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ANNEX to Money and Banking: Assessing overlaps and differences between SMR and MMT

Abstract: No matter how government spending is organized – either as “monetary financing”, “direct financing” or “indirect financing” - the balance sheet results after spending has occurred are pretty similar. More concretely, in either way government spending *ceteris paribus* results in a balance sheet extension for the banking sector, which ends up holding reserves or interest bearing bonds on the asset side and customer deposits on the liability side, as well as in an increase in net-wealth of the non-government non-bank sector. As fiscal spending changes the amount of reserves circulating in the banking sector, bond sales satisfy the purpose of draining excess reserves in order for the central bank to achieve its interest rate target. Hence, bond sales don't finance nothing but represent a monetary policy tool – more concretely, an interest rate maintenance tool. In fact, all the money that is used to pay taxes or buy bonds comes from the government as prior spending or central bank credit in the first place.

Intro

As promised in our exchange yesterday, which I enjoyed greatly, I'd like to present you the accounting view on government spending for three cases: 1) spending absent all self-imposed constraints, i.e. running overdrafts at the central bank; 2) direct financing; 3) indirect financing (as in the EMU or in the US, where CB finances the primary dealers and primary dealers buy bonds from the government).

1) Overdraft at the Central Bank

This is the “purest” case absent all self-imposed constraints. Let's say the government pays myself for cleansing a public building. In this case, the government spends by instructing its central bank to credit the reserve account of my commercial bank, which in turn credits my commercial bank account. As table 1 shows: the treasury's financial net worth goes down, the bank's balance sheet is extended by reserves (asset) and my deposit (liability), and my financial net worth goes up. The public deficit equals the private surplus and the money supply is expanded. Taxation would lead to the opposite result.

If we were in a cash economy, the banks would be left out and the central bank would record cash instead of reserves for the commercial bank on its liability side.

Table 1

Step	Central Bank (CB)		Treasury (T)		Commercial Bank (B)		Non-financial private sector (P)	
	Asset	Liabilities	Asset	Liabilities	Asset	Liabilities	Asset	Liabilities
1) T spends on P		- Reserves T + Reserves B	- Reserves T		+ Reserves B	+ Deposit P	+ Deposit P	
Result	-	-	- Reserves T	- Net Worth	+ Reserves B	+ Deposit P	+ Deposit P	+ Net Worth

If the central bank aims for an interest rate target, it might get into trouble here because the supply of reserves to the banking sector has increased as a result of paying myself for the cleansing job and might put downward pressure on the interbank rate (price of reserves). The central bank has now two options: 1) drain excess reserves in order to sterilize the downward pressure by selling illiquid assets in exchange for the liquid reserves, e.g. by selling bonds; 2) leave the excess reserves in the banking sector and let the interbank rate (fed funds rate) drop towards zero, or, alternatively, towards the interest rate the central bank is willing to pay on reserve deposits.

Table 2 captures the option of selling bonds. It becomes obvious that bond sales are an interest rate maintenance operation and not a “borrowing” or “financing operation”. Bond sales belong to monetary, not to fiscal policy. You can think of bond sales as interest rate maintenance accounts or as saving deposits at the central bank. Please note that I’ve left out interest payments here, but you can easily include those if you wish. Interest payments would then flow to the banking sector.

Table 2

Step	Central Bank (CB)		Treasury (T)		Commercial Bank (B)		Non-financial private sector (P)	
	Asset	Liabilities	Asset	Liabilities	Asset	Liabilities	Asset	Liabilities
1) T spends on P		- Reserves T + Reserves B	- Reserves T		+ Reserves B	+ Deposit P	+ Deposit P	
2) Open market operation by the CB		- Reserves B + Bonds B			- Reserves B + Bond B			
Result	-	-	- Reserves T	- Net Worth	+ Bonds B	+ Deposit P	+ Deposit P	+ Net Worth

2) Direct financing

Table 3 captures the case where the central bank requires the treasury to fill up its reserve account before it spends but is allowed to purchase bonds on the primary market. As you can see, the result is not much different from table two. The treasury's financial net worth goes down, the bank's balance sheet is extended by reserves (asset) and my deposit (liability), and my financial net worth goes up. The public deficit equals the private surplus and the money supply is expanded. Just as in the previous case, the central bank might need to drain those excess reserve for interest rate maintenance means by selling bonds.

Table 3

Step	Central Bank (CB)		Treasury (T)		Commercial Bank (B)		Non-financial private sector (P)	
	Asset	Liabilities	Asset	Liabilities	Asset	Liabilities	Asset	Liabilities
1) CB purchases bonds	+ Bonds	+ Reserves T	+ Reserves CB	+ Bonds				
2) T spends on P		- Reserves T + Reserves B	- Reserves CB		+ Reserves CB	+ Deposit P	+ Deposit P	
Result	+ Bonds	+ Reserves B		+ Bonds - Net Worth	+ Reserves CB	+ Deposit P	+ Deposit P	+ Net Worth

If you consolidate the central bank and the treasury, their assets and liabilities cancel out each other. That way, you can grasp more easily the fact that spending means the consolidated government increases its liability side (reserve account of commercial banks), and taxation means the consolidated government lowers its liability side. That's why MMT states that the government debt equals the money spent into existence by the government as tax credits, which have not yet been used to pay taxes.

As taxes erase liabilities, it isn't logical to construe taxes as funding government spending. A decreased liability is nothing the government could spend. As much as commercial banks don't have more liquidity if commercial loans are paid off, the government doesn't have more liquidity if taxes are paid.

3) Indirect financing

Table 4 below captures the case where the treasury is required to fill its reserve account before it spends, and the central bank is only allowed to purchase bonds on the secondary market. The treasury normally sells the bonds in an auctioning process to licensed primary dealers, typically commercial banks and investment banks. Those banks need to pay the bonds with reserves. Ultimately, all reserves come from prior government spending or central bank credit. In this case, the banking sector gets a credit from the central bank (against collateral and normally organized as a repurchasing agreement). The primary dealers then buy the bonds with those reserves, i.e. they exchange liquid reserves for illiquid, but interest-bearing bonds (moving their reserves from a checking deposit at the central bank to a saving deposit). Afterwards, the treasury spends, e.g. paying me for cleansing. In that moment, the reserves flow back into the banking sector, which is now able to redeem its loan from the central bank. In the end, the result is pretty much similar to those of the prior cases. The treasury's financial net worth goes down, the bank's balance sheet is extended by bonds (asset) and my deposit (liability), and my financial net worth goes up. The public deficit equals the private surplus and the money supply is expanded. The difference is that the banks end up holding an interest-bearing bond instead of reserves.

Table 4

Step	Central Bank (CB)		Treasury (T)		Commercial Bank (B)		Non-financial private sector (P)	
	Asset	Liabilities	Asset	Liabilities	Asset	Liabilities	Asset	Liabilities
1) B borrows reserves	+ Loan B	+ Reserves B			+ Reserves CB	+ Loan CB		
2) B buys bonds		+ Reserves T - Reserves B	+ Reserves CB	+ Bonds	- Reserves CB + Bonds			
3) T spends on P		- Reserves T + Reserves B	- Reserves CB		+ Reserves CB	+ Deposit P	+ Deposit P	
4) B pays off loan	- Loan B	- Reserves B			- Reserves CB	- Loan CB		
Result	-	-		+ Bonds - Net Worth	+ Bonds	+ Deposit P	+ Deposit P	+ Net Worth

As spending and taxation alters the supply of reserves and affects the interbank rate the US also operates with T&L accounts, which a commercial bank accounts of the government. The only purpose of this is to

smooth the fiscal effects on the interest rate. You can include this and make the accounting more complex, but it doesn't alter the outcome significantly.

I hope what I've shown here was kind of clear. The takeaway should be that no matter what way the spending is organized, the balance sheet results are similar and government spending always increases private bank accounts and hence the money supply. Bonds are a means for settling the interbank rate, not for financing as **all the money that is used to pay taxes or buy bonds comes from the government as prior spending or central bank credit in the first place.**

I would be interested to see how your "asset money" fits with double entry bookkeeping for me to fully grasp what this would mean. Greatly appreciated.

Happy to take questions on this. Cheers, Maurice