

## Appendix B: Summary of Critique of Blinder-Solow Proofs on Debt Stability Aug 2015/Twk 2019

Best understood after covering Chapter 14 MIFA on Fiscal-Monetary Policy Nexus.

**The Blinder Solow** model works out the long run equilibrium income value for an IS/LM model, based on a long run budget balance condition Government spending equal taxes. (If the budget is not balanced, then the stock of money or bonds to finance the deficit has to change, which changes income. Hence it cannot be a long run equilibrium). The basic IS/LM model just looks at government expenditure but ignores the spending impact of the bonds issued to finance it, and more so interest payments on bonds, which Blinder and Solow bring in.

**Basically**, Blinder and Solow (Abbreviated as B-S) showed that, if stable, bond finance was more expansionary (increased nominal GNP more) than money finance and is thus implicitly more inflationary in the long run with full employment. Their logic was follows: with a given tax rate, with bond financing, income has to rise more to generate more taxes to pay for not just primary spending, but also (secondary) spending from the interest on the bonds, which is not there under money financing.

**Although** their logic is compelling, this is a counter intuitive result. Intuitively, financing government spending by issuing bonds, unlike by printing money, mops up household saving and thereby reduce, their consumption. So it adds less to aggregate demand. With the economy at full employment, it thus adds less to inflation than printing money. Within the framework of IS/LM, Milton Friedman was unable to prove them wrong

**To explain** what is wrong with their argument, let us start with a numerical example to explain the B-S result. This example is based on my paper ('The Stability of Bond Financed Deficits: A Critique of the Literature, 1998 IIM Bangalore Working Paper # 115). This paper explains that their counter intuitive result is due to the absence of the Fisher Effect in IS/LM models, in which their debate was conducted.

The basic logic of Blinder Solow is as follows: Long Run Equilibrium (LRE) requires Budget Balance i.e. Government Spending (G) = Taxes (T). Think of G-T as the Primary Deficit, to which we add Interest Payments which is the Secondary Deficit. Then their sum is the Total Deficit which is zero in LRE.

Under Money Finance of government spending, algebraically,

$G = T = t(Y^*)$  where  $t$  is the flat tax rate on all income and  $Y^*$  is Long Run Equilibrium income.

So  $\Delta G = \Delta T = t \Delta Y^*$

So if G rise by 50 and the flat tax rate is 25%, LRE income has to rise by 200 for budget balance.

Under Bond Finance, income has to rise such that  $G+B = t(Y + B)$  where B is interest payments. The bonds are chosen to be perpetuities with coupon of \$ or Re. 1, so B is also number of bonds. For the parameter values chosen, interest payments will rise by 100 and net  $Y^*$  will rise by 500. Gross  $Y^*$  will rise by 600.

$$\begin{aligned} \Delta \text{Total Govt Spending} &= \Delta \text{Primary Spending} + \Delta \text{Interest payments} = \Delta \text{Taxes} \\ . & \qquad \qquad \qquad 50 \qquad \qquad \qquad + \qquad 100 \qquad \qquad \qquad = \qquad 0.25 (500 + 100) \end{aligned}$$

See List of symbols in Appendix A and numerical results in Appendix C of Working Paper # 115.

**However**, putting in a Fisher Effect reserves the B-S conclusions. Under bond financing nominal, nominal GNP will grow more slowly (See Plot, Appendix C). With full employment generally holding, inflation and then expected inflation, and then nominal interest rates will come down (relative to money finance) via the Fisher effect, even without Q Theory. Hence nominal interest payments can also come down. So, total government spending, taxes and income can be lower under bond finance, despite higher debt, contrary to B-S. However, this is easily shown in a growing economy with a Domar Debt stability condition (Appendix D). However it is not easily shown with outright budget balance. My paper also proves how their model leads to some absurd results: an increase in private investment reduces GNP in the long run.

**Somehow** I never made the effort to publish this working paper. Inertia prevailed, *mea culpa!* However, I wrote to Milton Friedman about the irrelevance of B-S proofs (cf. attached letter and his reply).