

MONEY CREATION: MISCONCEPTIONS: GOVERNMENT SPENDING CREATES MONEY

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ABSTRACT

It is sometimes stated that government spending leads to money creation, at the same time providing the banks with excess reserves, leading to further money creation. This is so, but the statement ignores the fact that the money stock (and reserves) was depleted when revenue was raised in order for the expenditure by government to take place. It is irrelevant that the monetary base is added to because money creation does not revolve around it. However, when government borrows by the issue of new government securities (bonds and Treasury bills) new money (bank deposits) is created to the extent that the government securities are taken up by the banks, and the funds borrowed are spent by government.

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As is well known, the money stock (M) is comprised of notes and coins (N&C) and bank deposits (BD) held by the domestic non-bank private sector (NBPS):

$$M = N\&C + BD \text{ (held by NBPS).}$$

The stock of M, as well as the balance sheet sources of changes (BSSoC) in M, is calculated by central banks, usually monthly, by consolidating the collective balance sheets of the private sector banks with that of the central bank (CB). It is called the consolidated balance sheet of the monetary banking sector (MBS).² A simple example is presented in Balance Sheets 1 – 3. Note that in a consolidation interbank claims [required reserves (RR), borrowed reserves (BR) from the CB, excess reserves (ER) and N&C] are netted out.

What is the stock of money in this example? Assuming we are focused on the money stock measure M3 (total private sector deposits), it is (LCC³ billion):

$$\begin{aligned} M3 &= N\&C + BD \\ &= A + B2 \\ &= 600 + 4\ 000 \\ &= 4\ 600. \end{aligned}$$

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² For a detailed analysis see Faure, AP (2012). "Money creation: the sources." **Monetary Economics eJournal**. Vol 4, Issue 82, 6 August. SSRN Library. Accessible at: <http://ssrn.com/author=1786379>.

³ LCC is the currency code for fictitious currency "corona" of fictitious country "Local Country".

BALANCE SHEET 1: BANKS (LCC BILLIONS)			
Assets		Liabilities	
Foreign assets (FA)	300		
Loans to government (LG) ⁴	900		
Loans to private sector (LPS) ⁵	2 000		
Central bank money (CBM):		Deposits: Private sector	4 000
Notes & coins (N&C)	600	Loans from central bank (BR)	200
Reserves (Total reserves - TR) (ER = 0) (RR = 400)	400		
Total	4 200	Total	4 200

BALANCE SHEET 2: CENTRAL BANK (LCC BILLIONS)			
Assets		Liabilities	
		Notes & coins (N&C)	1 200
Foreign assets (FA)	1 600	Deposits:	
Loans to government (LG) ⁶	1 000	Government sector	800
Loans to banks (BR)	200	Banks (TR) (ER = 0) (RR = 400)	400
		Loans: Foreign sector	400
Total	2 800	Total	2 800

BALANCE SHEET 3: CONSOLIDATED BALANCE SHEET OF MBS (LCC BILLIONS)			
Assets		Liabilities	
D. Foreign assets (FA)	1 900	A. Notes & coin	600
E. Loans to government (LG)	1 900	B. Deposits:	
F. Loans to private sector (LPS)	2 000	1. Government	800
		2. Private sector	4 000
		C. Loans: foreign sector	400
Total	5 800	Total	5 800

The BSSoC (= M3) are:

$$= D + E + F - (B1 + C).$$

If the related items (D and C; E and B1) are grouped, we get (LCC billion):

$$\begin{aligned}
 M3 &= A + B2 &= \underline{4\,600} &(600 + 4\,000) \\
 &= (D - C) &= 1\,500 &(1\,900 - 400) \\
 &+ (E - B1) &= 1\,100 &(1\,900 - 800) \\
 &+ F &= \underline{2\,000} \\
 \text{TOTAL} &&= \underline{4\,600}
 \end{aligned}$$

⁴ Marketable (Treasury bills and bonds) and non-marketable (for example: loans to local authorities).

⁵ Marketable (for example: commercial paper and corporate bonds) and non-marketable (for example: mortgage and overdraft loans to households and companies).

⁶ Marketable (Treasury bills and bonds) and non-marketable (for example: loans to local authorities), but usually marketable paper only, for purposes of open market operations (OMO).

Thus, the counterparts of the M3 money stock on a particular date are:

Net foreign assets (NFA)	(D – C)
Net loans to government (NLG)	(E – B1)
Loans to private sector (LPS)	(F).

It also tells us that from a date to another date (in practice month-end to month-end) the BSSoC of changes (Δ) in M3 can be calculated as follows:

$$\Delta M3 = \Delta NFA + \Delta NLG + \Delta LPS.$$

What is the significance of this analysis⁷? It tells us that there are three BSSoC in M3: one foreign and two domestic, and the actual sources of change (ASoC) are real events and decisions that underlie these BSSoC. It also tells us about the paths of causation:

In the case of NFA:

ASoC (bank decisions to buy or sell forex) \rightarrow BSSoC (ΔNFA^8) $\rightarrow \Delta M3$.

In the case of NLG:

ASoC (tax revenue & spending flows; demand for loans by issue of securities)
 \rightarrow (bank decisions to buy government securities) \rightarrow BSSoC (ΔNLG) $\rightarrow \Delta M3$.

In the case of LPS:

ASoC (demand for bank loans) \rightarrow (bank decisions to grant loans) \rightarrow BSSoC (ΔDLE) $\rightarrow \Delta M3$.

To provide an indication of the importance of the NLG + LPS = domestic loan extension (DLE), and the limited role on NFA, we present Figure 1 (almost 50 years of monthly data for a particular country⁹).

In this article we focus on NLG. We assume the government has funds on deposit at the CB¹⁰, and spends LCC 100 million on the purchase of goods from the NBPS. The balance sheet changes are presented in Balance Sheets 4 – 7. (We ignore the RR in the interests of sticking to the principle; adding in the effect of the RR is uncomplicated and does not change it; however, we introduce it later.)

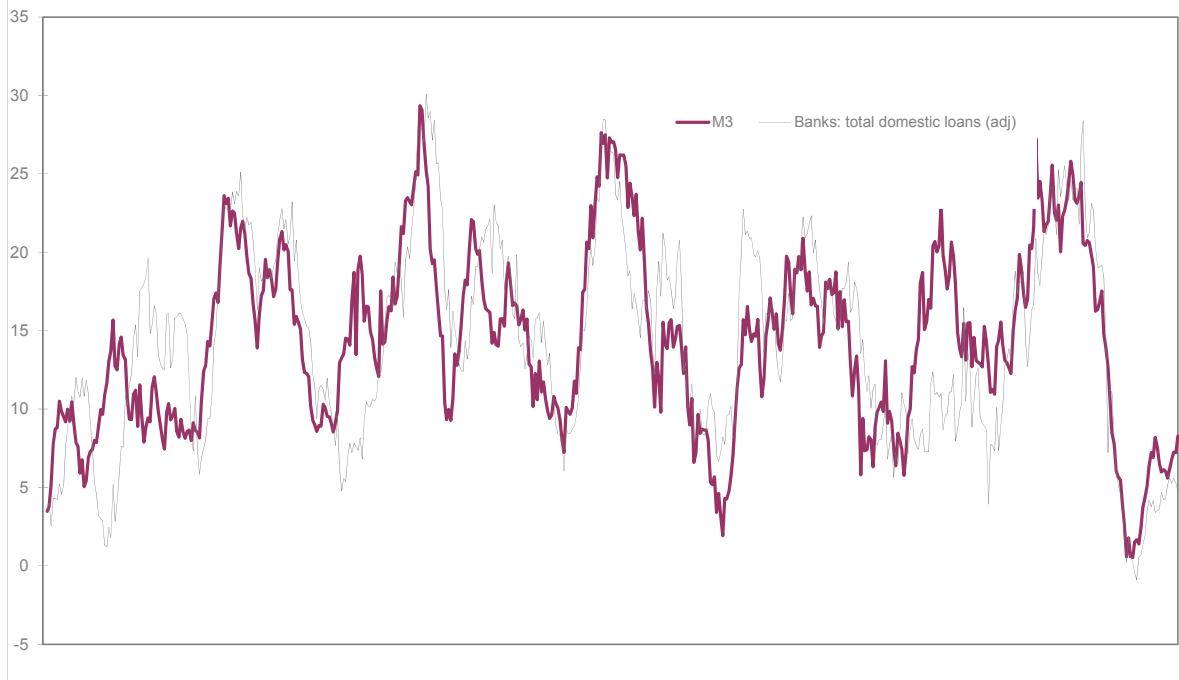
⁷ A similar analysis is done by all central banks. In the case of South Africa, this analysis has been done from March 1965 to the present. An ex-Governor of the South African Reserve Bank first wrote about this analysis in 1964. A later version is: van Staden (1967). A new monetary analysis for South Africa: Pretoria: **South African Reserve Bank Quarterly Bulletin**. The monetary statistics calculated according to this analysis can be found at www.resbank.co.za.

⁸ In most countries NFA is a minor BSSoC.

⁹ South Africa.

¹⁰ This is the case in most countries. In some countries government also banks with the private sector banks in “tax and loan” accounts. Here we assume the latter does not exist.

Figure 1: M3 and DLE (yoy %)



BALANCE SHEET 4: GOVERNMENT (LCC MILLIONS)

Assets		Liabilities	
Deposits at CB	-100		
Goods	+100		
Total	0	Total	0

BALANCE SHEET 5: CENTRAL BANK (LCC MILLIONS)

Assets		Liabilities	
		Government deposits	-100
		Bank reserves (TR)	+100
Total	0	Total	0

BALANCE SHEET 6: NBPS (LCC MILLIONS)

Assets		Liabilities	
Goods	-100		
Deposit at bank	+100		
Total	0	Total	0

BALANCE SHEET 7: BANKS (LCC MILLIONS)

Assets		Liabilities	
Reserves at CB (TR)	+100	Deposits of NBPS	+100
Total	+100	Total	+100

If the balance sheets of the CB and the banks are consolidated, we arrive at Balance Sheet 8. As can be seen, we have:

$$\begin{aligned}
\Delta M3 &= +100 \\
\text{BSSoC} &= \text{NLG [loans to govt (LG) less government deposits (GD)]} \\
&= \text{LG} - \text{GD}^* \\
&= 0 + 100^* \\
&= +100
\end{aligned}$$

[* increase -; decrease +]

BALANCE SHEET 8: MBS (LCC MILLIONS)			
Assets		Liabilities	
		Deposits of government	-100
		Deposits of NBPS	+100
Total	0	Total	0

Thus, government expenditure does lead to an increase in the money stock. However, this exposition is misleading, and it is so because the original transaction is omitted from the story. It is a critical part of the story: *the original transaction is that government either received revenue from taxes or borrowed the money*. In the former case, the opposite of the above would have occurred, as shown in Balance Sheet 9.

BALANCE SHEET 9: MBS (LCC MILLIONS)			
Assets		Liabilities	
		Deposits of government	+100
		Deposits of NBPS	-100
Total	0	Total	0

Thus, there would have been no change in the money stock: tax revenue depletes the money stock and it is restored when the funds are spent by government.

Some scholars have in the past based money creation on the government expenditure side of the story, that is, government expenditure increases the money stock and furthermore adds to the reserves of banks, enabling them to increase the money stock further – as a multiple of the new reserves. This is indicated in Balance Sheets 10 – 13 (RR = 10% of deposits). The banks have ER of LCC 90 million and are able to increase the money stock to LCC 900 million [LCC 90 million x (1 / 0.1)].

BALANCE SHEET 10: GOVERNMENT (LCC MILLIONS)			
Assets		Liabilities	
Deposits at CB	-100		
Goods	+100		
Total	0	Total	0

BALANCE SHEET 11: CENTRAL BANK (LCC MILLIONS)			
Assets		Liabilities	
		Government deposits	-100
		Bank reserves (TR)	+100
		(RR = +10)	
		(ER = +90)	
Total	0	Total	0

BALANCE SHEET 12: NBPS (LCC MILLIONS)			
Assets		Liabilities	
Goods	-100		
Deposits at bank	+100		
Total	0	Total	0

BALANCE SHEET 13: BANKS (LCC MILLIONS)			
Assets		Liabilities	
Reserves at CB (TR)	+100	Deposits of NBPS	+100
(RR = +10)			
(ER = +90)			
Total	+100	Total	+100

This, of course, is outmoded thinking, as new money is created by new bank lending (therefore a demand for bank loans must be present), and the effect on the RR (= 10% of new deposits) is happily accommodated (= BR) by the CB at its policy or key interest rate (KIR). Monetary policy is aimed at creating (in normal times) a permanent liquidity shortage (LS, that is, BR) and applying the KIR to the BR in order to influence the banks' prime lending rate (PR). The level of the PR affects the demand for bank loans and therefore the pace of money creation.

It may be useful to explore the case of government borrowing LCC 100 million by the issue of bonds (bought by the banks) and spending these funds on goods bought from the NBPS (see Balance Sheets 14 - 17).

BALANCE SHEET 14: GOVERNMENT (LCC MILLIONS)			
Assets		Liabilities	
Deposits at CB (from sale of bonds)	+100	Bonds	+100
Deposits at CB (for purchase of goods)	-100		
Goods	+100		
Total	+100	Total	+100

BALANCE SHEET 15: CENTRAL BANK (LCC MILLIONS)			
Assets		Liabilities	
		Government deposits (from sale of bonds)	+100
		Government deposits (for purchase of goods)	-100
Total	0	Total	0

BALANCE SHEET 16: NBPS (LCC MILLIONS)			
Assets		Liabilities	
Goods	-100		
Deposits at bank	+100		
Total	0	Total	0

BALANCE SHEET 17: BANKS (LCC MILLIONS)			
Assets		Liabilities	
Bonds	+100	Deposits of NBPS	+100
Total	+100	Total	+100

M3 (deposits of NBPS) increased by LCC 100 million and the BSSoC is Δ NLG (bank purchases of new bonds = new loans extended).

It is notable that in this case the banks are actually now *short of reserves* – because bank deposits have increased (which carry a 10% RR). This is shown in Balance Sheets 18 - 19.

BALANCE SHEET 18: CENTRAL BANK (LCC MILLIONS)			
Assets		Liabilities	
Loans to banks (BR) @ KIR	+10	Government deposits	+100
		Government deposits	-100
		Bank reserves (TR) (RR = +10)	+10
Total	+10	Total	+10

BALANCE SHEET 19: BANKS (LCC MILLIONS)			
Assets		Liabilities	
Bonds	+100	Deposits of NBPS	+100
Reserves at CB (TR) (RR = +10)	+10	Loans from CB (BR) @ KIR	+10
Total	+110	Total	+110

The banks are therefore obliged to take a loan from the CB at the KIR. The CB is happy to accommodate the banks, as indicated earlier.