

MONEY CREATION: MISCONCEPTIONS: A SMALL BANK CANNOT CREATE MONEY

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ABSTRACT

Apart from the main misconception of money creation, that is, the exogenous-endogenous money creation debate, there exist a number of lesser misconceptions, including that banks are “fully lent” when they have no excess reserves, that money creation begins with a new bank deposit, and that a small bank cannot create money. This article refutes the latter misconception.

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INTRODUCTION

Why is this issue worth addressing? It is because there are a number of misconceptions in respect of money creation, apart from the main one: exogenous versus endogenous money creation. This debate is not discussed in this text, as it is covered elsewhere (Faure, 2012a and 2012b). In a nutshell these publications reject exogenous money creation as non-existent, on the basis that the money multiplier “system” is a monetary policy model (now a theoretical one) and not a method of money creation. Even in it money is created by new bank loans.

The other lesser misconceptions include that banks are “fully lent” when they have no excess reserves, that money creation begins with a new deposit, and that a small bank cannot create money. The first-mentioned is at the core of the exogenous-endogenous money debate (Faure 2012a). The second-mentioned has been dealt with elsewhere (Faure, 2012c). The latter-mentioned misconception we discuss here, in the following sections:

- The literature.
- The simplicity of money creation.
- Money creation by a small non-clearing bank.
- Money creation by a small clearing bank.
- Closing remarks.

THE LITERATURE

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The “literature” is a working-lifetime of discussions, from time to time, with bankers on the issue. With the exception of a few, the bankers would state that any bank wishing to make a loan is obliged to take in a new deposit.

There are a few enlightened bankers who accept that a large clearing bank is able to make small loans by crediting a borrowing client’s current deposit account with the required amount (or provide an overdraft facility). The loan will be funded by the mix of deposits gathered in the course of the day. However, none accept that a small bank is able to make a loan without first getting a new deposit, and, because of this fact, new money (deposits) is not created.

The latter persons are correct that a small bank *should* gather in a new deposit to make a new loan (because it may lose a new deposit created for a borrower), but not correct that new money is not created in the process. In this article we set out to prove this.

THE SIMPLICITY OF MONEY CREATION

We begin by offering an example of money creation. Company B requires goods as inputs in its production process and wishes to purchase them from Company L. It does not have the funds and approaches Bank B for a loan. As Company B’s balance sheet and the production project are sound, Bank B grants an overdraft loan facility of LCC² 100 million. Company B makes an electronic funds transfer (EFT, by internet banking) to Company L’s current account at Bank L, and Company L delivers the goods to Company B. The balance sheet changes of the companies are shown in Balance Sheets 1 - 2.

BALANCE SHEET 1: COMPANY B (LCC MILLIONS)			
Assets		Liabilities	
Goods	+100	Loans from Bank B	+100
Total	+100	Total	+100

BALANCE SHEET 2: COMPANY L (LCC MILLIONS)			
Assets		Liabilities	
Goods	-100		
Deposits at Bank L	+100		
Total	0	Total	0

As two banks are involved, the settlement of interbank claims must take place. Worldwide this takes place over the accounts that banks are required to have with the central bank (CB). As shown in Balance Sheet 3 Bank B is short of reserves and Bank L has an excess (ER). Assuming the banks have no borrowed reserves (BR), Bank L will instruct the central bank to debit its account and credit Bank B’s account.

BALANCE SHEET 3: CENTRAL BANK (LCC MILLIONS)

² Fictitious currency code for fictitious currency, “corona”, of fictitious country, “Local Country”.

Assets		Liabilities	
		Deposits: banks (total reserves, TR) (Bank B = -100) (Bank L = +100)	0
Total	0	Total	0

After this transaction, the balance sheets of the private sector banks will be as shown in Balance Sheets 4 - 5.

BALANCE SHEET 4: BANK B (LCC MILLIONS)			
Assets		Liabilities	
Loan (Company B)	+100	Interbank loan from Bank L	+100
Total	+100	Total	+100

BALANCE SHEET 5: BANK L (LCC MILLIONS)			
Assets		Liabilities	
Interbank loan to Bank B	+100	Deposits (Company L)	+100
Total	+100	Total	+100

There is no reserve requirement (RR; also denotes *required reserves*) against interbank loans, but there are against public deposits. Thus, Bank L is obliged to deposit an additional LCC 10 million (assuming a RR ratio of 10% of deposits) with the central bank. This is given effect once the bank has certified its monthly return of deposits (etc) with the central bank, which usually takes place 3 weeks after the relevant month-end.

How does Bank L get the LCC 10 million additional RR? It cannot create central bank money (CBM), and has no option but to take a loan from the central bank [at the key (or policy) interest rate (KIR)] on the relevant day, as indicated in Balance Sheets 6 - 7.

BALANCE SHEET 6: BANK L (LCC MILLIONS)			
Assets		Liabilities	
Reserves (TR) (RR = +10) (ER = 0)	+10	Loans from CB @ KIR	+10
Total	+10	Total	+110

BALANCE SHEET 7: CENTRAL BANK (LCC MILLIONS)			
Assets		Liabilities	
Loans to Bank L @ KIR	+10	Bank deposits (TR) (RR = +10) (ER = 0)	+10
Total	+10	Total	+10

What has happened to the money stock? It increased by LCC 100 million, and the balance sheet source of change (BSSoC) was an increase in bank loans to the private sector (LPS). The actual source of change (ASoC) was the demand for bank loans which was satisfied by the bank.

What are the alternatives to the above example? They are (1) that the bank making the loan gets a new deposit (which another bank loses); (2) that Bank A credits Company B's current account by LCC 100 million (see Balance Sheet 8). In both cases the outcome is the same as in the example.

BALANCE SHEET 8: BANK B (LCC MILLIONS)			
Assets		Liabilities	
Loan (Company B)	+100	Bank deposits (Company B)	+100
Total	+100	Total	+100

With this as the backdrop, we proceed with the example of loan made by a non-clearing bank.

MONEY CREATION BY A SMALL NON-CLEARING BANK

Company B wishes to borrow LCC 100 million from Bank B for a project. It involves purchasing goods for production inputs to this value from Company A, which banks at Bank A. Bank B approves the loan. However, Bank B is a non-clearing (NC) bank which operates a bank account at clearing Bank X. It enters the deposit market and gathers in a new deposit from Company Y which banks with Bank Y, based on a competitive interest rate. The relevant balance sheets change as indicated in Balance Sheets 9 - 13. Note that real-time gross settlement (RTGS)³ takes place over the banks' accounts at the central bank.

BALANCE SHEET 9: COMPANY Y (LCC MILLIONS)			
Assets		Liabilities	
Deposits (Bank Y)	-100		
Deposits (Bank B)	+100		
Total	0	Total	0

BALANCE SHEET 10: BANK Y (LCC MILLIONS)			
Assets		Liabilities	
Reserves at CB	-100	Deposits (Company Y)	-100
Total	-100	Total	-100

BALANCE SHEET 11: NC BANK B (LCC MILLIONS)			
Assets		Liabilities	

³ This reflects reality. In most countries there are two interbank settlement systems: one where small payments are netted out (that is, netted amounts are settled), and the non-netting RTGS system for large payments.

Deposits (Bank X)	+100	Deposits (Company Y)	+100
Total	+100	Total	+100

BALANCE SHEET 12: BANK X (LCC MILLIONS)			
Assets		Liabilities	
Reserves at CB	+100	Deposits (Bank B)	+100
Total	+100	Total	+100

BALANCE SHEET 13: CENTRAL BANK (LCC MILLIONS)			
Assets		Liabilities	
		Deposits: banks (TR) (Bank Y = -100) (Bank X = +100)	
Total	0	Total	0

Bank B notifies Company B that it is ready to make the payment on its behalf to Company A at Bank A. Company B agrees and the payment is made via the interbank clearing system (that is, via the banks' accounts at the central bank). Note that the payment made by Bank B is from its account at Bank X. Company A delivers the goods to Company B. This is indicated in Balance Sheets 14 - 19 [some are continuous with opposite entries (netted out), as indicated].

BALANCE SHEET 14: COMPANY A (LCC MILLIONS)			
Assets		Liabilities	
Goods	-100		
Deposits (Bank A)	+100		
Total	0	Total	0

BALANCE SHEET 15: COMPANY B (LCC MILLIONS)			
Assets		Liabilities	
Goods	+100	Loans (Bank B)	+100
Total	+100	Total	+100

BALANCE SHEET 16: NC BANK B (LCC MILLIONS)			
Assets		Liabilities	
Deposits (Bank X)	+100		
Deposits (Bank X)	-100	Deposits (Company Y)	+100
Loans (Company B)	+100		
Total	+100	Total	+100

BALANCE SHEET 17: BANK X (LCC MILLIONS)			
Assets		Liabilities	
Reserves at CB	+100	Deposits (Bank B)	+100
Reserves at CB	-100	Deposits (Bank B)	-100

Total	0	Total	0
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BALANCE SHEET 18: BANK A (LCC MILLIONS)			
Assets		Liabilities	
Reserves at CB	+100	Deposits (Company A)	+100
Total	+100	Total	+100

BALANCE SHEET 19: CENTRAL BANK (LCC MILLIONS)			
Assets		Liabilities	
		Deposits: banks (TR)	
		(Bank Y = -100)	
		(Bank X = +100)	
		(Bank X = -100)	
		(Bank A = +100)	
Total	0	Total	0

It will be seen that Bank Y, which lost the deposit from Company Y, is short of reserves (it is in contravention of the RR) and that Bank A, which received a deposit from Company A, is long of reserves. These two banks will find one another in the interbank market at the end of business that day, and Bank A will lend the funds to Bank Y, as indicated in Balance Sheets 20 – 22.

BALANCE SHEET 20: BANK Y (LCC MILLIONS)			
Assets		Liabilities	
Reserves at CB	-100	Deposits (Company Y)	-100
Reserves at CB	+100	Interbank loan (Bank A)	+100
Total	0	Total	0

BALANCE SHEET 21: BANK A (LCC MILLIONS)			
Assets		Liabilities	
Reserves at CB	+100		
Reserves at CB	-100	Deposits (Company A)	+100
Interbank loans (Bank Y)	+100		
Total	+100	Total	+100

BALANCE SHEET 22: CENTRAL BANK (LCC MILLIONS)			
Assets		Liabilities	
		Deposits: banks (TR)	
		(Bank Y = -100)	
		(Bank Y = +100)	
		(Bank A = +100)	
		(Bank A = -100)	
Total	0	Total	0

For the sake of simplicity we assumed that there was no BR; if there was, there would just have been a substitution. We also ignored the effect of changes in

deposits with the various banks on the RR for the sake of simplicity. This can be easily rectified; the outcome is the same [except for a net change in RR and central bank loans (BR) of LCC 10 million], which does not affect the analysis.

What happened to the money stock? Central banks calculate this by consolidating the balance sheets of the banks (A, B, X and Y) and the central bank (together called the monetary banking institutions, MBIs), in the process netting out interbank claims. We present it in Balance Sheet 23.

BALANCE SHEET 23: CONSOLIDATED BALANCE SHEET OF MBIs (LCC MILLIONS)			
Assets		Liabilities	
Loans (to PS) (LPS)	+100	Deposits (private sector)	+100
Total	+100	Total	+100

The money stock (private sector deposits) increased by LCC 100 million, and the BSSoC is an increase in LPS of the same amount. The ASoC is the demand for bank loans satisfied by the banking sector. This clearly shows that a small bank is able to create new money, albeit in a roundabout manner.

MONEY CREATION BY A SMALL CLEARING BANK

Is the analysis any different if Bank B is a small clearing bank? The outcome is the same, but the path is a little different. There is nothing stopping Bank B crediting Company B's account with LCC 100 million, as indicated in balance Sheet 24.

BALANCE SHEET 24: BANK B (LCC MILLIONS)			
Assets		Liabilities	
Loans (Company B)	+100	Deposits (Company B)	+100
Total	+100	Total	+100

If Company A (the seller of goods to Company B) banks with Bank B, there is no problem, as indicated in Balance Sheet 25. The outcome is the same.

BALANCE SHEET 25: BANK B (LCC MILLIONS)			
Assets		Liabilities	
Loans (Company B)	+100	Deposits (Company B)	+100
		Deposits (Company B)	-100
		Deposits (Company A)	+100
Total	+100	Total	+100

Even if Company A banks with Bank A, the outcome is the same, as indicated in Balance Sheets 26 - 27. The banks will find one another in the interbank market as indicated.

BALANCE SHEET 26: BANK B (LCC MILLIONS)			
Assets		Liabilities	

Loans (Company B)	+100	Interbank loans (Bank A)	+100
Total	+100	Total	+100

BALANCE SHEET 27: BANK A (LCC MILLIONS)			
Assets		Liabilities	
Interbank loans (Bank B)	+100	Deposits (Company A)	+100
Total	+100	Total	+100

However, these two scenarios are unlikely, and this is so because Bank B is a small bank. It cannot be certain, in Scenario 1, of Company A's deposit, and, in Scenario 2, of the interbank loan from Bank A.

It will thus enter the deposit market and gather in a new deposit (which another bank will lose). If we assume, as above, that the new deposit comes from Company Y (and Bank Y), the banks' balance sheets change as appear in Balance Sheets 28 – 30 (the balance sheets of the companies are the same as above). The assumption is that Bank A and Bank Y are large banks and are happy to lend to one another in the interbank market.

BALANCE SHEET 28: BANK B (LCC MILLIONS)			
Assets		Liabilities	
Loans (Company B)	+100	Deposits (Company Y)	+100
Total	+100	Total	+100

BALANCE SHEET 29: BANK Y (LCC MILLIONS)			
Assets		Liabilities	
Reserves (TR)	-100	Deposits (Company Y)	-100
Reserves (TR)	+100	Interbank loans (Bank A)	+100
Total	0	Total	0

BALANCE SHEET 30: BANK A (LCC MILLIONS)			
Assets		Liabilities	
Interbank loans (Bank Y)	+100	Deposits (Company A)	+100
Total	+100	Total	+100

Again, it is clear that a small bank is able to create new money.

A CONCLUDING REMARK

How is it possible for a small bank, which has to gather in a new deposit (from another bank), to create money? The answer is a simple one. It has liabilities (mainly deposits – marketable and non-marketable) and assets (mainly loans – marketable and non-marketable), and its deposits are the means of payments / medium of exchange. Thus, they can be created.

It will have been noted that this article avoided a discussion on monetary policy, that is, how the growth rate in money growth is influenced by the central bank. This is discussed in the other articles shown below.

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