Commentary

Franklin Allen

The conventional wisdom concerning the interaction between economic development and financial system structure is that there are three stages (see, e.g., Gurley and Shaw, 1960, Goldsmith, 1969, and Allen and Gale, 2000). In this process of historical development, increasing per capita income and financial depth reinforce each other, and the transaction costs of establishing financial institutions and markets play a key role. In the first stage, where the level of development is low, investment is self-financed. The only financial instrument is money. At moderate levels of development, the second stage, banks and other financial institutions start to play a role. These financial institutions transfer resources from agents with excess funds to agents that need funds to invest and consume. They also provide liquidity insurance and a range of other services. At the third stage, formalized markets develop for agents (including financial institutions) to trade in. These markets improve the efficiency of the allocation from surplus units to deficit units and allow risk sharing.

This interesting paper contributes to the literature on financial system structure and growth by showing that it is not just transactions costs that matter for the development of banking systems. Monetary policy is also an important determinant of the extent of intermediation. The paper develops a model based on the interaction of the transactions costs of intermediation and monetary policy. The main result is that some low-income countries that have high inflation and a poorly developed banking system may be able to improve the banking sector by lowering the rate of inflation. They give the examples of Argentina in the 1980s and early 1990s, Brazil in the 1990s, and Bolivia in the 1980s. In all these countries a reduction in inflation was accompanied by a significant growth in the financial sector.

The model assumes an overlapping generations framework with two-period-lived individuals. These people are endowed with 1 unit of labor when they are young, which provides their income. They save their labor income for their old age, which is when they consume. The individuals have constant relative risk aversion utility functions with a degree of risk aversion between 0 and 1.

An important role is played by liquidity shocks. These are modeled by assuming there are two islands with limited communication between them but perfect communication within each one. After they have made their saving decisions, individuals find out whether they have to relocate to the other island. Initially, the proportion that relocates is known but the identities of who has to relocate are not.

Production takes place on each island using capital and labor. The production function is Cobb-Douglas and displays constant returns to scale. The assets available for saving are physical capital and money. Physical capital cannot be moved between the islands but money can be.

If there are no banks, you have to abandon your capital if you are relocated and the capital is lost to you and to society as a whole. In contrast, if there is a bank, a person who is forced to relocate can withdraw money from the bank before moving and take it with her. There is no private or social loss of capital. Banks thus provide liquidity insurance.

Money is printed by the government in order to purchase the final good. Government expenditure does not have any direct effect on people's behavior.

In the first case analyzed, there are no banks and people save using direct holdings of physical capital and money. Physical capital has a higher return but cannot be relocated and is wasted if relocation occurs. Currency has the advantage that it can be transported. It has an opportunity cost that depends on the rate of inflation and the marginal product of capital. The optimal portfolio of physical capital and money depends on the trade-off between the opportunity cost of holding currency and the probability of relocation. The main result is that there is a unique steady state for the economy. This is a fairly simple case, so the result is not particularly surprising.

In the second case, individuals put their savings

Franklin Allen is a professor of finance and economics at The Wharton School, University of Pennsylvania.

in banks. Each bank chooses a portfolio of physical capital and money. If a person is relocated she can withdraw the currency and take it with her. The banks thus provide liquidity insurance. On the other hand, banks are costly because of fixed transaction costs. In this case, two steady states exist, one with a high nominal interest rate and one with a low nominal interest rate.

The main result of the paper is to show that whether agents choose autarky or intermediated saving depends on monetary policy. General equilibrium effects are complex because the bank has to make a decision about how much liquidity to hold. There are two possible situations. In the first, for low nominal interest rates, currency has a low opportunity cost, so autarky prevails and banks are not used; for high nominal interest rates, currency has a high opportunity cost and banks are used.

In the second situation, for low and high nominal interest rates autarky prevails and banks are not used; for intermediate rates banks are used. The intuition for the second situation is the same as the first. The difference between the two situations is that, in the second, at high nominal rates less liquidity insurance would be offered by banks. As a result, it becomes unattractive to pay the fixed cost to use the bank, so people save on their own. This second case shows that a lack of banks may be due to monetary policy that causes high inflation and high nominal rates. A change in monetary policy may lead to the establishment of banks.

This is an interesting paper on an important topic that is well worth reading. It is quite thought provoking and opens up many interesting questions for future research.

1. Is there any historical or other evidence that can determine the validity of the conventional wisdom that transaction costs alone, rather than monetary policy, lead to the absence of banks? For example, in the 19th century, did adopting the gold standard help the financial systems of some countries?
2. How important to the results is the loss of self-financed capital in the autarkic system when relocation occurs? If the interpretation is that people are self-financed entrepreneurs, then this is a reasonable assumption. Another possible interpretation is that there are partnerships or firms with multiple owners. In this case, the output from the capital would not be lost but would be transferred to the other owners. It would be interesting to see whether this made any difference to the results.
3. What precisely is the role of liquidity insurance provided by banks versus the loss of output from relocation under autarky? An interesting special case might involve log utility. In the Diamond and Dybvig (1983) framework, liquidity insurance does not provide any benefit in this case. Is this true here? A good benchmark model might be log utility, no social loss of output under relocation, and no fixed costs of setting up a bank. Autarky and banking might be equivalent here. It could then be seen which assumptions are most important for the results obtained.
4. What is happening to government expenditure in the comparison of autarky and banks? If government expenditure is higher in the high nominal rate autarkic equilibrium, then it may be that the inflation tax is an efficient tax.
5. Is a welfare analysis of any kind possible? Can the steady states be compared? Are welfare comparisons possible in the numerical examples?
6. What would happen with equity markets? Would this eliminate liquidity insurance and be worse than the banking system in the same way as in Jacklin (1987)? When would equity markets occur in equilibrium? This might provide an interesting contrast to the conventional wisdom discussed initially.
7. If aggregate uncertainty could be introduced, the interaction of monetary policy, financial structure, and financial stability could be investigated. This is a crucial issue that has had relatively little research devoted to it. It deserves much more attention.

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