DISCUSSION PAPER SERIES

DP14694

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MONETARY ECONOMICS AND FLUCTUATIONS

ISSN 0265-8003

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Discussion Paper DP14694
Published 02 May 2020
Submitted 30 April 2020

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www.cepr.org

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CORONA POLICY ACCORDING TO HANK

Abstract

In this note, we analyze the role of the European Central Bank through the lens of the Heterogenous-agent New Keynesian Model (HANK), a new paradigm of fiscal and monetary policy that abandons the assumption of perfectly functioning financial markets. We emphasize three principles that emerge from this view: 1) the effect of fiscal and monetary financing on inflation; 2) the close interaction between fiscal and monetary policy in the determination of inflation; and 3) an economic perspective on Art.123(1) TFEU, the "prohibition of monetary financing."

JEL Classification: D52, E31, E52, E62, E63

Keywords: HANK, monetary financing, inflation, Art.123(1) TFEU, Fiscal/monetary policy interaction

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Corona Policy according to HANK

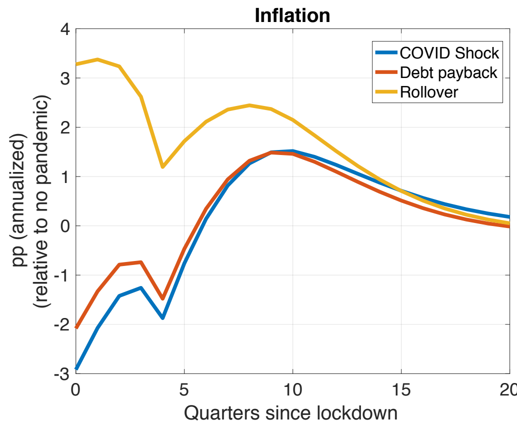
The coronavirus pandemic has paralyzed many countries around the world, including Europe. The policy response to the crisis involved large increases in government spending and government debt, which are likely to increase further in the aftermath of the first wave of the pandemic—the debate in Europe centers around how to distribute this debt burden among its member states. Proposals envision varying degrees of mutual liability across members. Another alternative is to shift the debt to the European Central Bank (ECB).

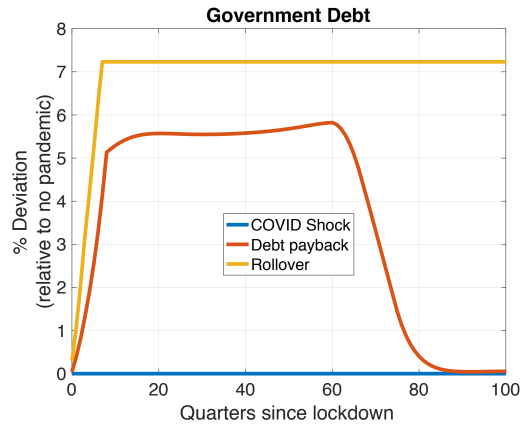
Against that backdrop, in this note, we analyze these issues through the lens of the Heterogenous-agent New Keynesian Model (HANK), a new paradigm of fiscal and monetary policy that abandons the assumption of perfectly functioning financial markets. We emphasize three principles that emerge from this view: 1) the effect of fiscal and monetary financing on inflation; 2) the close interaction between fiscal and monetary policy in the determination of inflation; and 3) an economic perspective on Art.123(1) TFEU, the "prohibition of monetary financing."

Inflation and Monetization

We conduct several experiments to illustrate quintessential points about the inflation consequences of fiscal and monetary financing of a stimulus package in a HANK world.[1] While the exact numbers depend on the details of the model, we would like to emphasize that our substantive conclusions do not. They hold more broadly and, in some cases, do not even require full rationality among market participants.

To simulate the effects of the pandemic, we assume that the model is hit simultaneously with supply and demand shocks, generating a deep and persistent recession and a significant deflation. We then simulate the effects of fiscal stimulus under two scenarios. Under one scenario, the stimulus is financed through additional government debt which is allowed to grow, but eventually taxes are raised to fully pay back the debt. In the second scenario, the debt from the fiscal stimulus is rolled over in perpetuity.





Whether the additional debt to finance the government spending is purchased by the central bank ("is monetized") is irrelevant for inflation. Monetization and non-monetization induce the same nominal demand, which is the critical variable determining the inflation rate. Further, households are indifferent between an IOU signed by the treasury or the central bank.

What matters, though, is whether the government eventually increases taxes to pay back the debt or rolls it over in perpetuity. The full roll-over case generates substantial inflation, while inflation is substantially lower in the other extreme of full debt payback. In the first case, the nominal demand stimulus is significantly more extensive, causing prices to respond more eventually. Increasing taxes constrains nominal demand, and mutes the inflation rate accordingly.

Both financing scenarios create additional inflation because the issuance of additional debt generates more demand. If, on the other hand, the central bank purchases outstanding government bonds, that produces no extra demand. As a result, inflation will be unchanged.

To summarize the implications of fiscal stimulus in HANK: Monetizing existing debt does not generate inflation. Newly-issued debt, monetized or not, does generate inflation, and generates higher inflation, the more debt that is rolled-over.

Fiscal and Monetary Policy Interaction

The findings mentioned above illustrate that the HANK perspective alters the roles of fiscal and monetary policy in controlling the inflation rate. The conventional instrument for managing the inflation rate is the nominal interest rate. In a nutshell the central bank increases the nominal interest rate if inflation is above target and vice-versa. In contrast, in

HANK, fiscal instruments are quite powerful and can be even more effective at controlling inflation than conventional interest rate policy. For example, sending deficit-financed Euro checks to every citizen will increase inflation. This relationship between inflation and fiscal spending is consistent with the experience of many high-inflation countries with high government spending, often monetized by central banks.

While associating high inflation rates with central bank monetization is well known, HANK provides a new perspective on the role of fiscal policy. The treasury can generate inflation through higher spending (we use sending checks only as an illustrative example) without any activities from the central bank. Indeed, whether the central bank monetizes the debt or not is to first-order not relevant for inflation, as illustrated above. Furthermore, the treasury could be quite effective in generating inflation through higher spending. The fiscal authority can be more effective in stabilizing prices than the central bank, in particular, if the effectiveness of the main instrument, the nominal interest rate, is limited through an effective lower bound.

The HANK view suggests the following conceptual distinction between the objectives of fiscal and monetary policy and the instruments to accomplish said objectives. The mandate of monetary policy is to maintain price stability, interpreted as an inflation rate at levels below, but close to, 2% over the medium term.

Currently, fiscal instruments are the traditional tools used by the treasury – taxes, expenditure, debt - and monetary instruments are the standard instruments used by central banks, mainly interest rates. These are the institutionally grounded tools that dominate current policy recommendations. The HANK view challenges this distinction and instead suggests a definition by effectiveness, that is how effective that instrument is in satisfying the monetary or fiscal mandate. Effective instruments for price stabilization will involve a mixture of the conventional fiscal and monetary instruments. Monetary policy should then be interpreted more broadly than solely the actions taken by central banks to maintain price stability, but to include the use of additional instruments that are effective in ensuring stable prices. These instruments, like tax rebates, include actions that are conventionally associated with fiscal policy. But this is an institutional definition that is not warranted according to HANK and would severely hamper achieving the price stability objective. This view is, at the same time, a challenge and an opportunity for central banks. It is a challenge because the central bank needs the help of the treasury to fulfill its mandate. If the treasury insists on an

austerity policy, central banks will likely fail to ensure an inflation rate close to 2%. The experience of the EURO area in recent years could be considered as a manifestation of this challenge. It is an opportunity since it offers a new path to achieve the desired inflation rate. However, it requires coordination between the central bank and the treasury. If the central bank forecasts a potential deflation, it has to ask the treasury for a spending increase to generate inflation. It is then the treasury which does the job of maintaining price stability on behalf of the central bank. The central bank can support the treasury, e.g., through debt monetization, as long as it abides by its mandate of price stability in doing so.

In the current crisis, it is conceivable that the substantial uncertainty creates a demand slump leading to below-target inflation or even deflation. In this scenario, measures need to be taken to bring inflation back on target. HANK suggests that this has to be through fiscal instruments, i.e., higher fiscal spending. Using fiscal instruments also offers the possibility of a targeted stimulus. The stimulus could be different in different countries, while a nominal interest rate by definition is the same for all states in a currency union. The HANK view thus not only tells us that fiscal instruments are useful for price stability, but the set of instruments is larger since countries can enact their specific measures. And using country-specific fiscal tools might be more efficient than a proportionate stimulus across all countries, simply because a EURO spent in one country has a larger effect on inflation than spent in another country. The HANK view does not say that this has to be the case. Still, it offers the possibility to conduct selective policy, simply because fiscal policy can be targeted while setting interest rates cannot.
Similarly, for the US to escape deflation, the Fed has to rely on Congress and the White House and the inflationary effects of the US Coronavirus stimulus package. Fiscal spending is needed both in the US and in the EURO area to prevent deflation.

The economics of Art.123(1) TFEU reassessed.

Art.123(1) of the Treaty on the Functioning of the European Union (TFEU) restricts the purchase of government bonds by the central bank. The court acknowledges that while the European System of Central Banks (ESCB) is not entitled to purchase bonds directly from public authorities and bodies of the Member States, it can do so indirectly, on the secondary markets (C 493/17 paragraph 104).[2] The HANK instruments, therefore, do not infringe on the wording of Art. 123(1) TFEU.

However, the court states that, in order to determine which forms of purchases of government bonds are compatible with Article 123(1) TFEU, it is necessary to take account of the objective pursued by that provision (C-62/14 paragraph 98, C-370/12 paragraph 133).[3,4] The courts find that the aim of Article 123 TFEU is to encourage the Member States to follow a sound budgetary policy, not allowing monetary financing of public deficits or privileged access by public authorities to the financial markets to lead to excessively high levels of debt or excessive Member State deficits (C-62/14 paragraph 100).

The consequences of this ruling for the conduct of monetary policy in a HANK world is clear. The purchase of government bonds by the central bank *is compatible* with Article 123(1) TFEU if these bonds are newly issued bonds to generate inflation. While such a policy has consequences for the public deficit of Member States, it should be noted that the expansion of government debt is on behalf of the central bank and is thus essential for the effective conduct of monetary policy. In particular, such a purchase is monetary policy using a conventional fiscal instrument and therefore does not fall foul of the prohibition of monetary financing in Article 123(1) TFEU. Moreover, such a purchase does not reduce the impetus which the provision of Article 123(1) TFEU is intended to give the Member States to follow a sound budgetary policy (C-62/14 paragraph 107). For such an acquisition of new bonds it is irrelevant whether the ESCB purchases bonds on the secondary markets or conducts a direct purchase of bonds from the public authorities and bodies of the Member States (C-62/14 paragraph 107).

HANK does *not justify* the purchase of existing bonds as such acquisition does not affect inflation.

According to HANK, bond purchases can also be selective. A selective purchase might be more effective in satisfying the price stability mandate than a non-selective one and is not intended to meet the specific financing needs of individual Member States of the EURO area (C-493/17 paragraph 82). Higher effectiveness means that the size of the intervention is smaller if purchases are selective than non-selective. A non-selective bond acquisition might exceed what is necessary to achieve price stability and thus infringe on the principle of proportionality. There is also no certainty that the ESCB will subsequently purchase any amount of newly issued bonds as the mandate of price stability limits the purchased amount. It is the ECB’s decision on how many bonds to acquire to achieve this

goal, which creates uncertainty for private operators. The potential concern of a lack of credibility that the purchase program will end once price stability is achieved due to financing needs of the Member States might be warranted. Still, it would apply equally to conventional interest rate policies. Increasing interest rates to lower inflation rates also has financing implications for the Member States, and it is a question of central bank credibility and its commitment to price stability whether actions are taken or not.

For completeness, we note that, according to HANK, there is no significant disruption to the monetary policy transmission mechanism that needs to be rectified. Policy instruments, like sending checks, are available, which are likely to be even more effective in a crisis than in normal times. The HANK instruments also target inflation directly and affect other variables only indirectly, alleviating the concern that monetary policy is an economic policy to stimulate the economy. Consider, e.g., a HANK economy with very flexible prices. The fiscal stimulus is effective at generating inflation, although it entails no real effects. In the current view of the court, the ECB targets inflation only indirectly, as the transmission of monetary policy operates through its effects on real investment, consumption, and saving (C 493-17 paragraph 65).

We are not recommending any specific actions by the ECB, merely discussing the new options that a HANK perspective offers. The obligation to state reasons for its action laid down in the second paragraph of Article 296 TFEU, however, requires some advanced planning. The hope is that this discussion will broaden the set of tools policy makers consider using, to help the ECB meet its price stability mandate.

References

Hagedorn, M., I. Manovskii, and K. Mitman (2019), "The Fiscal Multiplier", NBER Working Paper No. 25571.

Hagedorn, M. (2016) "A Demand Theory of the Price Level, CEPR Discussion Paper DP11364.

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[1] The calculations and the theoretical background are based on Hagedorn, Manovskii, Mitman (2019) and Hagedorn (2016).

[2] judgment of 11 December 2018, *Weiss and Others*, C-493/17, EU:C:2018:1000

[3] judgment of 16 June 2015, *Gauweiler and Others*, C-62/14, EU:C:2015:400

[4] judgment of 27 November 2012, *Pringle*, C-370/12, EU:C:2012:756