

FINANCIAL INSTABILITY AND THE SHARE ECONOMY

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INTRODUCTION

The instability of the economy is, for Minsky [1975; 1977; 1980; 1982; 1986], as for Keynes, systemic: instability and financial crises are inherent features of a modern capitalist economy. According to Minsky, the laissez-faire capitalist economy becomes unstable by using debt creation as a means to acquire physical assets and by its successful "hedge finance" evolving into fragile "speculative finance". This results in insolvency problems for some firms and financial intermediaries which may lead to widespread bankruptcies through a domino effect.

The fact that we have not recently seen an economic disaster similar to the Great Depression, according to Minsky, is due to the presence of relatively big government and the active role the Federal Reserve System plays in controlling the rate of interest and the supply of money. The combination of massive government deficits in recessions and prompt lender-of-last-resort interventions by the Fed has contained the downside movements of aggregate profits and, hence, prevented a financial crisis. But this has led to an erosion of the size of the margins of safety that borrowers and lenders alike require for financing and has resulted in a more fragile financial structure. Minsky, a follower of Keynes, thus makes a favorable case for government's stabilization policies. However, the size of the government's budget and whether it should try to stabilize the economy, is a subject of major controversy among contemporary economists [Fischer, 1988].

This paper considers how a system of profit-loss sharing arrangements as an alternative to the interest system curbs financial instability and modifies banking and government's economic role.¹ By using Lavoie's [1986/87] formulation of Minsky's hypothesis we argue that a major source of instability in the capitalist system is the institution of "interest". We then discuss how an alternative system of profit-loss sharing arrangements curbs instability and modifies banking and government's economic role. Finally, the viability of the profit-loss sharing system with respect to the savings behavior, the moral hazard problem on the part of the borrowers, etc., is addressed.

THE INSTITUTION OF "INTEREST" AND FINANCIAL INSTABILITY

There have been few attempts to model Minsky's "financial instability hypothesis". Weise and Kraft [1981] consider a game-theoretic approach to Minsky's view. Taylor and O'Connell [1985] and Semmler [1985] consider more complex representations, especially the latter who introduces nonlinearity. Lavoie's simple model, however, suits our purpose of discussing the institution of interest as a major source of instability.²

Lavoie provides a simplified model which allows one to interpret at a glance the very subtle and complex inner working of Minsky's hypothesis. He argues that Minsky's thesis relies on two crucial phenomena: first, the economy "naturally" moves towards a more fragile financial system; and second, under such circumstances, interest rates will eventually rise. Lavoie chooses the leverage ratio — the share of investment financed through external sources — as an indicator of vulnerability. He starts with Adrian Wood's [1975] representation of the financial constraints of firms. Using Nicholas Kaldor's [1966] neo-Pasinetti theorem, the transformed dynamic representation of the financial constraints of firms, Lavoie gets one of the two fundamental equations of his model:³

$$(dg/dt)/g = (dr/dt)/r + (ds/dt)/s + (du/dt)/u - (dv/dt)/v + ((dx/dt)/x)x/(1-x)$$

where g is the rate of growth of capital, r is the retention ratio of the firm on gross profits,⁴ s is the share of profits in national income,⁵ u is the rate of utilization of capacity, v is the technological capital-capacity ratio, and x is the leverage ratio.

The above equation implies that an increase in the rate of growth of capital requires a higher retention ratio, or a larger profit margin, or a higher level of utilization of capacity, or a larger leverage ratio, or more likely a combination of these depending on the institutional and practical limits of these parameters, Lavoie argues. Lavoie observes that such an increase in the rate of growth of capital corresponds precisely to a boom situation. The technological capital-capacity ratio, v , can be assumed to be constant at least in the short run. An increase in the capacity utilization ratio is desirable in general but is only possible to its limit. Thus, the channels of retention ratio, profit margin and leverage ratio can be used for firms' expansion. Considering the leverage ratio as a proxy for the financial fragility of a given system,⁶ the economy indeed moves towards a more fragile financial system in a period of investment boom by depending on a larger leverage ratio, Lavoie concludes.⁷

Using Sidney Weintraub's macroeconomic markup equation, Lavoie gets the second fundamental equation of his model:

$$(dp/dt)/p = (dw/dt)/w - (dA/dt)/A + ((ds/dt)/s)s/(1-s)$$

where p is the price level, w is the nominal wage rate, A is an index of productivity and, as defined earlier, s is the share of profits in national income.

Combining the above two equations, Lavoie argues that an investment boom characterized by increasing growth rates of capital accumulation may require a constant rate of growth of the share of profits in national income, which implies, *ceteris paribus*, an increasing rate of growth of prices. He then refers to the standard Fischer relation to conclude why interest rates may eventually increase resulting in financial instability in accordance with Minsky's thesis.

In light of the above, we can summarize the consequences of an investment boom in a capitalist economy as (1) a higher level of utilization of capacity, (2) a larger leverage ratio, (3) a higher retention ratio, (4) a larger profit margin, (5) a constant rate of growth of the share of profits involving a period of inflation and higher nominal interest rates.

An increase in the leverage ratio moves the economy towards a more fragile financial system because it increases firms' future commitments in fixed amounts whereas their future income/receipts remain uncertain. A major cause of instability in capitalism is, therefore, the fixity of future commitments or the institution of "interest". It is puzzling to note, however, the widespread acceptance, at least implicitly, of this institution by almost all economists. Keynes himself had changing views on the subject [Keynes, 1936, 166, 167, 376]. For instance, in Chapter Thirteen of the *General Theory*, while rejecting the Classical — the loanable funds — theory of interest, he gives another explanation for interest based on his liquidity preference theory.

The rate of interest at any time, being the reward for parting with liquidity, is a measure of the unwillingness of those who possess money to part with their liquid control over it. The rate of interest is not the 'price' which brings into equilibrium the demand for resources to invest with the readiness to abstain from present consumption. It is the 'price' which equilibrates the desire to hold wealth in the form of cash with the available quantity of cash ...

But, in the concluding chapter of the *General Theory*, in his policy recommendations, Keynes argues against the institution of interest and sees no intrinsic reason for scarcity of capital and, hence, for interest to exist, in the long run, except in a certain case.⁸ He then presents the idea of "communal saving [socialization of investment] through the agency of the State" to remove scarcity of capital in such a case. He is vague regarding the meaning of this, however. More specifically, Keynes [1936, 376] writes,⁹

Interest today rewards no genuine sacrifice anymore than does the rent of land. The owner of capital can obtain interest because capital is scarce, just as the owner of land can obtain rent because land is scarce. But whilst there may be intrinsic reasons for the scarcity of land, there are no intrinsic reasons for the scarcity of capital. An intrinsic reason for such scarcity, in the sense of a genuine sacrifice

which could only be called forth by the offer of a reward in the shape of interest, would not exist, in the long run, except in the event of the individual propensity to consume proving to be of such a character that net saving in conditions of full employment comes to an end before capital has become sufficiently abundant. But even so, it will still be possible for communal saving through the agency of the state to be maintained at a level which will allow the growth of capital up to the point where it ceases to be scarce...

It is important to note that the primary concern for Keynes was that high interest rates often cause a low level of investment and, consequently, involuntary unemployment [Keynes, 1936, 222, 375, 377]. As far as instability of capitalism is concerned, Keynes [1936, 315] blames the violent nature of the marginal efficiency of capital.¹⁰

Now, we have been accustomed in explaining the 'crisis' to lay stress on the rising tendency of the rate of interest under the influence of the increased demand for money both for trade and speculative purposes. At times this factor may certainly play an aggravating and, occasionally perhaps an initiating part. But I suggest that a more typical, and often the predominant, explanation of the crisis is, not primarily a rise in the rate of interest, but a sudden collapse in the marginal efficiency of capital.

An ultimate destabilizing factor in capitalism is the institution of "interest" and its role in causing a discrepancy between businesses' payment commitments and liabilities on one hand, and their receipts and assets on the other. Even if, as Keynes argued, the instability process is initially generated by a decrease in the marginal efficiency of capital (perhaps due to a deficiency in effective demand or a supply shock), the actual problem remains in the independence of the cost of finance — interest rate — from the productivity of the respective debt-financed capital assets, and in determining the former prior to observing the latter. If the interest rate were determined *ex post*, this rate would always be set less than or equal to the marginal efficiency of capital,¹¹ and could no longer destabilize the financial system.¹²

Under the interest system, when the entrepreneurs follow the expansive (speculative) market sentiment in a boom situation, the providers of funds, especially the (thinly-capitalized) financial intermediaries, readily accommodate them. The latter do so because they are assured of their principal and fixed interest earnings irrespective of the performance of the business undertaken.¹³ If the providers of funds were required to share the profit and loss of the business they finance, they would not accommodate the entrepreneurs as readily.

An alternative profit-loss sharing system would be different in two ways. First, it would increase lenders' scrutiny of business undertakings by denying them a fixed positive return. Second, it would distribute the risk of investment between lenders

and borrowers by assigning both sides a predetermined share of the profits and losses.¹⁴ The entrepreneurs and the providers of funds would not be carried away by the market sentiment as easily. Not only would fluctuations in the level of investment decline, but also a sudden decrease in the marginal efficiency of capital would not render the indebted units insolvent, as a reduction in borrowers' profit (loss) would be shared by lenders and is spread over a larger group. The result would be a more stable level of investment and financial structure.¹⁵

BANKING IN THE SHARE ECONOMY

The basic idea in the financial share economy is that to earn an income from saving or investment one must directly share the business risk with the entrepreneurs.¹⁶ This notion has profound implications for banking.

On the liabilities side of their balance sheet, the banks would not be able to offer the depositors a fixed positive return and would not be able to borrow at the fixed bank rate. The depositors could keep their money in (checking) accounts which would not yield any return, positive or negative, and pay a service charge.¹⁷ On the other hand, they could invest their money in (saving) accounts of different maturities similar to the deposits at a typical investment trust or mutual fund. In this case a depositor could get less than the principal amount. The banks would share their profits and losses with the depositors at predetermined rates.

On the assets side of their balance sheet, the banks would not have assets with fixed rates of return. They could continue to keep corporate stocks, but not bonds, in their portfolios. Regarding their loans and investments, the rate of return would depend directly on the performance of the businesses financed. The banks would share with the entrepreneurs their profits and losses at predetermined rates.

Effective management of the assets of the banks in the share economy might seem to require formation of project evaluation and monitoring departments in every bank, but that need not be the case. It is conceivable that various banks would purchase the services of independent project evaluators and monitors and, hence, would not need to develop such departments individually.¹⁸ But, banking tribunals might be needed to settle any disputes between the banks and the entrepreneurs.

The profit-loss sharing banking involves no collateral. Consequently, it would help entrepreneurs who want to start businesses but do not have the necessary initial capital or collateral. Such entrepreneurs, especially the small ones, may not get a loan in the traditional interest system. However, monitoring costs for small investments may prove prohibitive.¹⁹

Considering two specific techniques of financing based on profit-loss sharing arrangements provides further insights as to how the share economy would modify banking.²⁰ Under one arrangement, a group of partners would contribute funds and would assume direct control in the venture. In this case, they would share any profits and losses in predetermined ratios such as their shares in the initial investment.²¹ Under a second arrangement, the investor(s) would provide the entrepreneur(s) with the entire capital needed for the venture, in return for a

predetermined share of any profits earned. Financial losses would be borne exclusively by the lender(s),²² and the entrepreneur(s) would lose only his/her (their) time and effort invested in the venture. This arrangement effectively places human capital on a par with financial capital.

The essential difference between these two types of financing is in the level of control in the project (direct versus none) and in the degree of loss sharing (by all participants versus by the lender(s) alone). Indeed, the first type corresponds closely to an equity market in which shares can be acquired by the public, banks, and even the central bank and the government. For example, firms desiring to raise funds for investment can use this mechanism and offer "share certificates" in the market. Such certificates will be, in effect, transferable corporate instruments secured by the assets of the company. Their price and the implicit rate of return will be determined by the market as in the case of equity. The second type is a counterpart to debt financing with the significant difference that no fixed rate of return exists and that all losses are borne by the lender rather than the borrower.²³

The implications of these specific sharing arrangements for the banks and the depositors are fundamental. A bank or financial institution based on the first type of profit-loss sharing technique, where the depositors own the institution, would correspond closely to a Mutual Savings Bank or to a Stocks Fund depending on whether credit creation is permitted or not. One based on the second type of profit-loss sharing technique, where the depositors do not own the institution, if credit creation is permitted, would be the counterpart to a Commercial Bank, with the crucial difference that all risk is transferred to the depositors.²⁴ If credit creation is not permitted, it would be the counterpart to a Mutual (Bonds) Fund.

In all cases, the banks would have to share the profit and loss on their advances. On the other hand, the common depositors of the banks would have to share the profit and loss of the banks. If the economy is performing well and most of the firms are making profits, the benefits would be channeled back to the original providers of the funds, the common depositors. Similarly and more importantly, in case of a recession or a (negative) supply shock, the effects of the economic slowdown will be spread over a larger group including both the borrowers and lenders, avoiding the insolvency of a smaller number of entrepreneurs and borrowers who would have borne all the loss alone.

THE ROLE OF GOVERNMENT IN THE SHARE ECONOMY

The share economy, if extended to the public sector, would alter monetary and fiscal policy and the role of the government. On the monetary side, the Central Bank would not be able to lend to the banks at a fixed rate. Changes in the money supply would no longer be required to affect interest rates and, hence, investment.²⁵ The traditional interest-rate policy would not be available to the monetary authorities.²⁶ By adopting the profit-loss sharing scheme in lending to banks,²⁷ the sharing ratios channel would be available to the Central Bank instead.²⁸

On the fiscal side, that the government would not be able to borrow with the promise of a fixed rate of return would have fundamental implications for the methods by which the government can finance its deficits. In the present system the government can finance its deficits by borrowing, printing money, or levying new taxes. The first method, which is more extensively used in the developed countries, would not be available in the share economy. The nature of most government expenditures in infrastructure, defense, and social programs, where determination and collection of monetary profits is not feasible, would prevent them from being financed externally. The method of inflation tax notwithstanding,²⁹ in the share economy increased government expenditures would have to be financed by increased taxes. On the other hand, due to a more stable level of investment and employment, there would be less need for direct government management of effective demand using the fiscal channel.

Thus, in the share economy the role of the government would be fundamentally different: monetary (interest rate) policy would not be available and government expenditures would have to be financed essentially through taxes.

THE VIABILITY OF THE SHARE ECONOMY

Doubts have been expressed about the viability of a financial share economy [Pryor, 1985]. The impact on savings behavior, the moral hazard problem on the part of borrowers, the management of consumption loans, and the impact on monetary policy are the main concerns raised.

Regarding savings behavior, it has yet to be established that the rate of interest has a categorically positive relation to savings.³⁰ Nor is there any reason to believe *a priori* that the average rate of return to savings would be lower in the profit-loss sharing system than in the fixed interest system. So any suggestion that savings would be necessarily lower in the share economy is unwarranted.³¹

The moral hazard problem on the part of borrowers should not be constraining regarding big establishments which are ordinarily required to keep all records for examination by independent accountants. However, monitoring costs for small investments may prove prohibitive.

The profit-loss sharing system by nature excludes consumption loans. Such loans could be included by extending the sharing principle to the borrowers' (future) income, but this could result in a moral hazard problem on their part. The sharing ratios channel would be available to the monetary authorities instead of the traditional interest rate policy.

Finally, Weitzman's "Share Economy" proposal regarding labor income has been criticized for, among other reasons, not considering the negative effects on aggregate demand of falling wages during 'bad' times [Davidson, 1986-87], and the need for reliable money payments for small incomes with relatively high proportions of fixed outlays [Rothschild, 1986-87]. These critiques are less important in the case of the financial share economy discussed here, because very little interest income is spent on consumption.

CONCLUDING REMARKS

A financial share economy reduces, if not completely eliminates, an important difference between debt and equity participation in capitalism. In choosing debt over equity the lender relinquishes any ownership rights and sacrifices control over the decisions made by the firm's manager(s) and accepts a lower rate of return in return for less risk. In a share economy such an exchange of the ownership rights and 'expected' higher rate of return from an equity position for the safety of a debt position is not directly available. It could be indirectly obtained, however, through purchase of an insurance policy against unforeseen losses. To consider the latter as a perfect equivalence of a debt position in the current interest system would be to deny that human rationality is, at the least, bounded (limited). The traditional equity owners and managers would have to share upside profits with lenders as a price for also sharing the possible downside losses.

The effectiveness and positive aspects of the sharing scheme can be demonstrated by envisioning a possible alternative course of events after the oil shock of the 1970s. Until 1980, the U.S. government changed (increased) money supply mainly to control the rate of interest in order to maintain an appropriate level of investment. However, this only increased the level of inflation and the nominal interest rate. The level of unemployment kept increasing due to the increase in the number of ensuing insolvent firms. Under a sharing arrangement, the initial loss of firms' profits due to the increase in the cost of oil input would have been spread over the whole economy and, hence, there would not have been such an increase in the number of insolvent firms.

The somewhat utopian strain in this proposal to which financial institutions may be resistant can be operationalized through laws including tax laws, if the capitalist system is to rid itself of a major cause of its financial instability.

NOTES

We wish to thank John Smithin for his valuable comments.

1. It should be noted that Martin L. Weitzman has long argued the potential merits of a share economy. However, he focuses on how profit sharing as an alternative compensation system helps to automatically stabilize output at the full-employment level and makes it easier to deal with inflation [Weitzman, 1985], and does not address the issue of the instability of financial markets as such.
2. This formulation, however, ignores other important aspects that define fragility such as maturity composition of debt, the size and liquidity of the borrower's assets, etc. It also ignores the role of declines in profits — "disappointments" from investment projects and "surprises" which precipitate financial crises — stressed by Minsky. These would still occur in the share economy.
3. This model ignores the finance of the higher capital stock in the aggregate.
4. Gross profits include compulsory interest and quasi-compulsory dividend payments.
5. Lavoie uses Greek letter pi instead of *s*.
6. As mentioned earlier, this ignores other important aspects that define fragility.
7. Lavoie's third conclusion is that in a booming capitalist economy firms like to expand partly by increasing the level of cash flows. One way to do that is to increase the level of retained earnings.

- Limiting retained earnings, for example, by levying very high tax rates on such earnings, would put another restraint on fragile, speculative new investments in a seemingly booming economy.
8. Some stress that he is not so much against the institution of interest as against high rates of interest on long-term sources of debt capital, "bond"; he proposes lowering those rates by keeping investment high enough to drive the marginal efficiency of capital down which would then limit interest rates.
 9. In a following paragraph, he foresees the gradual "...euthanasia of the rentier, of the functionless investor..." But, the rentiers have become more powerful, if anything.
 10. Minsky sees profit fluctuations, the decline in expected profits, as important too.
 11. It should be noted that while the Neoclassical theory considers interest rates and profit rates to be the same thing, Keynes's theory considers them to be entirely different though equal in the long run equilibrium.
 12. Even in a severe downturn of the economy, *ex post* determination of interest would curb bankruptcies by spreading the downside losses between borrowers and lenders.
 13. Except in the case of the adjustable-interest loans which do reflect changes in lender's cost and bankruptcy-related 'bad' loans.
 14. This would remove the current distinction between equity and debt. A higher profit-loss sharing ratio would not attract risk-averse lenders who do not desire to share risk, since a higher sharing ratio implies a higher share of profits or losses whichever occurs. In order to accommodate somewhat such lenders who do not wish to hold an equity position, two separate ratios for sharing profits and losses with the latter ratio equalling zero could be set. They would not be guaranteed a fixed rate of return, however.
 15. The case for a profit-loss sharing system can be further strengthened on normative grounds by following Marx [1965, 164] and Keynes in rejecting all so-called classical theories of interest. A current critique of the theories of interest can be found in Iqbal and Mirakhor [1987].
 16. Profit-loss sharing by nature excludes consumption loans; these, however, could be included by extending the sharing principle to the borrower's (future) income.
 17. Such accounts could be subject to a 100% reserve rule.
 18. This is the case with mortgage loans in the existing interest system.
 19. There would be other methods to finance small loans or cases where the transaction (monitoring) cost of profit-loss sharing arrangements could be very high. The banks could provide the necessary physical capital and charge a rent on the equipment for the leased period. But, the banks would have to bear the risk associated with fluctuations in the value of the equipment in the future and the cost of finding another person to rent the equipment to once the initial lease is over.
 20. Such techniques of finance are being implemented in parts of the world economy. Two extreme examples of this are Pakistan and Iran which have been in the process of transforming their entire economy onto non-interest basis. This is done, however, on purely religious grounds. Their success, if any, has been less than perfect. Also, these countries are not mature capitalist economies with highly developed financial systems and, hence, do not provide an example for the developed capitalist economies. The Islamic counterparts of these techniques promoted in Iran and Pakistan are called *Musharaka* and *Mudaraba* respectively.
 21. In effect, this is a case of variable interest rate based on the profit and loss of the venture rendering negative interest rate a possibility.
 22. This is equivalent to an equity position without ownership but with risk assumption.
 23. Of course, at present all losses may be borne by the lender in case of bankruptcy of the borrower.
 24. If banks are stripped of the role of credit expansion as in Islamic banking, economic growth would be restricted. Also, ensuring that parity between currency and bank liabilities is maintained as the value of bank assets falls would still require some type of government insurance such as Federal Deposit Insurance Corporation.
 25. Use of the money supply for affecting inflation remains intact, however.
 26. As far as the supply of money is concerned, the role of the government could be to make sure that enough liquidity is available in the economy. This would leave the growth of the money supply equal to the growth rate of the economy. This is what Milton Friedman has suggested but more on the grounds that it will decrease government intervention which, according to him, creates more problems.
 27. In Iran and Pakistan the sharing ratios are determined by the government which owns all and most commercial banks in the two countries respectively.

28. In the extreme, by setting the sharing ratios the government can, if it so desires and has the necessary political will, also distribute the profits in favor of the entrepreneurs, the banks or the common depositors as needed.
29. This method is often used in the developing countries.
30. See Ul-Haque and Mirakhor [1986] for a survey of the literature on the relation between savings and interest rate.
31. The limitation of the experiment in Pakistan notwithstanding, it should be noted that most people in Pakistan chose to shift their savings to profit-loss sharing accounts when that system was introduced there for the first time in 1982. So far there has been no sign of capital outflow from the country either.

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