

Fiscal Theory of the Price Level and "helicopter money" – similarities and differences

There are some similarities but also significant differences between FTPL and the theory of "helicopter money". The idea behind helicopter money can be described as follows. In normal cases, a more expansionary fiscal policy is funded by the state issuing new bonds to the general public so that the national debt increases. One alternative is for the government to enlist help; the expansionary fiscal policy is funded instead by the central bank increasing the volume of money. The effect on, for example, household consumption, can then be greater, as the need for future surpluses in the state finances to counter a higher national debt does not arise.[20]

A similarity between FTPL and the theory of helicopter money is that both stress the interaction between central bank and government in order to achieve stabilisation policy objectives. Another similarity between the theories is that the expansionary effect of fiscal policy comes from it not being subordinated to requirements for increased future surpluses; i.e. it is *non-Ricardian*. But while FTPL stresses the role of fiscal policy to achieve monetary policy objectives, the theory of helicopter money is based on fiscal policy enlisting the help of the central bank to achieve its objectives.

However, there are several strong objections to using helicopter money as a stabilisation policy tool. A key principle behind helicopter money is that it is cheaper to fund expansionary fiscal policy with central bank money than with an increased national debt. But just as in quantitative easing, when the central bank buys government bonds, the purchases are not funded by an increased volume of money but with an increased volume of interest-bearing reserves. If the yields on these reserves follow the yields on government bonds, it perhaps begs the question why the government would wish to enlist the help of the central bank instead of using conventional fiscal policy. Kocherlakota (2016) and Cecchetti and Schoenholtz (2016) discuss this argument. Perhaps the strongest objection to using helicopter money, however, is that many central banks are prohibited from funding the national debt via monetary financing, not least within the EU.

In the United States, an intensive debate has emerged regarding so-called Modern Monetary Theory (MMT). It is not so easy to understand what the theory actually involves, but it has some strong similarities to the idea of helicopter money, as one of its key elements

[18] Note that we are talking here about debt as such and not debt as a percentage of GDP, which can be stabilised by means of the growth rate being higher than the interest rate.
[19] The description here is extremely simplified. See Kocherlakota and Phelan (1999) and Christiano and Fitzgerald (2000) for a more technical discussion of FTPL in terms of *Ricardian* and *non-Ricardian* fiscal policy.
[20] See, for example, Bernanke (2016) and Cecchetti and Schoenholtz (2016) for descriptions of these effects.

is the possibility of using fiscal policy measures with the help of "central bank money" to affect demand in the economy. The idea is that in a country such as the United States with its own currency, the central bank can create unlimited amounts of money. A growing national debt need not therefore pose a significant problem. The theory has met with considerable criticism from several prominent economists in the United States; see for example Krugman (2019) and Rogoff (2019).[21] Some of the criticism of MMT concerns the fact that it is difficult to understand what the theory actually wants to say, but most of the criticism concerns the fact that the theory ignores the inflation effects of a "central bank funded" fiscal policy. Many historical episodes with hyperinflation were due to a desire to use the central bank to fund an excessively large national debt.

Leeper (2015) makes an interesting interpretation in terms of FTPL of developments in the United States and countries in the euro area, as regards the reaction of financial markets to rising national debt. The prerequisites for stabilising the real debt with the help of rising inflation are greater in the United States than in individual countries in the euro area. This could reduce the need for future expenditure cuts and ease concerns over a possible sovereign default. But as the European Central Bank de facto controls the volume of money in euro, national debt in individual euro countries is in practice issued in real terms.

How could greater coordination between fiscal and monetary policy be brought about in practice?

There seems to be a relatively widespread view that one way of solving the **limited room for manoeuvre of monetary policy in a future recession**, in addition to reforming the framework and toolbox for monetary policy, might be to **enlist the help of fiscal policy**. We have also seen that there are arguments stating that a more expansionary fiscal policy might be an effective way of stimulating demand, without necessarily leading to negative effects on public finances.

There are also proposals for how the actual **coordination mechanism** between the government and the central bank might then be designed. Jansson (2018) discusses a proposal that has been put forward for the United Kingdom by Yates (2017), and that involves the perspective of the central bank being the focal point. When the central bank considers that it would like to conduct a more expansionary monetary policy, but is unable to, it should send a request to the government for additional stimulation measures. The size of these stimuli shall more or less correspond to the absent monetary policy stimulus. The government can choose whether it follows the advice or not and shall present its choice in a public response, in other words a mechanism according to the principle of "comply or explain". Bernanke (2017) highlights a few conditions that he thinks should apply before the central bank shall be able to consider enlisting the help of fiscal policy. First, the monetary policy objectives shall not be achievable with the help of monetary policy, which means that fiscal policy shall only be a "last resort". Second, the central bank must be able to discontinue the fiscal policy measures if it considers them to be no longer necessary. The common factor in the proposals from Yates (2017) and Bernanke (2017) is that the central bank is to have the initiative in the coordination mechanism. A strong motive for this is to maintain monetary policy independence. But Yates (2017) points out that a mechanism according to the principle of "comply or explain" retains democratic control over the fiscal policy tools.

A theme in last year's report from the Swedish Fiscal Policy Council is the interaction between monetary policy and fiscal policy; see Chapters 3 and 4 in Swedish Fiscal Policy Council (2018). In a background report, Leeper (2018) describes the interaction between

[21] In a survey performed by the University of Chicago, leading academic economists at American universities responded to the question of whether "the possibility of creating money in the country's own currency meant that there was no need to worry about public deficits". None of them agreed with this statement; see Chicago Booth (2019).

fiscal policy and monetary policy in the Swedish context. The analysis is clearly inspired by FTPL. A conclusion is that the Riksbank's ambition to bring up inflation with the help of an expansionary monetary policy in recent years has been counteracted by a tight fiscal policy focused on achieving the surplus target. To achieve the Riksbank's objective to a higher degree, fiscal policy would have needed to be considerably more expansionary.

The **conclusions drawn by the Swedish Fiscal Policy Council** as regards interaction between fiscal and monetary policy in Sweden include the following. The Swedish stabilisation policy framework has basically served the country well. It is the Council's opinion, therefore, that the **current stabilisation policy framework should be retained and that an active fiscal policy is not appropriate** as a stabilisation policy tool **in normal circumstances**. Fiscal policy should normally help to stabilise economic activity via **automatic stabilisers**. But in a situation where **economic activity is weak and inflation is low**, in combination with **the policy rate being close to its lower bound, monetary policy may need support from fiscal policy**. This also imposes certain demands on fiscal policy stimulation measures, for example, when it comes to accuracy. The stimuli can be made more accurate by focusing on households with a high marginal propensity to consume. The stimuli should also be temporary. As we saw earlier, international empirical studies using microdata indicate that temporary stimulation measures can also have substantial effects on household consumption. [22]

Conclusions and outstanding questions in a central bank perspective

The discussion of the role of fiscal policy in stabilisation policy is very much ongoing, and this Economic Commentary has only raised a few aspects of it. A few preliminary conclusions nevertheless emerge based on the review:

- In a situation with low global interest rates monetary policy can become more limited in a recession. But if the interest rate is low in relation to growth, the scope for fiscal policy to stimulate the economy will increase at the same time, without the need for future surpluses. Fiscal policy stimulation measures can also become more effective if the central bank's policy rate is at the "lower bound", as the central bank does not have the same motives to counteract the expansionary effect of fiscal policy by raising the policy rate.
- Empirical studies show that temporary fiscal policy stimulation measures can have major positive effects on household consumption. Even a simple redistribution of income can affect their total consumption.
- When it comes to the interaction between fiscal and monetary policy, the FTPL opens up for different interpretations, but it puts the finger on the fact that the combination of fiscal and monetary policy is important for inflation.
- One practical proposal that has been raised is that the central bank should be able to receive assistance from fiscal policy in a future recession when monetary policy is limited. By giving the central bank the initiative in the process, it is possible to maintain the independence of monetary policy. If the government can comply or explain, then democratic control over the fiscal policy tools is safeguarded.

From a monetary policy perspective, there are also a fair number of **possible outstanding questions**, which could require more detailed analysis.

[22] The conclusions of the Swedish Fiscal Policy Council can be compared with the conclusions from the National Institute of Economic Research (2017) described above, which indicate that public investment and public consumption seem to have the greatest short-term effects on GDP in Sweden.

One question concerns the **motives for the economic policy stimulation**. It is often assumed in the discussions on the interaction between fiscal and monetary policy that a future economic slowdown is linked to falling inflation. This is not entirely obvious. If an economic slowdown largely takes the form of a negative supply shock, for example unexpectedly weak productivity growth, inflation may very well rise. A more expansionary fiscal policy justified by economic reasons could in this situation make it more difficult for monetary policy to dampen excessively high inflation. The opposite situation could also arise, where economic activity develops relatively well but inflation is much too low. Positive supply shocks, for example, unexpectedly strong productivity growth, or a stronger krona, which reflects a strong development in relation to the rest of the world, could give rise to this type of development. Then the question arises of whether fiscal policy could be made more expansionary with the justification of getting inflation to rise, in a situation where the Riksbank is not able to stimulate the economy as desired and when inflation is below the target. It can probably be regarded as less likely that fiscal policy would be governed by considerations regarding inflation, even if this was the case prior to the introduction of the inflation target.[23] Swedish Fiscal Policy Council (2018) discusses in more detail potential conflicting goals between fiscal and monetary policy in a situation where economic activity is weak.

A related issue is to what extent **stabilisation of economic activity in the traditional sense is included in the central bank's remit**. Neo-Keynesian theory indicates that the central bank should not try to dampen fluctuations in GDP around a trend, but instead stabilise deviations from efficient output, that is, the hypothetical output level that arises in the absence of price rigidity. A "boom" in the traditional sense, when GDP is higher than its trend level, can differ substantially from the GDP gap in the sense of the deviation in GDP from the efficient output level; see, for instance, Jonsson et al (2008). (2008). At the same time, more recent research has shown that the gains from stabilising the variation in output and employment around their trends can be greater than was previously thought.[24] Walentin and Westermark (2018) provide a general description of their own research and research done by others in this field. One interpretation of this research is that economic policy should tackle the task of stabilising output and unemployment around their long-term trends.

A further outstanding question concerns how the **complex decision-making processes** that sometimes surround fiscal policy measures can be managed. Blinder (2016) claims that the unease in relation to that question may be exaggerated, and mentions stimulation measures in the United States in the recession of 2001 and the financial crisis in 2008 as examples of rapid decisions on active fiscal policy measures. But he also proposes to make the automatic stabilisers more powerful. From an international perspective, they can already be said to be powerful in Sweden, for instance, on the basis of how our subsidy and taxation system is constructed. Moreover, a proposal to, say, make the tax system more progressive, that is ensure the tax rate rises in line with income to a greater extent, could collide with other political considerations with regard to incentives for higher education, for example. Ankargren and Shahnazarian (2019) also say that it can be difficult to reinforce the automatic stabilisers in advance in an appropriate way. This means that active fiscal policy measures will be required anyway.

Perhaps the most difficult question concerns how **the independence of the central bank** could be maintained with a higher degree of coordination between fiscal and monetary

[23] During that time (when Sweden had a fixed exchange rate) there was often an aim from the government to limit the excessively high inflation by means of overall economic policy. For instance, they wrote in the budget statement of 1991: "To safeguard employment and welfare, economic policy in the coming years must put all its energy into bringing down inflation in the long run. This task must take precedence over other aims and requirements."

[24] A well-known study by Lucas (1987) showed that welfare gains from entirely eliminating variations in consumption are very small in a neoclassical model.

policy. The literature on central banks discusses many types of independence, for instance, organisational, financial and instrumental independence; see for instance Georgsson, Vredin and Åsberg-Sommar (2015, p.16). The independence that would perhaps be most affected by increased coordination between the central bank and the government is instrumental independence, which reflects the central bank's scope to determine how its tools shall be used to attain the set targets. One suggestion that was described earlier is that the central bank, if its capacity to attain its target is limited, can take the initiative to start or stop a fiscal policy stimulation measure. By giving the government the right to comply or explain, democratic control over the fiscal policy tools would also be retained. To facilitate accountability for monetary policy, it may then be an advantage to specify the arrangement in an agreement beforehand. As monetary policy must in some situations rely on fiscal policy tools to attain its targets, such a proposal would in practice reduce the instrumental independence. The significance of this reduction needs further analysis. In this context it is also important to remember that the delegation of monetary policy to independent central banks was a means and not an end; the fundamental principle was that it would make it easier to attain low inflation. But experiences have clearly shown that inflation can also be too low and that the central bank may lack the tools to fully manage such a situation. The possibility for temporary coordination with fiscal policy could therefore be regarded as a proposal to complement the framework to further improve target attainment for monetary policy.

References

Ankargren, S. and H. Shahnazarian (2019), "The Interaction between Fiscal and Monetary Policies: Evidence from Sweden", Working paper no 365, Sveriges Riksbank.

Armelius, H., M. Solberger and E. Spånberg (2018), "Is the Swedish neutral interest rate influenced by other countries?", *Economic Review* no. 1, Sveriges Riksbank.

Bernanke, B.S. (2016), "What tools does the Fed have left? Part 3: Helicopter money", available at https://www.brookings.edu/blog/ben-bernanke/2016/04/11/what-tools-does-the-fed-have-left-part-3-helicopter-money/

Bernanke, B.S. (2017), "Monetary Policy in a New Era", Peterson Institute Paper, Conference on Rethinking Macroeconomic Policy.

Blanchard, L. (2019), "Public Debt and Low Interest Rates", NBER Working Paper 25621.

Blinder, A.S. (2016), "Fiscal Policy Reconsidered", Hamilton Project Policy Proposal, 2016-05.

Campbell, J. Y. and N. G. Mankiw (1989), "Consumption, Income, and Interest Rates: Reinterpreting the Time Series Evidence", NBER Macroeconomics Annual 4, pp. 185–216.

Campbell, J. Y. and Mankiw, N. G. (1991), "The response of consumption to income", *European Economic Review*, pp. 723-767.

Cecchetti, S. and K. Schoenholtz (2016), "A primer on helicopter money", https://voxeu.org/article/primer-helicopter-money

Chicago Booth (2019), "Can the US print its way out of a deficit?", available at

http://review.chicagobooth.edu/economics/2019/article/can-us-print-its-way-out-deficit

Christiano L. J and T. J. Fitzgerald (2000), "Understanding the Fiscal Theory of the Price Level", *Federal Reserve Bank of Cleveland Economic Review*, no 2.

Coenen, G., C. J. Erceg, C. Freedman, D. Furceri, , M. Kumhof, R. Lalonde, D. Laxton, J. Lindé, A. Mourougane, D. Muir, S. Mursula, C. de Resende, J. Roberts, W. Roeger, S. Snudden, M. Trabandt and J. in't Veld, (2012), "Effects of fiscal stimulus in structural models", *American Economic Journal: Macroeconomics*, pp. 22–68.

Erceg, C. and J. Lindé (2014), "Is there a fiscal free lunch in a liquidity trap?" *Journal of the European Economic Association*, pp. 73–107.

Fiscal Policy Council (2018), "Swedish Fiscal Policy 2018", Report of the Fiscal Policy Council 2018.

Fiscal Policy Council (2019), "Swedish Fiscal Policy 2019", Report of the Fiscal Policy Council 2019.

Flodén, M., M. Kilström, J. Sigurdsson and R. Vestman (2017), "Household Debt and Monetary Policy: Revealing the Cash Flow Channel", Working paper 342, Sveriges Riksbank.

Furman, J. and L.H. Summers (2019), "Who's Afraid of Budget Deficits?", Foreign Affairs March/April.

Galí, J., J. D. López-Salido and J. Vallés (2007), "Understanding the Effects of Government Spending on Consumption", *Journal of the European Economic Association*, pp. 227-270.

Georgsson, M., A. Vredin and P. Åsberg-Sommar (2015), "The modern central bank's mandate and the discussion following the financial crisis" *Economic Review* 2015:1, Sveriges Riksbank.

Gustafsson, P., M. Hesselman, and B. Lagerwall (2017), "How household cashflows and consumption are affected by higher interest rates?", Staff Memo, Sveriges Riksbank.

Hassler, J. (2017), "Finanspolitik, penningpolitik och sambandet dem emellan" [Fiscal policy, monetary policy and the relationship between them], In Swedish only, *Ekonomisk debatt*, no 4.

Hjelm, G. and P. Stockhammar (2016), "Short Run Effects of Fiscal Policy on GDP and Employment: Swedish Evidence", Working paper No. 147, National Institute of Economic Research.

Ingves, S. (2015), "The central bank's objectives and means throughout history – a perspective on today's monetary policy", speech to Swedish Economics Association, Stockholm School of Economics, 6 May, Sveriges Riksbank.

Jansson, P. (2018), "Monetary policy in less favourable times – what are the options?", speech at Swedish insurance, 4 December, Sveriges Riksbank.

Japelli, T. and Pistaferri, L. (2014), "Fiscal Policy and MPC Heterogeneity*", American Economic Journal: Macroeconomics*, pp. 107-136.

Johnson, D.S., Parker, J. A., and N. S. Souleles (2006), "Household Expenditure and the Income Tax Rebates of 2001," *American Economic Review*, pp. 1589-1610.

Jonsson, M., C. Nilsson and S. Palmqvist (2008), "Should monetary policy stabilise resource utilisation?", Economic Commentary no. 1, Sveriges Riksbank.

Kocherlakota, N. (2016), "'Helicopter Money' Won't Provide Much Extra Lift", available at https://www.bloomberg.com/view/articles/2016-03-24/-helicopter-money-won-t-provide-much-extra-lift

Kocherlakota, N. and Phelan, C. (1999), "Explaining the Fiscal Theory of the Price Level", *Federal Reserve Bank of Minneapolis Quarterly Review*, no 4.

Krugman. P. (2019), "Running on MMT", column in New York Times, 25 February 2019, available at https://www.nytimes.com/2019/02/25/opinion/running-on-mmt-wonkish.html?partner=rss&emc=rss

Leeper, E.M. (2015), "Real Theory of the Price Level", available at https://bfi.uchicago.edu/sites/default/files/file_uploads/Leeper_Background_3%20copy.pdf

Leeper, E.M. (2016), "Why central banks should care about fiscal rules", *Economic Review* 2016:3, Sveriges Riksbank.

Leeper, E.M. (2018), "Sweden's Fiscal Framework and Monetary Policy", background report to the Swedish Fiscal Policy Council 2018/2.

Lucas, R. (1987), "Models of Business Cycles", New York: Blackwell.

Mankiw, N.G. (2000), "The Savers-Spenders Theory of Fiscal Policy", *American Economic Review*, pp. 120-125.

National Institute of Economic Research (2016), "A new surplus target", article in Swedish Economy Report, August.

National Institute of Economic Research (2017), "Short-term effects of fiscal policy on GDP and employment in Sweden", article in *Swedish Economy Report*, June.

National Institute of Economic Research (2019a), *Swedish Economy Report*, March.

National Institute of Economic Research (2019b), "SELMA – a macroeconomic model of the Swedish economy", article in *Swedish Economy Report*, March.

Parker, J.A., N.S. Souleles, D.S Johnson and R. McClelland (2013), "Consumer Spending and the Economic Stimulus Payments of 2008", *American Economic Review*, pp. 2530-53.

Ramey, V.R. (2019), "Ten Years after the Financial Crisis: What Have We Learned from the Renaissance in Fiscal Research?", *Journal of Economic Perspectives*, pp. 89-114.

Rogoff, K. (2019), "Modern Monetary Nonsense", column in Project Syndicate 4 March 2019, available at https://www.nytimes.com/2019/02/25/opinion/running-on-mmt-wonkish.html?partner=rss&emc=rss

Stambaugh, J.C. (2017), "Rethinking Fiscal Policy", presentation at Conference on Rethinking Macroeconomic Policy, Peterson Institute.

Sveriges Riksbank (2016), "Why have real interest rates fallen?", box in Financial Stability Report 1/2016.

Sveriges Riksbank, (2017), "The long-term repo rate", article in Monetary Policy Report, February.

Ubide, A. (2019), "Some Thoughts on Fiscal Policy in the Euro Area", presentation at *Fiscal Policy Measures for the Next Downturn*", Peterson Institute.

Walentin, K. and A.Westermark (2018), "Stabilising the real economy increases average output", https://voxeu.org/article/stabilising-real-economy-increases-average-output

Weil, P. (1989), "The Equity Premium Puzzle and the Risk-Free Rate Puzzle", *Journal of Monetary Economics*, pp. 401-421.

Yates, T. (2017), "Submission for Treasury Committee inquiry on the 'effectiveness and impact of post-2008 monetary policy – written evidence submitted by Professor Tony Yates", available at http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/treasury-committee/effectiveness-and-impact-of-post2008-uk-monetary-policy/written/48288.html