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Comment on Terzi Paper

For purposes of brevity I accept the framework of Terzi´s analysis: in a monetary economy financial assets, including "money" are assets in the form of debt claims to other parties. To the extent that financial assets are "money", the debtors of these assets are 1. banks and 2. the government. Here the central bank is so to speak both: it is a bank and it is part of the government. For simplicity of presentation I assume a closed economy.

It is then the case that an intention of private individuals and firms to raise their money holdings can be accomplished if banks and/or the government are prepared to raise their debt position vis à vis the private sector. Here I use the term "private sector" to include all non-government, non-bank subjects. I use the term "banks" to mean the private financial sector. I use the term "central bank" in the usual way. I use the term "government" to mean the government including the central bank – unless explicitly stated otherwise

What is the relation between the real economy and the monetary economy? It is my understanding that in normal times the wish of the private sector to obtain additional loans from the banks is accommodated by the banks (subject to the ability of the borrower to provide collateral). This is similar to the "real economy" where in most markets the suppliers are prepared to sell their product to any buyer who is prepared to pay the price charged by the supplier. In the real economy the price charged by the supplier exceeds marginal cost, whereas there is no margin on the demand side between the price paid and the money equivalent of marginal utility. This market asymmetry is the consequence of another asymmetry, due to the division of labor: on any given market suppliers are specialized, whereas customers are not specialized with respect to the goods transacted on that market. This market asymmetry is a micro-economic characteristic; but it has the macro-economic implication that - in the short run - effective demand is the constraint for the size of the national product.

Thus, if the private sector wants to raise demand for goods and services, the banks accommodate and provide additional loans. They finance these additional loans by obtaining additional loans from the central bank or by selling government bonds on the open market. In order to maintain its declared interest rates the central bank then buys additional government debt from the banks. Thus the monetary economy accommodates this increased effective demand and thereby accommodates this rise in national product.

The reverse story is the mirror image of the story just told. If effective demand declines banks and the central bank accommodate this reduction of indebtedness of the private sector. As far as I can see this description of the very short run is consistent with Terzi´s analysis.

Now we go beyond the very short run. And here we have a difference in emphasis. Terzi writes: "The widespread narrative about saving being a source of funds for investment suits only a non-monetary, or real-exchange, economy where saving is a real asset, i.e., a product not yet consumed." I believe that the loanable funds story can be defended for a monetary economy – if it is told in the right way.

If from a situation of price stability effective demand rises firms may start raising their prices. If the central bank pursues a goal of price stability it may counter rising effective demand by raising the central bank interest rate. This may then dampen effective demand. Thus, the goal of price stability provides a link between the saving plans of the private sector and the investment plans of the private sector.

We may put the same story in this way: compare two economies which are alike except that in economy 2 the private sector has a higher propensity to save out of current income than in economy 1. Thus, if prices and interest rates were the same in the two economies economy 2 would show a lower level of effective demand than economy 1. Assume that economy 1 exhibits a stable price level at full employment. Then economy 2 exhibits less than full employment and deflation. Thus the central bank of economy 2 will decide to reduce the central bank rate of interest. It thereby raises effective demand by stimulating investment. Once economy 2 thereby has reached full employment and price stability we see that the rate of interest is lower than in economy 1 and investment is higher than in economy 1. In this sense the loanable funds theory is justified. In this sense we may say: "a higher propensity to save reduces the equilibrium rate of interest and raises the level of investment."

May I use an analogy? Let the barter economy be compared to the walking pedestrian. Let the monetary economy be compared to the bicycle rider. The pedestrian is a slow mover relative to the bicyclist. But he does not incur the risk of losing his balance and falling on the ground. So, obviously the two movers are different. Yet they have some characteristics in common, for example: if either of them speeds up he needs more energy per second than before. And this last property compares to the fact that under conditions of full employment a higher savings rate implies a higher rate of investment. By the way: the fact that the bicyclist can keep his balance by having enough speed compares to the fact that the financial sector accommodates any changed demand for loans of the private economy. This is an indication that the Chicago plan of 100 % reserves money is inappropriate. But this is not the topic of our conference. In the monetary economy one needs additional care for the stabilizing of the economy. That is the function of the central bank. See Bagehot and Wicksell. Compare: the bicyclist has to take more care than the pedestrian about keeping his balance while riding.

Concerning public debt my view is not so different from Terzi´s view. But my reasoning is different. The neoclassical view about public debt in terms of Ricardian equivalence implicitly assumes that, on average through time, the rate of interest on public debt is higher than the rate of growth of government revenue – or, for that matter – the rate of growth of national income: $r > g$. In my view, for the 21st century, the natural rate of interest (i.e. the risk free real rate of interest at full employment in an economy without outstanding net public debt) is negative. Thus the inequality $r > g$ does not hold for such an economy. Without net national debt the economy is in a position of "dynamical inefficiency". These are statements which Terzi might consider statements about the real economy. But they have implications for the monetary economy.

As long as the rate of interest for government bonds is lower than the long run rate of growth of government revenue (consider this to be the long run rate of growth of national product) dynamic inefficiency indicates that raising public debt is appropriate. As long as $r < g$ we then can follow Terzi´s approach: there is no danger of government insolvency. There is no real-economy constraint on raising public debt in order to cope with the private sector´s demand for financial assets.

But the story is more complicated, if the inequality $r > g$ holds. Here it is perhaps worthwhile to tell the Terzi story in a somewhat different way. Basically the real rate of interest r on government debt is a price signal for the

relative scarcity of real assets relative to financial assets. The price signal $r > g$ tells us: the private sector is very eager to borrow or - equivalently - to sell financial assets in order to raise its holdings of real assets like real estate, machinery etc. Thus, there is no shortage of financial assets within the private sector. There is then no need for the government to borrow more in order to provide additional financial assets to the private sector. Indeed, the private sector would then be happy, if the government would refrain from borrowing so that the private sector can borrow at more favorable terms or sell its financial assets at more favorable terms, i.e. so that r tends to be reduced. Indeed, under such conditions there is no concern about insufficient effective demand: the private sector wants to raise its real assets (real estate etc.) – so investment is sufficient to fully compensate for the lack of effective demand due to private savings.

We may say, similar to orthodoxy: If $r > g$ then government net borrowing is equivalent to a crowding out of socially productive private investment. The mistake of the orthodox school is that it ignores the "if- condition" of this statement.

If the government were to ignore the price signal $r > g$ and incurred additional debt Terzi may be right in saying that there is no danger of government insolvency; but inflationary pressures would rise which will cause the nominal rate of interest to rise. If this goes on for a while the private sector starts to abhor holding financial assets. And finally there is the risk of hyperinflation. Hyperinflation may be a scenario which technically is distinct from government default, but in terms of its implications for the standard of living of the people it is in no way better than government default – perhaps worse.

Thus, even in a monetary economy there is some truth in the following proposition: "if $r > g$ there exists an intertemporal budget constraint on government expenditures."

The Terzi story is convincing only for the case $r < g$. Only then is there a relative abundance of real assets as compared to financial assets in the private sector. It is then appropriate for the government to provide additional financial assets for the private sector by incurring additional public debt. But don´t overdo it: watch out for the constraint $r < g$.