

Chapter 2

Theoretical Views on Money Creation and Credit Rationing

2.1 Loanable Funds Theory Versus Post-Keynesian Endogenous Money Theory

In what appears to be an adequate explanation to how money is created in a modern fiat money system, the Bank of England recently published an article in its quarterly review published in March 2014 (i.e. McLeay et al. 2014). This paper literally rejects the conventional theories of bank lending and money creation (e.g. those found in macroeconomics textbooks like Krugman and Wells 2009; Mankiw 2011) and seems to endorse the endogenous money creation theory of Post-Keynesian heterodox economists. One major misconception in most macroeconomics textbooks alluded to by the Bank of England is that banks act simply as intermediaries, lending out the deposits that savers place with them. According to this view, deposits are typically ‘created’ by the saving decisions of households, and banks then ‘lend out’ those existing deposits to borrowers, for example to companies looking to finance investment or individuals wanting to purchase houses. In fact, when households choose to save more money in bank accounts, those deposits come simply at the expense of money that would have otherwise gone to companies in payment for goods and services. Saving does not by itself increase the deposits or ‘funds available’ for banks to lend (McLeay et al. 2014). Thus in essence, viewing banks as simply intermediaries ignores the fact that commercial banks are actually creators of deposit money. The Post-Keynesian Endogenous Money theory presupposes that as financial intermediaries, commercial banks have the capacity to create money. By lending money that they do not directly possess, commercial banks are in effect issuing money. For example, whenever a bank makes a loan, it simultaneously creates a matching deposit in the borrower’s bank account, thereby creating new money. Though commercial banks create money through lending, their lending activities are however limited by prudential regulations, which imposes constraints as a way of maintaining the resilience of the financial system.

Another area of misconception relates to the so-called “money multiplier approach” to the creation of money, which suggests that the central bank determines the quantity of loans and deposits in the economy by controlling the quantity of central bank money. According to this view, central banks implement monetary policy by choosing a quantity of reserves. And because, it is assumed that there is a constant ratio of broad money to base money, these reserves are then “multiplied up” to a much greater change in bank loans and deposits (McLeay et al. 2014). For this theory to hold, the amount of reserves must be a binding constraint on lending, and the central bank must directly determine the amount of reserves. According to the credit view of monetary policy, one channel through which changes in bank reserves (induced by open market operations) can affect real activity is by affecting the quantity of funds that banks have to lend (Bernanke and Lown 1991). This is mostly achieved by varying the reserve requirements of banks. Higher reserve ratios reduce the quantum of funds available for onward lending, and vice versa. Though the money multiplier approach is particularly useful in understanding how the amount of reserves is determined, it does not describe how money is created in the real world.

In practice nowadays, rather than controlling the quantity of reserves, central banks typically implement monetary policy by setting the price of reserves—that is, the interest rates. According to Coppola (2014), the perception that the quantity of reserves created drives the amount of loans granted by banks is wrong. This is because banks’ decisions to lend are based on the availability of profitable lending opportunities at any given point in time. Lending is driven by the banks’ risk appetite. Banks lend when the risk/return profile is in their favour. When it is not, no amount of extra reserve creation will make them lend. Monetary policy therefore focuses on the price of money, not its quantity, since changes in the price of money will influence the returns available to banks for lending and therefore their willingness to lend. The Bank of England’s recent paper (McLeay et al. 2014) argues that the most important influence on money creation is the interest rate. It admits that monetary policy is the ultimate constraint on lending.

The interest rate that commercial banks can obtain on money placed at the central bank influences the rate at which they are willing to lend on similar terms in sterling money markets — the markets in which the Bank and commercial banks lend to each other and other financial institutions... Changes in interbank interest rates then feed through to a wider range of interest rates in different markets and at different maturities, including the interest rates that banks charge borrowers for loans and offer savers for deposits. By influencing the price of credit in this way, monetary policy affects the creation of broad money”. (McLeay et al. 2014: 8)

The transmission mechanism of monetary policy described by the Bank of England does relate perfectly with both the New-Keynesian literature and the Post-Keynesian endogenous money theory. But the Post-Keynesian literature, however, disagrees with the idea that the characterization of the setting of interest rates is the ultimate constraint to lending as the Bank of England posits (Pilkington 2014). For post-Keynesians, the amount of money created in the economy is ultimately dependent on the demand for credit. Though the supply price of credit (that is, the interest rate) will influence the demand for credit, the experiences of the

global financial crises over the last few years do show that what truly drives credit creation and the supply of credit is of secondary importance (Pilkington 2014). Prior to the recent crises, most central banks operated a loose monetary policy: policy discount rates (including interest rates on large certificate of deposits CDs) were brought low, while other wholesale market funds and managed liabilities were exempted from prudential reserve requirements. In essence, banks were awash with liquidity so that evidence from the recent crises seems to refute the hypothesis that supply was constrained by shortage of loanable funds. Moreover, the lending boom that preceded the crisis was largely aided by the flow of cheap funds around the world, especially from Asian markets to the developed markets. However, from 2008, with the dramatic freezing of wholesale markets, this source of funding proved much less attractive. This has increased demand for other, more traditional funding sources, such as retail deposits, which in turn has increased the costs of banks raising funds for onward lending (BBA 2011).

2.2 Information Asymmetry and Credit Rationing

This sub-section presents two opposing views on the theory of credit rationing: the New Keynesian theory (or the mainstream view), pioneered by Stiglitz and Weiss (1981) and the post-Keynesian view. According to the current new-Keynesian mainstream economic theory, asymmetric information is widespread in financial markets. It generates “adverse selection” and “moral hazard” effects (as described in this section below), which explain why credit rationing may persist even in liberalised financial markets. For the post-Keynesian view, both adverse selection and moral hazard are unlikely to be serious problems in reality, so that the Stiglitz and Weiss model is unrealistic (Paloni 2014).

2.2.1 *The New-Keynesian Theory—The Stiglitz and Weiss (S-W) Model*

According to the New Keynesian theory of credit rationing, asymmetric information arises in credit markets between the borrower and lender when one of the counterparties (usually the lender) does not have sufficient information or knowledge of the other counterparty involved in the loan transaction, which makes it difficult to make accurate lending decisions. For example, a borrower who seeks a loan is believed to have better information about the potential returns and risk associated with the investment project for which the loan is sought than the lender does. In other words, the New Keynesian theory assumes that there is a precise probabilistic distribution of returns from each project that a potential bank borrower wants to undertake. This distribution is known by the borrower, but not by the

lender. According to Stiglitz and Weiss (1981: 395), though the lender may know the expected mean return of a project, it cannot ascertain the riskiness of a project.

In market equilibrium, the presence of asymmetric information often leads to credit rationing among potential borrowers (Stiglitz and Weiss 1981; De Meza and Webb 1987; Berger and Udell 1992; Petersen and Rajan 1994). Banks making loans are concerned about the interest rate they receive on the loan and the riskiness of the loan. However, the interest rate a bank charges may itself affect the riskiness of the pool of loans in two ways, either by: (1) sorting potential borrowers (“adverse selection” effect); or (2) affecting the actions of borrowers ex-post (the incentive effect or “moral hazard”). Both effects derive directly from the residual imperfect information, which is present in loan markets after banks have evaluated loan applications (Stiglitz and Weiss 1981).

The adverse selection aspect of interest rates is a consequence of different borrowers having different probabilities of repaying their loan. The expected return to the bank depends on the probability of repayment, so the bank would like to be able to identify borrowers who are more likely to repay. It is difficult for the bank to identify “good borrowers”, and to do so requires the bank to use a variety of screening devices. One of such screening devices is the *interest rate* that a borrower is willing to pay: those who are willing to pay high interest rates may, on the average, be worse risks; they are willing to borrow at high interest rates because they perceive their probability of repaying the loan to be low. As the interest rate rises, the average “riskiness” of those who borrow increases, possibly lowering the bank’s profits. Similarly, as the interest rate and other terms of the contract change, the behavior of the borrower is likely to change (“moral hazard”). For instance, raising interest rates decreases the return on projects that succeed. Higher interest rates induce firms to undertake projects with lower probabilities of success but higher payoffs when successful.

2.2.2 *The Post-Keynesian Theory of Credit Rationing*

According to post-Keynesian theory, asymmetric information is in practice not very significant, suggesting that neither the lenders nor the borrowers know the prospective yield of an investment project. In their view, credit rationing exists because borrowers and lenders have asymmetric expectations about the probability of repayment (Paloni 2014). Thus, why the New Keynesians on the one hand believe that only one party (the lender) is uncertain about the riskiness of the borrower, the Post-Keynesians on the other hand believe that both the lender and borrower are oblivious of the probability of loan repayment. In other words, they believe that there is *fundamental uncertainty* about the risks and possible outcomes of an investment project (Wolfson 1996). This uncertainty is believed to affect the criteria that banks use in forming judgments about the risk of repayment. Bankers, knowing that they do not know the future, only rely on assumptions and certain conventions in their credit assessment. They then form an opinion of the

likelihood of repayment. For example, borrowers who have a history of repaying loans on time and continue to maintain a strong financial condition will be preferred. Bankers also take into cognisance the prevailing macroeconomic conditions in making their assessment of the riskiness of a potential loan. Post-Keynesians thus argue that with fundamental uncertainty, the past provides no dependable guide to future events. They argue that investment is subject to uncertainty and not risk (Paloni 2014). For example, the outcome of an investment project depends upon future economic circumstances, future inventions, as well as the actions of future competitors. The argument is that even if similar investments have been made in the past, the economic environment of a new investment differs from those of past investments. This is the probability theory upon which the post-Keynesians assume information asymmetry cannot be used in these circumstances because uncertain outcomes are not constrained to any known finite set of possibilities (Paloni 2014).

Following from the concept of fundamental uncertainty, post-Keynesians also introduce the concept of *asymmetric expectations*, which suggests that both the lender and borrower will evaluate the future differently (i.e. they will reach different conclusions about the future) since they are both uncertain about the future, thus showing that they have asymmetric expectations about the future probability of any particular project (Wolfson 1996). Since the borrower and lender do not necessarily agree on the riskiness of a particular project, credit rationing tends to occur based on this uncertainty. One implication of this is that the lender will be more risk-averse than the borrower. In line with a Post Keynesian perspective of credit rationing, Wolfson (1996) argues that bankers accommodate all credit-worthy demands for credit, and ration all those demands not deemed creditworthy. According to him, a perceived change in the financial condition of bank borrowers will be likely to change bankers' conventional valuations of the risk of lending, and thus the extent of credit rationing. As Minsky (1986) argues, this change in valuation takes place endogenously. According to him, financial fragility increases as borrowers take on more debt, as the maturity of that debt shortens, and as liquidity declines. These borrower risk characteristics are examined in detail within the context of SME lending in Sect. 4.1.

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Ekpu, V.U.

2016, XII, 94 p. 1 illus. in color., Softcover

ISBN: 978-3-319-25836-2