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FINANCIAL SECTOR AND ECONOMIC DEVELOPMENT:
A SURVEY

by

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FOREWORD

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ABSTRACT

The paper attempts to survey the literature on the relationship between the financial sector and economic development. The survey indicates that financial liberalization has a strong positive impact on the mobilization of financial savings, although its impact on aggregate real saving remains controversial. Given the larger financial savings and the increased extent of financial intermediation, the impact of financial liberalization on economic development would depend largely on the efficiency of financial intermediation. Establishing a sound foundation for the financial system is, therefore, considered essential in improving the role of the financial sector in economic development. The paper also notes that there is a tendency for real interest rates to become excessively high when they are liberalized under an unstable macroeconomic environment, implying that macroeconomic stability is an important prerequisite for successful financial liberalization.
TABLE OF CONTENTS

I. INTRODUCTION ......................................................... 1
II. FINANCE AND RESOURCE MOBILIZATION ....................... 3
III. FINANCE, RESOURCE ALLOCATION AND ECONOMIC GROWTH 9
IV. PRECONDITIONS FOR FINANCIAL LIBERALIZATION .......... 17
V. CONCLUSIONS .......................................................... 21

REFERENCES
FINANCIAL SECTOR AND ECONOMIC DEVELOPMENT: A SURVEY

I. INTRODUCTION

1. The role of the financial sector in economic development has attracted the attention of many researchers and policymakers during the last three decades. There is a large body of literature, both theoretical and empirical, which have examined this issue. The findings of these studies are not without controversy; while some studies find that financial sector development has been instrumental in accelerating economic growth, others suggest that it has not been very significant. The primary purpose of this paper is to review the literature on the relationship between financial sector development and economic development.

2. The basic role of the financial sector is to provide payment services to the economy. The financial sector provides the economy with medium of exchange by issuing notes, holding demand deposits and honoring checks drawn upon the latter. Without the financial sector, an economy would be confined to barter and specialization in production would be limited. Economies of scale could not be fully exploited and hence economic growth would be constrained. It is therefore widely recognized that the financial sector helps economic development by providing payment services, thereby improving overall efficiency of the economy.

3. In addition to the role of the financial sector in facilitating payments, the financial sector also mobilizes financial saving and allocates credit (see Figure 1). The financial sector systematizes the relationship between savers and investors in the economy by providing its own securities to savers and purchasing primary securities from borrowers. Through this intermediary function, the saving activity of savers is facilitated as is the financing of investment activities of entrepreneurs and enterprises. Without the financial sector, investment will have to be self-financed by individual investors from their own resources. The funds required for undertaking viable investments are, however, often beyond the means of an individual investor. The financial sector creates economies of scale by pooling the relatively small savings of a large number of individuals and making them available for relatively large investment.

4. This paper reviews the literature on the role of finance in economic development. Sections II reviews literature dealing with the role of the financial sector in resource mobilization, while Section III surveys literature on the role of the financial sector in resource allocation and economic growth. Section IV focuses on the preconditions for financial liberalization in developing countries. Lessons are drawn from the experience in Latin American countries. Section V highlights the findings of the paper.
Figure 1: Finance and Economic Development

Finance

Payment Services
- Specialization
- Economies of Scale

Resource Mobilization
- Real Saving

Resource Allocation
- Real Investment

Economic Growth
II. FINANCE AND RESOURCE MOBILIZATION

5. Discussion of resource mobilization requires distinction between financial and real saving. The former is defined as an increase in financial assets held by the public, while the latter refers to an increase in physical assets that are not consumed. An increase in financial saving does not necessarily mean an increase in real saving. This is particularly so when we consider the fact that the net financial saving of an economy always sums up to zero since the positive financial saving (asset) of household sector is exactly offset by the negative financial saving (liability) of government, corporate and financial sectors. There is, thus, no guarantee that an increase in financial saving will automatically be linked to an increase in real saving.

6. Increased incentives to savers through diversification of financial assets and/or higher interest rates on financial assets will favor financial over non-financial forms of saving. As a result, the share of financial saving in total saving will rise. This, however, does not necessarily mean that total real saving will increase. It is possible that, given higher interest rates, the aggregate real saving could become lower because people can now achieve their target saving stock with lower annual saving.

7. The nature of the relationship between money and physical capital lies at the center of controversy in discussing the role of finance in resource mobilization. The substitutive relationship between money and physical capital has been assumed in the Keynesian and in the neoclassical growth models. Keynes (1936, p. 351), in his general theory, considered that the accumulation of money instead of productive capital was the cause of an inadequate level of investment. He even claims that "the destruction of the inducement to invest by an excessive liquidity-preference was the outstanding evil, the prime impediment to the growth of wealth." As he believes that there is a tendency for the real interest rate to rise to levels that would not permit an adequate inducement to investment, he suggests that interest rates be curbed by every instrument at the disposal of society.

8. In the neoclassical growth model (see Tobin 1965), physical capital and money are treated as substitutes. If the return on physical capital is higher than the implicit yield of money, savers will substitute physical capital for money in their portfolios. This will lead to a higher capital/labor ratio, which will in turn raise economic growth rate. Therefore, in the neoclassical growth model, the reduction -- not an increase -- in the return on money is associated with higher economic growth.

9. Perhaps the most significant departure from the above neoclassical paradigm comes from the publication of two books by E. S. Shaw (1973) and R. McKinnon (1973). Both Shaw and McKinnon analyzes financially repressed developing countries. Financial repression is
caused mainly by distortions of financial prices, including interest rates and foreign exchange rates.

10. Shaw (1973) argues that if the financial sector is repressed and distorted, it could intercept and destroy impulses to development. He summarizes consequences of financial repression as follows:

Income might have been higher with more thorough monetization. Savings-income ratios might have risen if savers had been offered feasible rates of return. Savings allocation might have been more effective if interest rates had been used to discriminate ruthlessly among investment options. Employment could have been higher if capital had been substituted less often for labor. Possibly the distribution of income would have been less unequal if less reliance had been placed on the strategy of repression and interventionism.

11. McKinnon (1973) assumes a model in which money balances are complements rather than substitutes to physical assets. Given the assumption of indivisibility of investment and self-financed capital accumulation in developing countries, potential investors must accumulate money balances before they finance large-scale investments. As a result, money balances and physical asset tend to move in the same direction. This complementarity hypothesis between money and physical capital is formalized in his demand for money function: the investment ratio is expected to have a positive sign in the demand for money function.1

12. In the financial sector model, interest rate ceilings on deposits and lending have been considered the most important instrument of financial repression. In a financially repressed disequilibrium economy, raising the interest rate ceiling increases both saving and investment. Saving rises along the positively sloping saving function as

\[
(M/P)^D = L(Y, I/Y, d - \hat{p}^*),
\]

where 

\(M\) is money which is broadly defined to include interest and noninterest-bearing deposits of the banking system, as well as currency;
\(P\) is the price level;
\(Y\) is real gross national product;
\(I/Y\) is the ratio of gross investment to GNP;
\(d\) is the nominal interest rate on deposits; and
\(\hat{p}^*\) is the expected rate of inflation.

The Complementarity hypothesis implies that \(\frac{\partial L}{\partial (I/Y)} > 0\).
the interest rate ceiling is raised. Investment also rises reflecting
the expansion of investible resources by the rise in savings.

13. Fry (1988) provides a graphical interpretation of financial
sector models of Shaw and McKinnon. In Figure 2, saving is a positive
function of the real rate of interest, while investment is a negative
function of the real rate of interest. If interest rate ceiling (FF) is
imposed on saving, supply of saving will be at $I_s$ and investment will be
constrained by the supply of saving. The economy is in disequilibrium in
the sense that there are unfilled investment demand at prevailing interest
rate. Raising the interest rate ceiling from FF to $F'$ increases both
saving and investment. Changes in the real interest rate trace out the
saving function. Raising the interest rate ceiling also deter
entrepreneurs from undertaking low yielding investments illustrated by the
dots in the shaded area. Hence the average return to aggregate investment
increases and rate of economic growth rises. This shifts the saving
function from $S_s D_s$ to $S_s F$, increasing the supply of saving to $I_s$.
Investment also rises because saving constraint has been relaxed. Raising
the interest rate ceiling, therefore, increases both saving and investment
in the financially repressed economy which is constrained by saving. This
provides a strong justification for a strategy of financial
liberalization.

14. Theoretically, the income and substitution effects of higher
rate of return work in opposite directions. A higher rate of return may
make it attractive to substitute future for present consumption. Saving
is expected to rise due to this substitution effect. At the same time,
the income effect causes a reduction in saving because if the rate of
return on saving is raised it is no longer necessary to save as much to
achieve a given level of consumption in the future. Whether or not saving
is interest elastic is, therefore, an issue of empirical analysis.

Empirical Evidence

15. Empirical evidence regarding the impact of interest rates on
real saving is rather mixed. Williamson (1968) attempts a comparative
evaluation of the determinants of aggregate personal savings in Asia
through regression analysis. He finds that higher interest rates are
associated, if anything, with lower real saving in Asia. He claims that
this was because savings and investment were highly interdependent in the
Asian household sector and high interest rates tended to discourage
investment. Gupta (1970), on the other hand, finds that "higher real
interest rates generate higher real saving" based on regressions run on
Indian data [see Hikesell and Zinser (1972) for a survey of earlier
studies on this issue].

16. Fry (1978a and 1980) shows empirically that for a sample of
developing countries, real saving is positively affected by real interest
rates on deposits, as is real money demand. In another study, which
estimated various national saving functions for a sample of Asian
developing countries, Fry (1984) finds that the national saving ratio is
Figure 2: Saving and Investment under Interest Rate Ceilings

Source: M. Fry (1988); p.16
increased by about 0.1 percentage point on average for each 1 percentage point rise in the real deposit rate of interest. He, however, notes that as a device for increasing saving, the real deposit rate is subject to an upper bound at its competitive free-market equilibrium level (perhaps in the range of 0 to 5 per cent). He, therefore, argues that only in countries where the real deposit rate is negative by a considerable margin can there be much scope for increasing the saving rate directly by raising the deposit interest rate.

17. Yusuf and Peters (1984) model real gross national savings behavior in Korea in logarithmic form over the period 1965-1981. Various theories of savings behavior are tested. Their empirical analysis reveals that saving behavior in Korea is explained by current income, the growth of income, the rate of inflation and the real time deposit rate. In particular, they find that real saving is elastic to the change in real deposit rate. Burkner (1980) also finds significantly positive coefficients for real deposit rates in the Philippines.

18. On the other hand, Dornbusch and Reynoso (1989) are skeptical about the positive effect of interest rates on the saving rate. They argue that "evidence from the United States and other industrialized countries supports skepticism in that virtually no study has demonstrated a discernible net effect. In the case of developing countries, the lack of data and their very poor quality make it much harder to establish the facts." They also note that major stabilization programs generally appear to affect the saving rate, but interest rates cannot be considered the chief agent of this change.

19. Giovannini (1983) reestimates Fry's equation for the 1970s and finds that "the real interest elasticity of savings is not easily detected using the empirical models." He argues that "the results that Fry obtained using mostly 1960s data cannot be reproduced in the 1970s, using the same specification and the same set of countries." He reports 12 regression results, all of which show insignificant, often negative, effects of real interest rates on savings.\footnote{Giovannini (1985) also reestimates Fry's equation for the original period, omitting Korean observations for the years 1967 and 1968. He finds that the statistical significance of the real interest rate variable disappears as these two data points are omitted. Fry (1988) combines the earlier Fry data for the 1960s and the Giovannini data for the 1970s, adds more countries, and estimates the saving equation for the period 1961-1983. He obtains a statistically significant coefficient at the 1 per cent level in the new regression. Dropping the Korean data did not change these results.}

20. Balassa (1989), after reviewing a number of empirical studies including those of Fry and Giovannini, concludes that "time series estimates for individual countries and cross-section and time-series estimates for a number of countries show the positive effects of interest rates on savings."
The 1989 World Development Report notes that high real interest rates are associated with a modest increase in saving. Governments of many developing countries, however, keep interest rates low partly to encourage investment, partly to redistribute income, and partly because they themselves wish to borrow cheaply. The report argues that the low or negative real interest rates caused by the rigid ceilings on interest rates hinder the growth of financial as well as real savings. McKinnon (1990) also admits that the aggregate saving rate—measured in the GNP accounts—does not respond strongly to higher interest rates.

The above diverse empirical findings suggest that the effect of real interest rates on real saving is at best controversial. In contrast, the effect of real interest rates on financial saving seems quite substantial. There is overwhelming evidence supporting the positive effect of real interest rates on the volume of financial saving. The Asian Development Bank (1985) finds a strong positive relationship between financial saving and real interest rates, using the data of selected Asian developing countries. The 1989 World Development Report also claims that high real interest rates (obtained by raising repressed rates toward modestly positive levels) are likely to lead to financial deepening as savers switch some of their saving from real to financial assets.

The positive relationship between real interest rates and financial saving, however, may require careful interpretation in the presence of curb markets. Van Wijnbergen (1983) constructs a model which focuses on the linkage between the financial and real sectors. He applies this model to Korean data and finds that the phenomenal increase in time deposits after the interest rate reform in 1965 was caused by a switch from lending in the unorganized market to time deposits in deposit money banks and not by additional savings as is usually claimed.

Buffie (1984) also develops a model where the curb market plays a pivotal role as the supplier of loanable funds. He argues that an increase in the deposit rate of interest \( r_d \) enlarges the supply of bank credit but does not necessarily increase the total supply of loanable funds. When \( r_d \) is raised, there is a substitution from curb market loans toward bank deposits. But, because of the reserve requirement, every dollar switched from the curb market loans to deposits lowers aggregate loan supply. He claims that if curb loans constitute a large share of total loanable funds and are relatively good substitutes with demand deposits, the total supply of credit in the economy can contract.

This section reviewed literature on the effect of real interest rates on both real and financial savings. There is conflicting evidence regarding the effect of real interest rate on real saving, but financial saving seems to respond strongly to higher real interest rates. Consequently, increasing attention of researchers is being focused on the effect of increased financial intermediation rather than on the increased level of real saving in assessing the impact of financial development on economic development.
III. FINANCE, RESOURCE ALLOCATION AND ECONOMIC GROWTH

26. Earlier studies on finance and development generally focused on the resource mobilization aspect. Experiences of developing countries during the past quarter century, however, show that the accumulation of capital is not enough: even the extremely high rates of saving of many of the socialist economies have not compensated for their inability to efficiently allocate capital, and these countries have, for the most part, not fared well (see J. E. Stiglitz 1989). The question of how to allocate resources more efficiently hence has come to the forefront of development economics. This section examines the role of financial sector in resource allocation and economic growth.

27. Gurley and Shaw (1955, 1956 and 1967) claim that the development of financial intermediaries reduces the risk to savers through portfolio diversification, which will, in turn, increase financial saving and improve its productive use. Financial development also enables borrowers to select from diversified types of liabilities and thereby reduce the marginal cost of issuing financial liabilities. This will encourage efficient investment and higher economic growth.

28. Gerschenkron (1962) argues that the financial system can play a key role at certain stages of economic development, as it serves as the prime source of both capital and entrepreneurship. In explaining the relationship between finance and economic growth, H. Patrick (1966) develops the hypotheses of supply-leading and demand-following finance. According to the latter hypothesis, economic growth generates additional demand for financial services which causes the financial system to develop. As against this passive role of the financial sector, the supply-leading hypothesis argues that the creation of financial institutions and the expansion of their services would induce economic growth by generating incentives to increase their saving and to entrepreneurs to raise their investment. He particularly emphasizes the relevance of the supply-leading hypotheses in the earlier stages of economic development.

29. Goldsmith (1969) investigates the relationship between finance and economic growth. He finds that in the course of economic development a country’s financial superstructure grows more rapidly than the infrastructure of national product and national wealth. Hence the financial interrelations ratio (the quotient of the aggregate market value of all financial instruments in existence in a country at a given date to the value of its tangible net national wealth) has a tendency to increase.3

3/ He, however, mentions that there was no possibility of establishing with confidence the direction of the causal mechanism, i.e., of deciding whether financial factors were responsible for the acceleration of economic development or whether financial development reflected economic growth.
30. The above studies, which generally supported the positive role of financial development in promoting economic growth, did not attract sufficient attention then because of the wide acceptance of Keynesian and neoclassical thinking which assumed substitutive relationship between money and physical capital. Furthermore, in the 1950s and 1960s, Modigliani and Miller argued that, under certain standard conditions, the value of any firm is independent of its financial structure (see Modigliani and Miller (1958). This proposition led to the belief that real economic decisions were independent of the financial structure.

31. It was not until the emergence of financial sector models by McKinnon and Shaw when the relationship between financial development and economic growth attracted renewed attention. The financial sector model advocates that higher interest rates would discourage entrepreneurs from undertaking low yielding investment and thus raise the efficiency of aggregate investment, and consequently economic growth. In particular, McKinnon emphasizes the importance of high interest rates as follows:

by paying a rate of interest on financial assets that is significantly above the marginal efficiency of investment in existing techniques, one can induce some entrepreneurs to disinvest from inferior processes to permit lending for investment in improved technology and increased scale in other industries.

32. The policy recommendation of the financial sector model to improve the efficiency of investment is, thus, to raise interest rates from their repressed level. The mechanism connecting real interest rates to economic growth is that higher real interest rates increase the extent of financial intermediation, while increased financial intermediation raises investment efficiency and, as a result, the rate of economic growth. Whether higher real interest rates do have a positive effect on the growth rate depends on whether they have a positive effect on the level of real savings, financial intermediation and investment efficiency and whether the increase in financial intermediation will have a positive effect on investment efficiency and growth rates (see Figure 3).

33. In his theoretical approach, Galbis (1977) argues that "improvements in the process of financial intermediation--such as those brought about by higher real interest rates--which shift resources from the traditional low yielding investments to the modern technological sectors may result in a dramatic acceleration in the overall rate of economic growth." In other words, high real interest rates and consequential increase in financial intermediation are claimed to be growth-promoting because the latter plays a positive role in the process of transferring resources from the backward to the advanced sector.
Figure 3. Real Interest Rates and Economic growth

Real Interest Rates

Real Saving

Level of Investment

Economic Growth

Financial Saving

Financial Intermediation

Efficiency of Investment
34. Whether high interest rates have the effect of eliminating projects with low returns has been considered by Stiglitz and Weiss (1981). They argue that due to the imperfect information in loan markets, high interest rates may increase the riskiness of the pool of loans. According to them, higher interest rates adversely change the mix of borrowers. High interest rates discourage investors from seeking loans. Those who are willing to pay high interest rates may, on average, be worse risks. However, lenders generally have less information about the likelihood of default than do borrowers. Dishonest borrowers are observationally indistinguishable from honest borrowers. As a result, there is an increasing possibility that dishonest borrowers will be selected as interest rates are raised. This is called the "adverse selection" effect of high interest rates. The higher interest rates may also induce firms to undertake riskier projects with lower probability of success but higher payoffs when successful. This is called the incentive effect. Because of these two effects, the profitability of banks will decline if interest rates exceed the "bank-optimal" rate, i.e., the level of interest rate which maximizes the expected return to the bank.

35. Furthermore, many studies have shown that financial markets are intrinsically imperfect and suffer from information deficiencies, which hinder the efficient operation of the financial system. Akerlof's (1970) "Lemons Principle" regarding the automobile market suggests that in the presence of imperfect information there are market failures resulting from "moral hazard" and "adverse selection".4/ 

36. It was also shown by Jafee and Russel (1976) and Stiglitz and Weiss (1981) that credit rationing is intrinsic in a loan market even in the absence of interest rate ceilings mainly because of imperfect information and uncertainty.5/

4/ Suppose that there are four kinds of cars. There are new cars and used cars. There are good cars and bad cars (which in America are known as "lemons"). A new car may be a good car or a lemon. The same is true of used cars. But good cars and bad cars must sell at the same price--since it is impossible for a buyer to tell the difference between a good car and a bad car; only the seller knows. Most cars traded will, therefore, be the "lemons", and good cars may not be traded at all. This tendency could apply to the financial market as it is difficult for financial institutions to tell the difference between a good project and a bad project.

5/ Arndt (1982) distinguished two kinds of credit rationing, i.e., government rationing and bank rationing. Government rationing occurs due either to overall legal ceilings on interest rates or to concessional credit for defined target groups of borrowers. Bank rationing happens mainly due to the presence of imperfect information. The analysis of Stiglitz and Weiss (1981) is concerned with the latter type of credit rationing.
37. Given the credit rationing in the market, Stiglitz (1989) argues that the efficiency of loan funds depends more on the screening and monitoring functions of banking institutions rather than on the level of interest rates.\(^9\) The screening function refers to the role of selecting -- and channeling funds to -- the most profitable projects and firms, while the monitoring function refers to the activity of ensuring that their funds are used in the way promised by the borrower. Collier and Mayer (1989) also argue that the proper workings of financial institutions is more important than the level of interest rates per se in improving resource mobilization.

38. The view that banking institutions have the capacity to screen profitable projects has been criticized by Taylor (1983). He claims that banks cannot intermediate between savers and investors as efficiently as the curb market. This is partly because the reserve requirements imposed on financial institutions constitute a leakage in the process of financial intermediation through commercial banks. Furthermore, curb markets, in which money lenders and indigenous banks intermediate between savers and investors, are "often competitive and agile." Therefore, Taylor claims that the rechanneling of financial resources from curb market to the official financial system is likely to deter the improvement in efficiency and thus lower the rate of economic growth.

39. Different views regarding the role of the financial sector in resource allocation and economic growth are closely related to the controversy regarding the appropriateness of government intervention in the financial sector. In many developing countries, the government has intervened heavily in resource allocation. The 1989 World Development Report notes that many governments want to use the financial system for such purposes as allocating resources to projects with high social returns, redistributing income, reducing costs in state-owned enterprises, and offsetting the effects of an overvalued exchange rate and restrictive trade policies. Therefore, governments direct credit to these sectors, often at subsidized interest rates. Extensive directed credit programs at subsidized interest rates have, however, been proved an inefficient way to overcome market failures and redistribute income. The report points out the problems of directed credit as summarized below:

i. The large implicit subsidy has to be borne by someone. If it is financed by the government or central bank, it implies higher inflation or a

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\(^9\) In view of the inherent limitations of financial institutions caused by imperfect and costly information, however, Stiglitz (1989) argued that the potential role of financial institutions in the development process might be quite limited. Financial institutions play a limited role even within well-organized developed countries and their role within the less developed countries is likely to be even more circumscribed.
heavier tax burden. If it has to be covered by cross-subsidization, it means lower rates to depositors, higher rates charged to other borrowers or smaller profits to financial intermediaries.

ii. Subsidized credit has often failed to reach its intended beneficiaries as lenders tend to misclassify loans in order to comply with central bank directives and the distribution of loans is skewed in favor of large firms.

iii. Directed programs have crowded out nonpriority firms from formal credit markets.

iv. Many directed credits have become nonperforming loans because cheap interest rates encouraged less productive investment or borrowers willingly defaulted, believing that creditors would not take court action against those considered to be in priority sectors.

v. Extensive refinance schemes at low interest rates have reduced the need for intermediaries to mobilize resources on their own, leading to a lower level of financial intermediation.

vi. By encouraging firms to borrow from banks, directed credit programs have impeded the development of capital markets.

Based on the generally discouraging performance of directed credit programs, the report suggests that governments should scale down its directed credit programs and specify priorities narrowly. The report also argues that it is more defensible to provide directed credits for certain activities (for example, exports or research and development) or for specific sorts of financing such as long-term loans than to target specific subsectors such as textiles or wheat.

East Asian experiences, however, provide somewhat different lessons regarding the role of government in credit allocation. Cho (1989), taking an example from Korea where the government intervened heavily in the financial system, concludes that the government can play an important role in laying the ground for rapid industrialization in the early stages of economic development. He argues that the structure of the financial system, the way risky investment was financed, and the way financial arrangements affected the incentive structure of firms are no less important factors than the amount of domestic saving and investment for the success of economic growth. The government of Korea arranged patterns of industrial finance, shared the risk of investment and affected the structure of the financial, as well as industrial sectors, resulting
in a rapid development of Korean industry. He, however, notes that the Korean government's strong interest in favor of heavy and chemical industries in the latter half of the 1970s caused a misallocation of resources which incurred large adjustment costs later.

42. Collier and Mayer (1989) claim that, although financial controls generally empower the government to worsen resource allocation during a phase of development, they sometimes provide the opportunity to improve upon the market. Good examples are Korea and Japan, where successful economic development occurred in the presence of heavy participation by central governments in the resource allocation process.

Empirical Evidence

43. Empirical studies on the role of the financial sector in improving the efficiency of resource allocation have focused on the relationship between the level of real interest rates and efficiency indicators, such as the incremental output capital ratio. This is to test the hypothesis that high interest rates tend to encourage investors to drop low yielding investment and thus raise the investment efficiency of the economy.

44. Asian Development Bank (1985) tests the hypothesis that a rise in real interest rates increases investment efficiency by running a regression of the incremental output capital ratio on the real deposit rate of interest. The results of a pooled time series estimate using data of 14 Asian countries for the period 1960-1983 show that "the real deposit rate exerts a statistically significant positive effect on the incremental output capital ratio of a substantial magnitude for this sample of countries." The same report also finds a significant positive short-run effect of rise in real interest rates on the growth rate in selected Asian developing countries.

45. The relationship between real interest rates and economic growth has also been empirically tested. Adelman and Morris (1967) apply factor analysis on data for 74 countries and find a positive correlation between economic growth and the level of effectiveness of financial institutions, particularly for countries in the intermediate and high development levels. They maintain that effective financial mechanisms for mobilizing private savings and transmitting them to the expanding sectors of the economy are an essential aspect of the development process.

46. Fry (1978a) finds positive relationship between real interest rates and economic growth using data from 7 Asian countries. Fry (1980) also claims that the cost of financial repression appears to be around half a percentage point in economic growth foregone for every one percentage point by which the real deposit rate is set below its market equilibrium rate.
47. Gelb (1989), using data for 34 countries over the period of 1965-1985, finds empirically that real interest rates and efficiency of investment (as measured by the incremental output capital ratio) are positively associated. He decomposes the growth rate into the investment-GDP ratio and incremental output capital ratio and regresses both of them separately on real interest rates. His finding is that real interest rates are statistically very significant in explaining the incremental output capital ratio, but far weaker and less stable in explaining the investment-GDP ratio. He, therefore, argues that the positive relationship between real interest rates and growth rates, which he found in his empirical study, is mainly due to the efficiency effect rather than investment level effect.

48. Balassa (1989) reviews various empirical studies and concludes that "higher real interest rates increase financial intermediation, which in turn raises the rate of economic growth in developing countries." He notes, however, that excessively high interest rates will have unfavorable economic effects.7

49. The 1989 World Development Report finds that output grows faster in countries with positive real interest rates than in countries with strongly negative rates. This relationship has been confirmed by a simple regression of growth rate on interest rates. The study also decomposes this relationship into the hypothesized chain running from interest rates to financial depth and to saving and from financial depth to the productivity of investment. It is found that high real interest rates are associated with increased financial depth, while financial depth is associated both with a modest increase in saving and investment and with a strong improvement in the quality of investment.

50. There are, however, other studies which showed opposite results. For example, Khatkhata (1988) tests the relationship between economic variables such as growth and investment and the level of interest rates, on a sample of 64 less-developed countries for the period 1971-1980. The study finds that the interest rate level itself has little or no impact on the macroeconomic variables.

51. The validity of empirical results showing a positive association between real interest rates and growth rates has also been challenged by Collier and Mayer (1989). They maintain that empirical studies that attempt to draw inferences from reduced form cross-sectional

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7 In discussing the relationship between interest rates and economic growth, the stability of the former could be as important as their level per se. A positive and stable real interest rate could be more conducive to both saving and investment, rather than interest rates that may be positive but fluctuate widely. The author who owes this point to R. Wada could not find literature on this issue.
relations between real interest rates and growth rates in different countries are particularly suspect, because they may merely reflect common independent factors (such as the extent of investment opportunities), rather than the influence of interest rates on growth.

52. Despite some conflicting evidences, it is generally considered that a rise in real interest rates from their repressed level has a positive impact on investment efficiency and economic growth. This may, however, not be the case if real interest rates go up excessively or the financial sector lacks capability of selecting and monitoring projects. These issues will be discussed in detail in the next section in relation to financial liberalization.

IV. PRECONDITIONS FOR FINANCIAL LIBERALIZATION

53. The financial sector models developed by McKinnon and Shaw provided the theoretical underpinnings to the monetary reforms and financial liberalization programs undertaken in a number of developing countries in the 1970s and 1980s. In McKinnon’s model, liberalization of the financial sector encourages capital accumulation through the positive effect of higher real interest rates on deposits. Shaw (1973) also advocates the importance of financial liberalization. He claims that financial liberalization has the effect of not only increasing rates of savings and improving resource allocation, but also assisting in income equalization. Influenced by these financial sector models, many developing countries undertook various reforms in their financial sectors.

54. The theoretical background for financial liberalization is based on the argument that free markets ensure Pareto efficient resource allocation. Greenwald and Stiglitz (1986), however, show that economies in which markets are incomplete or information is imperfect are, in general, not constrained Pareto efficient. The second best theorem of Meade (1955) also shows that, in economies in which there are some distortions, removing one distortion may not be welfare enhancing. Policies that move the economy closer to free market solutions are, therefore, not always welfare improving. This implies that the impact of financial liberalization is theoretically ambiguous.

55. The experiences of developing countries in financial liberalization have been mixed: some were successful, while others were less so. In particular, Latin American countries, including Argentina, Chile, Columbia, Brazil, Mexico and Uruguay initiated radical financial reforms beginning in the mid-1970s, but their efforts generally ended with financial distress, which caused the reimposition of regulations.

56. Difficulties faced by some Latin American countries in relation to their financial liberalization provided an opportunity to reconsider various aspects of financial liberalization. One aspect of liberalization which attracted the attention of many researchers is the
tendency for real interest rates to become excessively high as a result of liberalization. Corbo, de Melo and Tybout (1986) show that the ex post real interest rate reached 53.3 per cent p.a. in Argentina in the fourth quarter of 1979 and 54.6 per cent p.a. in Chile in the first quarter of 1982. Veneroso (1986) argues that the high real interest rates are caused by distress borrowing in conjunction with deposit insurance. The lack of adequate regulation over banking practices leads to undue risk taking on the part of the banks. When nonperforming assets rise, the banks raise deposit rates to attract more funds to pay interest on existing deposits. In the Argentinean case, Fernandez (1985) points out that "each financial institution closed by the Central Bank was offering the highest interest rates in the market." Hanson and Rocha (1986) find that very high real interest rates in Latin American countries usually reflect one or more of the following: high and variable inflation, large government deficits, an overvalued exchange rate, and a high proportion of nonperforming loans in the banking system.

57. Excessively high real interest rates have adverse effects on economic growth because they favor high risk projects and discourage the financing of projects that otherwise could have been reasonably profitable. This adverse risk selection is facilitated by "moral hazard" of banking institutions, which tend to finance highly risky investments on the assumption that, if losses arise, they would be covered by the government.

58. Thus, although it is generally argued that higher real interest rates have favorable effects on economic growth, this general rule does not apply in the case of excessively high real interest rates. According to McKinnon (1989), "upper limits exist on the extent to which interest rates can be raised without incurring undue adverse risk selection among industrial and agricultural borrowers....and undue moral hazard in the banks themselves."

59. In contrast to the liberalization spree in the Latin American countries in the 1980s, the financial sectors of most Asian developing countries remained relatively regulated. The tight control of the financial sectors in South Asian countries is well-known. Financial liberalization progressed very cautiously in Japan, Korea, and Taipei, China. Park (1990a) argues that "after almost ten years of liberalization attempts, however, Korea's financial sector is still under rigid and pervasive government control and largely remained closed to foreign competition." With regard to Taipei, China, Shea (1990) points out that "much of the financial inefficiency and underdevelopment (in the financial sector) were blamed on the high degree of government intervention in interest rate determination as well as in financial intermediation, market structure and banking operation." In Japan, the intricate structure of implicit and explicit regulation prevailed during its high-growth period (see Teranish 1990).

60. Cho and Khatkhata (1989) analyze the experiences of five Asian countries: Korea, Philippines, Sri Lanka, Indonesia and Malaysia. They find that financial reforms have not made any significant difference to
the saving and investment activities in the liberalized countries, though it has greatly contributed to the financialization of savings. They also argue that a gradual process of liberalization in developing countries is to be preferred to the sudden dismantling of all regulations. A sudden dose of liberalization often leads to the overshooting of both nominal and real interest rates, particularly when financial reform is undertaken amid high and fluctuating inflation rates.

61. Excessively high interest rates that emerged after financial liberalization in the Latin American countries provide a serious challenge to financial liberalization. Evidences are, however, accumulating in favor of the view that it is not the financial liberalization itself, but the macroeconomic instability and improper sequencing of liberalization that undermined the effectiveness of liberalization. Therefore, researchers' concerns are moving from financial liberalization per se to the identification of appropriate preconditions and proper timing and sequencing of liberalization.

62. The importance of macroeconomic stability as a precondition for financial liberalization is strongly evidenced by the problems experienced in Latin American countries. They clearly indicate that unless inflation is brought under control the resultant high and variable interest rates are bound to affect adversely the borrowers as well as the banking institutions. Latin American experience also suggests that countries experiencing larger government deficits require major fiscal reforms -- increase in tax revenues and cuts in government expenditure -- before they embark on financial liberalization. In the same vein, Cho and Khatchate (1989) argue that price stability and, more broadly, macroeconomic stability is the linchpin of successful liberalization, not the deregulation of interest rates per se, especially when the countries undergoing financial reforms have shallow financial markets.

63. Dornbusch and Reynoso (1989) contrast the experiences of financial liberalization in Asia and Latin America and conclude that the strong claims for the benefits of financial liberalization are not supported by the evidence. They claim that unless financial factors are very distorted, financial liberalization does not make much difference in the growth of per capita GDP. In particular, they argue that financial liberalization in the face of poor fiscal positions continues to be a major factor in accelerating inflation and instability. They advocate that the first thing that Latin American countries have to do is not financial liberalization but an early return to orthodoxy characterized by realistic exchange rates, balanced budgets and favorable investment climate.

64. The importance of macroeconomic stability for successful financial liberalization is considered by Matieson (1979). He suggests that stabilization policy be integrated with a financial liberalization program. Fry (1978) also recognizes the importance of macroeconomic stability in relation to financial liberalization. He mentions, in relation to the unsuccessful case of financial liberalization in Nepal in the mid-1970s, that unless simultaneous liberalization and reform of
government taxation, price, foreign trade and finance policies are pursued, a program of financial development may not succeed in raising the rate of economic growth. Both Matisson and Fry, however, considers macroeconomic stability as a condition to be met simultaneously, not as a condition to be met before the implementation of the financial liberalization program.

65. The 1989 World Development Report examines the experiences of successful and unsuccessful cases of financial liberalization and recognizes the importance of macroeconomic stability particularly in view of the link between inflation and real interest rates. The report notes that governments of developing countries turn to their central banks because financial markets are too shallow to meet their needs. As central banks finance a large part of such borrowing by issuing money, inflation accelerate in many countries. This greatly retards the development of the financial sector in these countries. Japan, Malaysia and Thailand are cited as examples of low inflation countries which have been able to achieve financial depth, while Argentina, Bolivia and Yugoslavia are cited as high inflation countries which have experienced slow or negative growth in financial depth. The report also points out that financial distress and inflation are mutually reinforcing and that measures to assist banks frequently add to inflation and thereby aggravate the situation.

66. The same report recommends that governments adjust the level and pattern of interest rates to bring them into line with inflation and other market forces, but the report is cautious in suggesting a thoroughgoing liberalization of interest rates, which is to be considered only when good progress has been made toward establishing macroeconomic stability, liberalizing industry, and restructuring the financial system. It is argued that the first step toward reform in financial system is to achieve macroeconomic stability by reducing the fiscal deficit. Control of inflation is crucial because the interaction of high and unstable inflation and rigidly administered interest rates is certain to cause financial distress among borrowers and financial disinter-mediation. Experiences also suggest that financial liberalization, if not preceded by macroeconomic reform, would suffer destabilizing capital flows.

67. Another prerequisite for financial liberalization is the microeconomic aspect of financial institutions. Unless financial institutions function properly, the desired effect of financial liberalization cannot be achieved. The experiences of Latin American countries in this regard point to the need for appropriate financial infrastructure as a precondition for financial liberalization. In the initial stage of reform, the government should try to improve the foundations of finance -- that is, the accounting and legal systems, procedures for the enforcement of contracts, disclosure requirements and the structure of prudential regulation and supervision.

68. The proper sequencing of liberalization is increasingly recognized as an essential issue in financial sector development. According to Collier and Mayer (1989), countries that do not possess well-
developed financial sectors may use interest rate ceilings as a means of protecting emerging institutions. As financial sectors mature and a significant number of firms of high repute have been established, restrictions on competition can be removed provided that adequate systems of prudential supervision and methods of controlling monetary growth are in place.

69. In regard to the sequencing of liberalization, an important issue is the proper order of liberalization between domestic financial liberalization and external liberalization (the liberalization of the capital account). It is now widely believed that domestic financial liberalization should be accomplished before external liberalization is undertaken. In other words, the deregulation of capital controls should be postponed to a point at which the effects of financial liberalization on the domestic economy have been settled. The reasons for this sequencing are given in Balassa (1989b): "This is both to generate expertise and to establish domestic banks that can withstand the rigors of international competition."

70. It is also generally agreed that the trade account be liberalized first and the capital account afterwards. This is mainly because shifts in the capital account occur more rapidly than in the trade account. Therefore, if the capital account is liberalized first or both accounts are liberalized at the same time, domestic agents will borrow abroad and this will lead to an appreciation of the exchange rate, with adverse effects on the tradable sector (see Balassa 1989b). Liberalization of the capital account in Latin American countries was considered a failure because it led to large inflows of capital, resulting in a substantial appreciation of domestic currency.

V. CONCLUSIONS

71. This paper has attempted to survey the literature on the role of the financial sector in economic development. As the issue is so broad and the literature so vast, this survey can by no means claim to be exhaustive.

72. There is hardly any controversy regarding the positive role of the financial sector in promoting economic development through the provision of payment services. The major attention of researchers has, therefore, been on the role of the financial sector in resource mobilization, resource allocation, and eventually on economic growth.

73. The financial sector models developed by Shaw (1973) and McKinnon (1973) predict that raising real interest rates from their repressed level encourages both real saving and investment. Empirical studies generally indicate that real interest rates do not have strong impact on real savings, but they have significant positive impact on financial saving.
74. Empirical evidence generally supports the positive impact of real interest rates on investment efficiency as high real interest rates tend to discourage low yielding projects and enhance financial intermediation by encouraging higher financial saving. However, if high interest rates cause moral hazard and adverse selection in the screening process of projects, their favorable impact on investment efficiency could be weakened substantially.

75. Whether or not higher interest rates will have a positive impact on economic growth should be judged by combining their impact on both real saving and investment efficiency. Although the impact of high interest rates on the level of real saving is rather controversial, that on investment efficiency is generally positive. On balance, the overall impact of higher real interest rates on economic growth is therefore considered to be positive. This provides justification for financial liberalization.

76. As financial liberalization generally leads to an increase in financial intermediation, the extent of improvement in investment efficiency and economic growth will depend largely on the efficiency of financial intermediation. Therefore, how to improve the efficiency of financial intermediation becomes a key issue in discussing the role of the financial sector in economic development.

77. Excessively high interest rates that emerged after financial liberalization in Latin American countries provide a serious challenge to financial liberalization. Excessively high interest rates favor high risk projects and discourage the financing of projects that otherwise could have been reasonably profitable. Evidences are, however, accumulating in favor of the view that it is not the financial liberalization itself but the macroeconomic instability and improper sequencing of liberalization that lead to excessively high interest rates. Therefore, researchers' concern are moving from financial liberalization per se to the identification of appropriate preconditions and proper timing and sequencing of liberalization. Macroeconomic stability and appropriate financial infrastructure are found to be the most important prerequisites for successful financial liberalization.
References


