Chapter 1

Introduction
1.1 Sources of External Finance – Markets and Institutions

Sources of finance to a firm may be divided in the broadest sense into two categories - internal and external. Retained earnings (retained profit plus depreciation) are the main source of internal finance. External finance (whether debt or equity) comes from banks and other financial institutions and capital markets. A firm cannot depend only on internal funds for financing its growth because it would not be in a position to undertake projects beyond a certain size if it has to depend only on internal finance. Thus, growth of a firm would be severely restricted in the absence of external finance.

Sources of external finance to the corporate sector may be divided in the broadest sense into two categories - institutions and markets. The pool of financial savings in an economy reaches the users of savings (i.e., those who invest to create and maintain productive capacities to produce goods and services - whether government or private or any other sector) through the intermediation of either the institutions or the market. The most apparent difference between the two forms of intermediation lies in the fact that the ultimate users and the ultimate savers never come in contact with each other when finance is intermediated by institution. In case of market intermediation, the users raise funds directly from the savers. It may be noted that the entities engaged in intermediating institutional finance might also participate in the market intermediation process. However, their role in market intermediation is restricted to brokering between the savers and the users of savers as one-time contact-point at the time the latter raises finance.

1 And, of course, from the existing owners. But that is usually not a significant source of finance for firms other than the small private limited companies sole proprietorship/ partnership firms.
1.2 Which is Better — Market or Institution?

There has been a considerable debate in the literature on the issue of what form of intermediation—market or institution—is better. In fact, this issue has been raised as part of the wider debate on the nature of the relationship between financial system and economic growth.

The link between the real side and the financial side of the economy has been one of the most intensely debated topics in the financial economics in recent times. In early period\(^2\), as early as in 1911, Schumpeter\(^3\) emphasized the importance of financial intermediaries in fostering technological innovation and economic development by providing services like mobilization of savings, evaluation of projects, risk management, monitoring of managers, and facilitation of transactions. The coincidental collapse of the financial system and the real sector during Great Depression drew attention of economists to the role of financial system in determining aggregate economic activity. Fisher (1933), for example, argued that poorly performing financial system greatly accentuated the severity of the depression.\(^4\) Financial system did play an important role in Keynes’s theory of investment behaviour as formulated

\(^2\) As early as in 1873, Walter Beghot in his book “Lombard Street: A Description of the Money Market” pointed out in the context of English financial system that easy entrepreneurial access to external finance was a critical factor behind the success of new technologies in England.

\(^3\) Schumpeter (1911)

\(^4\) Fisher identified two ways in which financial system affected the real economic system. First, the leverage of the borrowing class increased massively during the prosperity preceding 1929. The business downturn that followed resulted into a wave of bankruptcies, thus further accentuating the downturn. Apart from this direct mechanism, there was an indirect route as well. The deflation accompanying the slowdown redistributed wealth from the debtors to the creditors, causing the borrowers to reduce their current consumption and future commitments. This fuelled the economic downturn and generated a spiral of deflation and falling output.
in the General Theory\textsuperscript{5}, although not as important as in Fisher\textsuperscript{6} formulation. However, formalization of literature on finance-growth linkage started with Gurley and Shaw (1955), who emphasized the role of financial intermediaries in facilitating growth by enhancing financial capacity of borrowers. Apart from Goldsmith\textsuperscript{7} (1969) work, further research on this line was rather limited until 1990\textsuperscript{8}. The debate was rekindled with a sudden proliferation of a number of papers in the early-1990\textsuperscript{9}, a trend which continued throughout the decade\textsuperscript{7}. Economists have categorized financial systems as being either bank-based or market-based. This line of distinction observes, in the context of the financial systems of the US, UK, Germany and Japan, that while banks are much more important in the US and UK, markets are much more important in the other two financial systems. The US and Germany are at the two extremes in this scheme of things—banks are relatively unimportant in the US with the ratio of banking assets to GDP at only 52\%, about one-third of the German ratio of 152\%, while the ratio of US equity market capitalization is 82\%, almost three times the German ratio of 24\%. The UK and Japan are intermediate cases where both banks are markets are important, although UK financial system is considered as market-based and Japanese financial system as bank-based.

\textsuperscript{5} According to Keynes, apart from the prospective yields from the investment projects, the other determinant of investment is the general level of confidence that lenders have in the borrowers (\textit{state of credit}).

\textsuperscript{6} Except the one by McKinnon (1973). Gertler (1988) contains a good survey of the early work before the 1990\textsuperscript{9}, and also discusses the reasons for the lack of interest of academicians in further work along this line.

\textsuperscript{7} See footnote 1 in King and Levine (1993b) for a reference of works in the early-1990\textsuperscript{9}.

\textsuperscript{8} See Levine(1997) and Allen and Gale(2001) for surveys of the more recent works.
Table 1.1: Relative Importance of Banks and Markets in 1993

<table>
<thead>
<tr>
<th>Country</th>
<th>Banking Asset to GDP</th>
<th>Equity Market Capitalization to GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>53%</td>
<td>82%</td>
</tr>
<tr>
<td>UK</td>
<td>259%</td>
<td>140%</td>
</tr>
<tr>
<td>Japan</td>
<td>150%</td>
<td>71%</td>
</tr>
<tr>
<td>Germany</td>
<td>152%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Source: Table 3 of Allen and Gale (2001).

The current debate on institution versus markets in general has its origin in the debate conducted in the context of growth in Germany and UK in the late-nineteenth and early-twentieth centuries when, Gerschenkron (1962) argued that bankers in Germany enjoyed much closer relationship with firms they financed than was possible in the UK. However, Goldsmith (1969) pointed out that the overall growth rates in UK and Germany were similar although manufacturing sector grew faster in Germany than in the UK in late-nineteenth and early-twentieth centuries. That is, Goldsmith’s observation implied that the close lender-borrower relationship in Germany did not translate into any higher growth on an overall basis.

1.3 Role of Financial System

Before discussing the relative merits of institutions (banks) and markets in an economy, we briefly outline the role that the financial system (consisting of both institutions and markets) plays in an economy. In a world of perfect information, complete markets, and zero
transaction costs, characterized by the Arrow-Debreu\textsuperscript{9} framework based on state-contingent claim, financial intermediaries would have no role to play. The moment such costs are introduced, the need is recognized for specialized intermediaries which spend resources to set up transaction settlement system, mobilize resources (by offering instruments to save), allocate resources (by scrutinizing projects and monitoring managers), provide risk management services (through diversification, hedging, pooling and trading or risk).

That is, the source of financing (e.g., debt and equity) would not have mattered, nor would the cost of external finance (whether in the form of debt or equity) have been any different from that of internal finance in the Arrow-Debreu framework.

In this framework, desired capital stock of firms is determined by the equality of the marginal profitability of capital (which depicts investment opportunities) with the cost of capital (which is the real market interest rate). All else being equal, an improvement in investment opportunities increases the expected future profitability of capital, raising the level of desired capital stock; a decline in investment opportunities lowers the level of desired capital stock.

An increase (decrease) in market interest rates, on the other hand, reduces (increases) the desired capital stock all else being equal. Under this scheme, mode of financing - internally generated funds vis-à-vis externally raised funds - does not matter, as firms perceive market interest rate as the opportunity cost of internal funds.

As external funds can be raised at a cost equal to the market interest rate, the cost of internal finance would be equal to that of external finance. Similarly, the assumptions of this

\textsuperscript{9} See Arrow (1964) and Debreu (1959)
framework imply that the form of financing (debt versus equity) would not have mattered, as characterized by the Modigliani-Miller propositions\textsuperscript{10}.

However, in reality, external finance tends to be significantly costlier than internal finance for a variety of reasons. Apart from the tax advantage of debt, external finance involves at least two major problems. First, raising external finance from large number savers spread across a large geographical area would involve astronomical transaction costs. Second, firms would be subject to Akerlofian information asymmetry\textsuperscript{11} wherein savers would not be in a position to distinguish between bad firms and good firms. In this situation, savers would not be willing to supply funds to the firms, especially because savers would not be able to monitor the end-use of the funds in the absence of financial intermediaries. Nor would they be able to take back the funds once committed in a world without financial intermediaries.

Thus the traditional intermediation theory argues that existence of such frictional costs (like information acquisition costs and transaction costs) in reality explains the existence of financial intermediaries. Gurley and Shaw (1960) and many subsequent authors have highlighted the importance of transaction costs. Asset evaluation involves fixed costs, which may have to be borne by each individual investor (who is investing her savings) in the absence of intermediaries. But a single intermediary may incur such costs on behalf of multiple savers, and thus allow such costs to be shared (Allen and Santomero, 1997).

In a similar manner, presence of trading costs implies that intermediaries have a cost advantage in diversification over individual investors. The asymmetric information view has

\textsuperscript{10} Modigliani and Miller (1958) and Miller and Modigliani (1961).
been advocated by Leland and Pyle (1977), Campbell and Kracaw (1980), Diamond (1984), Gale and Hellwig (1985), and Boyd and Prescott (1986) among others. Signalling by a financial intermediary (through investment in a particular asset in which it has special knowledge or information) as a device of tackling asymmetric information has been noted by Leland and Pyle (1977), while Diamond (1984) has proposed "delegated monitoring" by financial intermediaries (banks) as a way of dealing with asymmetric information. Substantiation and extension of the literature on these lines have been attempted by many, including Gale and Hellwig (1985), Campbell and Kracaw (1980) and Boyd and Prescott (1986).

Gale and Hellwig (1985) demonstrate with the help of a model of borrowing and lending with asymmetric information that the optimal incentive-compatible debt contract is the standard debt contract. Debt contracts are used by financial intermediaries both on the asset side (providing loans) and liability side (collecting deposits). In other words, financial intermediaries resolve the incentives problems arising out of asymmetric information.

Campbell and Kracaw (1980) argue that information production role is not sufficient to justify the existence (and growth) of financial intermediaries. According to them, it is the resolution of the moral hazard problem in the financial markets (characterized by imperfect information) that is important. This problem is resolved by the initial endowments (of the financial intermediaries) acting as guarantee for reliability of information.

Boyd and Prescott (1986) show that in a setting where investment opportunities, especially the own credit risks, of agents are private information, financial intermediaries arise endogenously to support resource allocation.

1.3.1 The Functional Perspective of Financial Intermediation

In view of far-reaching changes in the financial intermediation business during the last three decades in developed countries as well as in the emerging market economies, the traditional intermediation theory has been criticized in recent times by a number of authors. Most notably among them are Robert C. Merton, Zvi Bodie, and Franklin Allen.

In spite of the fact that the information technology revolution and a clutch of innovations (with respect to technology, processes and institutions) have drastically reduced transaction costs and information asymmetry, finance industry has grown rapidly during the last three decades both in absolute terms and in relation to the size of the economy in developed and developing countries. Besides, the pace of financial innovations has accelerated during the 1970s and 1980s. As a result, new financial products like asset-backed securities, complex options and swaps have proliferated. Simultaneously, a number of new exchanges dealing in financial futures, options and other derivative securities have sprung up and become major markets.

The rapid increase in breadth and depth of financial markets may be attributed to the increased use of these financial instruments by financial intermediaries and firms (Allen and Santomero 1997). The rapid growth in financial markets has coincided with a drastic shift in participation of individuals in financial markets from direct to indirect form via financial intermediaries. For

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12 Although financial innovations have occurred for centuries before, the rate of occurrence jumped from the 1970s. See Miller (1986), Allen and Gale (1994) and Tufano (2003).
example, equity ownership by individuals has fallen in percentage terms and that by mutual funds has increased in the US over the last four decades. The same trend is being observed in India in recent times. Besides, the relative importance of various types of intermediary has undergone transformation. Share of assets of mutual funds and pension funds has gone up in the US and that of banks have come down. In India, the share of assets of mutual funds has gone up rapidly in starting from the mid-1990s, and that of banks have come down. Non-bank financial intermediaries have grown more in relative importance compared to the banks. At the same time, financial intermediaries like banks and insurance companies have increasingly entered into the financial markets. Banks have started undertaking capital issue management and active investment activities (treasury) in financial markets. Insurance companies have increased their focus on asset management capabilities. Besides, both banks and insurance companies have become increasingly more dependent on financial markets for raising equity capital and subordinate debt to fulfill regulatory requirements of capital adequacy.

While the traditional or "institutional" perspective based on transaction costs and information asymmetry can explain some of these changes, it fails to account for much of the recent developments in the financial systems of developed as well as developing countries. For example, while transaction costs in equity markets have fallen drastically over the last three decades in the US and during the 1990s in India, thus making it cheaper for individuals to participate more in the equity markets directly, the share of individual ownership of corporate equity has drastically fallen and that of mutual funds has risen. The traditional theory is also unable to explain the trend that risk management has become increasingly a function of the financial intermediaries and less of a function performed by individuals and firms.
In recent times, a new perspective has been offered by the scholars Merton and Bodie (Merton 1989, 1993, 1995; Merton and Bodie 1993, 1995) and advocated by many including Franklin Allen, that has been able to explain the above trends that the traditional “institutional perspective” (based on transaction costs and information asymmetry) has failed to account for. This new perspective has been termed as “functional perspective”. Merton and Bodie argue that while functions of financial intermediaries are stable, forms of financial intermediation to perform these functions are not, and change across time and space to take care of the divergent needs of time and differing economic environments. Moreover, it is held that competition will cause the changes in the institutional structure to evolve in the direction of greater efficiency.

But what are the functions of a financial system that are stable?

According to Merton and Bodie, beyond the single primary function of resource allocation across time and space, a financial system performs six core functions: (a) A financial system provides a payment system; (b) Pools funds to enable financing of large-scale investment; (c) Transfers economic resources through time and space and across industries; (d) Manages uncertainty and controls risk; and (e) Provides price information thereby facilitating decentralized decision-making in various sectors of the economy; (f) Deals with asymmetric information and incentives problem. Crane et al. (1995) deals with each of these issues in great detail. It may be mentioned that the above scheme of classification is not unique, and alternative classifications have also been offered (Hubbard, 1994; Kohn, 1994; Rose, 1994; Sanford, 1993). However, it is more of reclassification of the same basic functions, rather than new classifications based on a different function(s).
With this background of the role of the financial system, in which functions are stable but institutional forms are dynamic, we briefly survey the relative merits and demerits of markets and institutions in the following sections.

1.3.2 Banks versus Markets: Risk Sharing

The traditional perspective on financial intermediation hinges on reducing transaction costs through economies of scale and ameliorating the adverse impacts of information asymmetry. Merton (1989) proposed risk management as another role of the financial system. Merton (1989) argues that the ability to bundle, un-bundle and distribute risk across different participants is another important feature of a financial system.

Both institutions (like a deposit bank) and markets (like the equity market) perform this role. Banks hold a widely diversified portfolio of borrowers, and thus diversify the risk on behalf of the depositors. Markets make available an array of assets of various risk profile, and enables lenders to diversify.

Allen and Gale (1997, 2000 Chapter 6) point out that traditional theory of finance focuses on diversifiable risk, which can be shared through exchange of one asset against another. Standard portfolio theory\(^{13}\) explains how non-systematic risk (or, risks that are specific to an asset) can be diversified by including a number of properly chosen assets in the portfolio, so that each individual investor is exposed to a small amount of each risk. This theory also explains how risk can be traded so that a clustering can emerge of risk-averse and less risk-averse investors, with the former holding less risky assets than the latter. Allen and Gale

\(^{13}\) See Markowitz (1952, 1959).
define this kind of risk-sharing as "cross-sectional risk-sharing," because risk is shared among investors at any given point of time.

This traditional approach focuses on diversifiable risks, which are specific to the assets in nature, and ignores systematic risks that affect all assets and arise mainly out of macroeconomic factors. Allen and Gale argue that the systematic risk can also be diversified over time, as opposed to non-systematic risk, which can be diversified only at any point of time. They define this kind of risk-sharing as intertemporal smoothing of risk. For example, intertemporal smoothing can be achieved by inter-generational risk sharing, or through asset accumulation to reduce fluctuations in consumption over time. Incomplete financial markets, Allen and Gale argue, do not provide effective means of intertemporal smoothing of risks, while long-lived financial institutions like banks can achieve this. However, institutions will not be able to perform this kind of risk-sharing if they are subjected to substantial competition from the markets, because in that case investors would opt out of the banks in good times to avoid accumulation of reserves with banks from which they may not benefit, and invest in the markets instead.

1.3.3 Banks versus Markets: Information Provision

Information plays a crucial role in efficient allocation of resources in a financial system. In market-based financial systems, which generally have a large number of publicly listed firms, public disclosure requirements are normally stringent. This ensures that a great deal of information is publicly available. Besides, analysts working for mutual funds, pension funds and other intermediaries also gather private information. In developed markets, much of this information is reflected in the prices. On the contrary, bank-based systems do not generally
have a large number of listed firms, nor their disclosure norms are as stringent as in market-based systems, leading to much less information about firms being publicly available than in the other type of financial system. The number of analysts in bank-based systems is also rather small, leading to very little private information being collected and getting reflected in stock prices. Although financial markets possess much more information in a market-based system like the US, banks are in an informationally advantageous position vis-à-vis markets in a bank-based system like Germany than in a market-based system. This happens because of the greater prevalence of long-term relationship between banks and their borrowers in a bank-based system like Germany and Japan\textsuperscript{14} due to which banks are able to extract much more information from the borrower firms than are released to the market.

Although financial markets do possess more information than institutions in a market-based system, informational efficiency need not always lead to Pareto efficiency\textsuperscript{15}. Allen and Gale (2001) argue on the line of Hershleifer (1971):

For example, in order to reveal information, prices have to fluctuate with changes in underlying information; but price fluctuations themselves are costly to the extent that they impose risk of uninsured changes in wealth on investors. There is therefore a trade-off between allocative efficiency and risk sharing. This is similar to the point made by Hershleifer (1971) that the public release of information can destroy valuable risk sharing opportunities.

That is, there is a conflict between availability of more information and risk-sharing opportunities. Although more information may enhance allocative efficiency, it may destroy valuable risk-sharing opportunities. Thus, mere availability of more information to the markets in a market-based system may not be a decisive argument in favour of such system.

\textsuperscript{14} This is called main bank system in Japan and hausbank system in Germany.

\textsuperscript{15} See Allen and Gale (2001) for a survey of further works on this line.
1.3.4 Banks versus Markets: Funding Innovation

Historically, stock market-based systems have been more successful in developing new industries (Allen, 1993). For example, railways were first developed in the 19th Century UK through stock market (London Stock Exchange) financing. In the US, similar development has occurred in a number of industries over time - automobile industry in the early-20th Century, commercial aircraft industry in the post World War I period, computer industry in the post World War II period, and biotechnology and internet industries in recent decades. On the other hand, intermediaries-based economies have been more successful in traditional or mature industries like automobile industries in Germany and Japan and electronics industry in Japan. Ironically, although the automobile was invented in Germany, the industry developed in the US first, and Germany could develop her own automobile industry after it became a mature industry.

Allen and Gale (1999, 2000, Chapter 13) argue that in a world characterized by diversity of opinion, market-based systems will lead to more innovation than bank-based systems. According to them, diversity of opinion rises from differences in prior beliefs rather than differences in information. The advantage of financial markets is that even if there are differences in prior beliefs, people with similar views may join together and finance the project. In bilateral funding, the financing decision is delegated to a manager, and this gives rise to an agency problem in that the manager may have a different prior (initial set of information, objectives, and other parameters) than the investor.

In contrast, Bhattacharya and Chiesa (1995) argue that bilateral financing (where only one lender and one borrower are involved) is better than multilateral financing (which involves
multiple lenders and multiple borrowers, a metaphor for a financial market) because in the latter case the lenders have incentive to share R & D information among firms and may even collude with each other to allow only one firm to go to the production stage. This collusion creates a free-rider problem among prospective borrowers (firms) and they lose incentive to carry out R & D in the first place. However, this problem does not arise in case of bilateral funding where R & D information is to be disclosed to a single lender only. Yosha (1995) develops a model to argue that, in equilibrium, firms with high quality proprietary information avoids funding in public financial markets in order not to make proprietary information public, and chooses bilateral funding instead.

These views do not appear to be in agreement with reality. For example, the US has been the most successful country in financing innovations and developing new industries over at least the last hundred years. In fact, the venture capital industry has been a strong engine of growth in this respect (Kortum and Lerner, 2000). The development of the software industry from the early 1990s and other IT-Enabled Services industries from the mid-1990s in India have also been financed by the stock market (i.e., whatever external finance has been raised by these industries has mostly come from the stock markets).

While markets are better than banks in financing those industries where there is a wide divergence of opinion, banks are better than markets in financing industries where the scope of divergence of opinion is absent, such as in the case of mature industries. Allen and Gale (1999) argue that this is because the banks enjoy economies of scale in information acquisition and a long-term relationship with their clients (lenders) put the banks in a specially privileged condition.
1.3.5 Banks versus Markets: Corporate Governance

Various corporate governance mechanisms are held to resolve the agency problems resulting from separation of ownership and management control in public firms (Jensen and Meckling, 1976; Fama and Jensen, 1983). Mechanisms like active market for corporate control, Board of directors, compensation of CEOs, use of debt in the capital structure, etc. ensures that managers act in the best interest of the shareholders.

However, most of the financial systems lack an active market for corporate control. Even where such a market is active, as in the US, it suffers from free-rider problem among minority shareholders (who force acquiring firm to pay a higher premium over current target price) and other bidders (who realizes that the target is an attractive one after the first takeover bid is announced, and joins in the fray to bid without incurring costs associated with identifying a takeover target). Other mechanisms of corporate governance may be effective in the US and the UK, but not in most other countries. For example, neither a market for corporate control exists in Japan, nor CEO compensation (which is much lower in Japan than in the US) is an effective instrument in the country. Boards of directors are inactive in Japan compared with the US.

The question that arises is that, if market-based corporate governance mechanisms are either absent or ineffective, then how could Japan become a developed country? Allen (2004) argues that an alternative mechanism is provided by the main bank system that maintains a long-term relationship with the clients (lenders) and monitors them and their executives, holds equity in the client firms along with debt, and intervenes actively when the client faces financial distress.
In fact, the nature of corporate governance problem is entirely different in countries characterized by family ownership of corporate sector. La Porta, Lopez-de-Silanes and Shleifer (1999) document that barring UK and US, family ownership of corporate sector is pervasive around the world, and is the predominant form of control in almost all the emerging economy financial markets. Then how could the Asian miracle happen with an ownership structure so different from that observed in the UK or US? A stream of literature suggests that family ownership of business arises to compensate for the legal and institutional deficiencies in the emerging markets. For example, Burkart, Panunzi and Shleifer (2003) show that family ownership of corporates will become dominant in countries with weak protection of minority shareholders. The ownership of financial institutions in these Asian countries is also not significant so that a Japanese style corporate monitoring mechanism can be expected to be present. In fact, the disciplining role, according to Allen (2004) is played by competition in the market for inputs and finished products. An inefficient user of resources will lose market share to an efficient user, so that the latter will capture the former’s market share rather than taking it over (as is expected in the presence of an active market for corporate control). Apart from domestic competition, the degree of openness of the economy is an important factor in this regard as it opens the floodgate of international competition. The success of the Asian miracle can probably be explained in terms of competition and openness, compensated for the absence of a corporate governance mechanism.

Thus, effective corporate governance mechanism in a market-based system and its absence in a similar form in a bank-based system cannot be held as an argument in favour of a market-based system. A bank-based system may have its own alternative (as in Japan), and what is more, as argued in case of the high-growth Asian countries, competition in the markets for inputs and
outputs is also capable of doing the same job as governance mechanisms in a market-based system or monitoring mechanisms in a bank-based system.

1.3.6 Bank versus Markets: Stability

Although it is well-known and well-accepted fact that banks are prone to crisis, markets can also fall prey to a crisis. The causes of banking crisis can be "self-fulfilling prophecy" (if all depositors feel that a bank is going to fail, everybody will want to liquidate their deposits thereby leading to a run on the bank even if the financial health of the bank is sound), or downturn in business cycles. A number of banking crises in the 1990s (Mexico, Asia, Brazil, Russia, Argentina) witnessed currency crises happening together, unlike the banking crises of the 1970s. One major reason is financial liberalization and increasing openness. The Asian financial crisis has demonstrated that financial markets may also play a role in aggravating financial crisis. Bubbles originating and growing in markets can be a cause for crisis not only in the financial markets, but may also spread to banking system. Lack of liquidity (or sudden disappearance of liquidity) can be a major factor that can destabilize financial markets. In short, while bank-based systems are prone to systemic crisis, market-based systems are not much different in this regard (Allen 2004).
1.4 Markets versus Institutions – A Summary

The case for a bank-based system is based primarily on the weaknesses of a market-based system.

It is argued (Stiglitz, 1985) that markets suffer from a free-rider problem so long as information acquisition is concerned. This is because markets display prices in public that anybody can observe and use the information. This takes away the incentives to carry out research to acquire valuable information. Thus, greater market development, rather than development of banks, may impede the incentives for identifying innovative projects. However, banks do not suffer from this problem as they need not disclose their information to the public markets. This creates incentives for banks to deploy resources in acquiring information. Banks are in an advantageous position in this respect because they can form long-run relationships with their clients that makes acquisition of firm-specific information easier (Gerschenkron, 1962; Boot, Greenbaum, and Thakor, 1993), and makes them more effective than atomistic markets at exerting pressure on firms to re-pay their debts than atomistic markets (Rajan and Zingales 1999).

It is often argued that market performs the role of enforcing corporate governance in a better manner than banks due to the takeover threat and monitoring by board of directors. However, takeover device as a mechanism for corporate control suffers from several weaknesses. First, as insiders have more information than outsiders, the latter will succeed in snatching the control from the insiders only when they pay more than what is justified for the change of control (Stiglitz, 1985). Second, this mechanism suffers from free-rider problem as well. Once an outsider, after spending resources to identify takeover target, makes a takeover bid, others can simply free-ride on this and may bid for the same firm. The latter will be able to outbid the
former since they have not spent resources for identifying the takeover target. Thus, rapid dissemination of information in public markets reduces incentives for obtaining information and making effective takeover bids (Grossman and Hart, 1980). Third, takeover targets themselves may deter takeover threats by taking actions that reduces the value of the target company (e.g., poison pills), thereby weakening the disciplining capability of the market through takeover mechanism (DeAngelo and Rice, 1983). Fourth, as members of the board of directors are nominated by the management, and the members enjoy lucrative fees and other perks, they have strong incentive to side with the management (insiders) than protecting outside shareholders. This also reduces the effectiveness of the market for corporate control as boards are more likely to approve golden parachutes to managers and poison pills that reduce the attractiveness of takeover (Jensen, 1993; Allen and Gale, 2000). However, banks, by virtue of their long-term relationship with their clients, do not suffer from this type of problem as they monitor firms on a continuous basis (Diamond 1984).

Markets are known to provide much higher liquidity to the savers than the bank. However, it has been pointed out that the liquidity provided by markets may have adverse influence on resource allocation as well. First, takeovers, that are made possible by liquid markets, may at times be socially armful as the bidders may profit at the cost of other stakeholders (not necessarily limited to shareholders alone) (Shleifer and Summers, 1988). Second, as savers can easily sell of their shares in a liquid market, they have very little incentive to carry out expensive corporate governance (Bhide, 1993).

All these arguments lead to the implication that market-based systems will do a poor job of acquiring information about firms and overseeing/ controlling managers. Thus, greater stock
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market development may induce an inefficient allocation of resources leading to poor economic performance (according to the bank-based view).

The case for a market-based system is also based on the problems created by powerful banks. First, it is argued that once powerful banks acquire substantial inside information about firms, banks can extract rents in the form of a share of the future expected profit of the firm to the detriment of shareholders (Hellwig 1991). This will reduce the incentive of the firms to undertake innovative and profitable projects (Rajan 1992). However, if the banking sector is highly competitive, and legal barrier does not exist before the firm to switch its banker, the rent extracting capabilities of powerful banks will be reduced.

Banks, it is argued, hinder corporate innovation and growth because they, being debtholders, attempt to enforce prudence on the borrowing firms restraining them from taking up innovative and high growth ventures (Morck and Nakamura, 1999). Strong empirical support has been provided in favour of this hypothesis (as well as in favour of rent extraction hypothesis) from Japan where the banking system is characterized by long-term relationship between the main bank and the borrowing firms wherein the former exerts strong control over the latter (Weinstein and Yafeh, 1998).

While banks are successful in avoiding duplication of information gathering and processing in an environment where there is agreement regarding the nature of information gathering and the ways of information processing, they may not be effective in non-standard environment (Allen and Gale, 1999,2000). In other words, banks may be better (more cost effective) than market in mature industries or in case of established technologies where the scope of disagreement regarding the future prospect is limited. But in new industries, or in respect of new technologies, and riskier firms, the scope of disagreement is much larger. Here markets do a better job as they
aggregates atomistic opinions of numerous individuals. Consequently, markets do a better job in financing innovation than the banks, appoint also emphasized by Dewatripont and Maskin (1995) in a different framework.

Bank-based systems have also been criticized on the ground of murky corporate governance of powerful banks themselves, especially in Germany. Banks often enjoy significant ownership right over their clients (especially in Germany and Japan). They may even prevent outsiders from removing inefficient management if the latter is generous to the banker (Black and Moersch, 1998).

It is argued that bank-based system hinders efficient adjustment to structural changes, although it may be efficient in smoothing temporary shocks (Rajan and Zingales, 2003). This is because bank managers having long-term relationship with firms may be reluctant to launch bankruptcy proceedings against a firm in distress. However, markets, being free from relationships, will be able to more effectively identify and bankrupt firms.

Proponents of market-based financial systems argue that while banks provide the basic risk management services for standardized needs, markets offer a much richer set of risk management tools and provide greater flexibility to generate tailor made solutions for complex needs. Thus, as n economy grows in size as well as in complexity, market-based system makes available a richer set of risk management tools and ways for raising capital than a bank-based system.
1.5 Finance-Growth Nexus: Empirical Findings

One of the earliest numerical evidences concerning (and not necessarily "in favour of" in a statistical sense) finance growth nexus has been provided by Goldsmith (1969). Using data on 35 countries during a period ranging from 1860 to 1963, Goldsmith reported a strong association between economic development and financial development. However, one major weakness of this work is that it failed to establish any causal relationship (direction of causality). Besides, the study did not control other determinants of economic growth. Lastly, as noted above, more recent works identified two channels through which financial development may affect economic development - capital accumulation and technological innovation or productivity growth. Goldsmith’s work did not study whether financial development is associated with capital accumulation and productivity growth (Levine 1997).

Evidences began to pour in from the early 1990s starting with three influential papers of King and Levine (1993a, 1993b, 1993c). They constructed new indicators of financial development, and studied 80 countries during 1960-89 controlling for other factors affecting long-run growth, and analyzed whether the level of financial development predicts long-run economic growth, capital accumulation, and productivity growth. King and Levine used four measures of the level of financial development summarized in the table below in order to capture the functioning of financial systems in a more precise manner than the size measure of Goldsmith did.

King and Levine (1993a) report that there is a high positive correlation between each of these variables on the one hand and real GDP in 1985 on the other (DEPTH: 0.51, BANK: 0.58, PRIVATE: 0.51, PRIVY: 0.70), all of which are statistically highly significant (each having a p-value of 0.0001, where a p-value less than or exactly equal to 0.01 indicates significance at the 1% level).
King and Levine (1993b) find that in a cross-section regression (involving 77 countries) with real per capita GDP growth averaged over 1960-89 as the independent variable and the above four measures (DEPTH, BANK, PRIVATE, PRIVY) averaged over similar period as explanatory variables, and controlling for other factors that might influence real GDP growth (such as income per capita, education, political stability, indicators of exchange rate, trade, fiscal, and monetary policy), coefficients of all the four variables are positive and statistically significant at 1% level of confidence with $R^2$ varying between 50% to 52%. A similar regression as above where only the dependent variable is replaced by real per capita capital stock growth averaged over 1960-89 (capital accumulation) also yields positive coefficients for all the above four variables (DEPTH, BANK, PRIVATE, PRIVY averaged over 1960-89) that are statistically significant at 1% or 5% level with $R^2$ varying between 62% - 65%. When productivity growth is used as the dependent variable in a similar framework where all others are same, the coefficients of all the four variables (DEPTH, BANK, PRIVATE, PRIVY averaged over 1960-89) are positive and statistically significant at 1% or 5% level with $R^2$ varying between 42% - 44%.

In other words, there is a strong positive relationship between each of the three growth indicators (long-run real per capita growth rates, capital accumulation, and productivity growth) on the one hand and the four financial development indicators on the other.

Next, King and Levine (1993b) attempt to test the null hypothesis that finance simply follows growth (remember, null hypothesis is the hypothesis or assertion for possible rejection). They carry out the test by studying whether the value of financial depth in 1960 predicts the rate of economic growth, capital accumulation, and productivity improvements over the next 30 years.
The regression results indicate that financial depth in 1960 is significantly correlated with each of the three growth indicators (per capita GDP, per capita capital growth and per capita productivity growth averaged over the period 1960–1989) even after controlling for other likely determinants of long-run real GDP growth (initial conditions proxied by real per capital GDP in 1960, secondary school enrolment in 1960, government consumption expenditure as percent of GDP in 1960, inflation in 1960, and foreign trade as percentage of GDP in 1960). As the data on the variables BANK, PRIVATE, and PRIVY are insufficient in 1960, King and Levine (1993b) use data averaged over 1960s, 1970s and 1980s (wherever available), leading to a situation where there are potentially three observations per country. By restricting the coefficients of each of these three variables (BANK, PRIVATE, and PRIVY) to be the same across decades, they find that the initial level of financial development is a good predictor of subsequent rates of economic growth, capital accumulation, and productivity growth over the next decade after controlling for the other factors associated with long-run growth.

An example may drive home the point. Compare the financial depths of two countries in 1960 – country 1 that recorded a DEPTH of 10% in 1960 (Bolivia) and country 2 that recorded 23% (the average for developing countries) in the same year. If country 1 could increase its DEPTH in 1960 from 10% to 23%, the average of developing countries in 1960 (perhaps by waving a magic wand), then country 1 would have grown faster by 0.4% per annum during 1960-89, so that its per capita income in 1990 would have been 12.7% higher than what it actually turned out to be.
Table – 1.2: Variables Measuring Financial Development

<table>
<thead>
<tr>
<th>Measure</th>
<th>Definition</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPTH</td>
<td>Liquid liabilities of the financial system (currency plus demand and interest-bearing liabilities of banks and nonbank financial intermediaries) divided by GDP.</td>
<td>It measures the size of financial intermediaries relative to the size of the economy.</td>
</tr>
<tr>
<td>BANK</td>
<td>Ratio of bank credit divided by bank credit plus central bank domestic assets.</td>
<td>It captures the degree to which the central bank versus commercial banks are allocating credit. Since the banks are more likely to perform the basic functions of a financial system than central banks. However, there may be other financial intermediaries (e.g., NBFIs) who perform these functions, and the commercial banks may also lend to the government and the public sector. This measure becomes inefficient to the extent these are true.</td>
</tr>
<tr>
<td>PRIVATE</td>
<td>Ratio of credit allocated to private enterprises to total domestic credit (excluding credit to banks)</td>
<td>It is assumed that financial systems that channelize more credit to private firms are more likely to perform the basic functions of a financial system (like researching firms, exerting corporate control, providing risk management services, mobilizing savings, and facilitating transactions) than financial systems that simply funnel credit to the government or state owned enterprises without performing the basic functions of a financial system.</td>
</tr>
<tr>
<td>PRIVY</td>
<td>Credit to private enterprises divided by GDP</td>
<td></td>
</tr>
</tbody>
</table>

Note: Adopted from Levine (1997), King and Levine (1993a).

This leads one to conclude that the relationship between initial financial development and subsequent growth is robust “finance does not merely follow economic activity” (pp.708, Levine 1997). King and Levine (1993c) reconfirm the above observations using alternate econometric methodology. However, the causation (from financial development to economic development) is not yet established.
A few subsequent papers provided some indirect evidence of the causality running from financial development to economic development. Rajan and Zingales (1998) assume that US financial markets are relatively frictionless compared with other countries. Then they identify industries in the US that are more dependent on external finance (investment minus internal cash flow). Next, using the industry structure of dependence on external finance in the US as benchmark, they examine industries across countries to find whether the industries that are more dependent on external finance (in the benchmark country, i.e., the United States) grow relatively faster in countries that begin the sample period with more developed financial systems. They find that the industries that are more dependent on external finance for growth in the benchmark country (i.e., the US) grow faster in countries characterized by higher levels of financial development (development of both financial intermediaries and stock markets) than in countries that begin with a relatively weak financial system. Similarly, Demirgüç-Kunt and Maksimovic (1996), citing evidence from firm level data of 30 countries, argue that firms with access to more developed stock markets grow faster than otherwise.

In a major departure from the empirical tradition that concentrated so far on banking sector only while analyzing the link between financial development and economic growth, Levine and Zervos (1998) included stock market indicators in their study as well. Using data from 42 countries over the period 1976-93, they find that initial level of stock market liquidity and of banking development (credit by banks to private sector as a share of GDP) are positively and significantly correlated with future rates of economic growth, capital accumulation, and productivity growth even after controlling for other determinants of economic growth, capital accumulation and productivity growth (such as initial income, schooling, inflation, government spending, the black market exchange rate premium, and political stability). The findings of
Levine and Zervos (1998) provide evidence in favour of positive influence of stock market liquidity on long-run economic growth. The results also question the potential tension that might exist between banks and markets, as coefficients of both these variables enter into regression as positive with high level of statistical significance. In other words, the findings provide evidence in support of the hypothesis that banks and markets provide different (complementary) functions. However, Levine and Zervos (1998) find that sizes of stock markets (stock market capitalization as percentage of GDP) are not robustly correlated with long-term growth, implying that "simply listing on the national stock exchange does not necessarily foster resource allocation" (p. 46, Levine 2005).

None of the above mentioned works deals with or establishes causality. The results established so far is also consistent with the hypothesis that financial sector develops in anticipation of future economic growth, and hence is no more than a leading indicator of economic growth. In other words, in order to establish a causal relationship from financial development to economic growth, one must prove that the strong correlation between the two is not due to any simultaneity bias.

La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998), henceforth LLSV (1998), argue that since finance is nothing but a set of contracts, countries with legal framework that protect the rights of external investors and enforce those rights effectively will experience higher level of financial development than otherwise. By constructing a measure of legal origin, they show that depending on whether the commercial laws of a country are based on British, French, German, or Scandinavian law, it (legal origin of the country) has strong influence on how rights of external investors (creditors, shareholders, etc.) are protected. As finance is essentially based on
contracts, financial development will be fostered if rights of creditors and shareholders are protected.

However, these works do not deal with why should legal origin be important for financial development. Beck, Demirgüç-Kunt and Levine (2003) propose that there may be two channels through which legal origin might influence financial development: political channel and adaptability channel. The political channel argument emphasizes that different legal traditions assign different priorities to the rights of individual investors vis-à-vis the state, having a significant bearing on the development of property rights and financial markets. The adaptability channel emphasizes that the abilities of different legal traditions to adjust to the changing economic and commercial circumstances differ. Legal traditions with greater ability to adjust can quickly minimize the gap between the contracting needs of the economy and the existing abilities of the legal system, thus fostering financial development. They attempt to assess the validity of these two channels using historical comparisons and cross-country regressions, and find relatively more evidence in favour of the adaptability channel than for the political channel.

Since most countries inherited their legal system either through colonization or occupation, this variable may be considered exogenous to the system. That is, legal origin may affect financial development, but not economic growth directly. That is, legal origin may affect economic growth only through financial development. Levine, Loayza, and Beck (2000) use the index of legal origin constructed by LLSV(1998) as instrumental variable. Using data from 71 countries over the period 1960-95 and deploying generalized method of moments (GMM) regressions, Levine, Loayza, and Beck (2000) establish a causal relationship between various indicators of financial development and long-run economic growth after controlling for other determinants of economic growth. Similar results have been reported to be robust to alternative econometric

Apart from the above cross-country studies, numerous other country-specific studies using time-series data normally tended to confirm the above results. A few cross-country studies using industry data and firm level data also churned out results having similar tenor. A survey of these works can be found in Levine (2005). Here we mention just a few of them.

Using data on 36 industries across 42 countries, Rajan and Zingales (1998) show that industries that are more dependent on external finance grow faster in countries with better developed financial intermediaries and markets. This evidence is supportive of the hypothesis that financial development fosters economic growth by easing firms' access to external finance. Using a similar framework as in Rajan and Zingales (1998), Beck, Demirguc-Kunt, Laeven, and Levine (2004) show that industries characterized by predominance of smaller firms grow faster in countries with better-developed financial systems. It is then argued that since smaller firms face greater obstacles to raise external funds (e.g., informational and contracting barriers) than larger firms, financial development fosters growth of those industries that are technically characterized by small size of firms. Whether the same argument can also be stretched a step ahead to argue that financial development fosters faster growth of smaller firms than larger firms is not clear. However, to the extent that size of firms is a determinant of the firms' ease of access to external finance independent of the industry effect, the argument that financial development fosters faster growth of smaller firms will be upheld. In that case, one can argue that financial development fosters economic growth by enhancing competition and reducing monopolistic elements by
enabling smaller firms to grow faster. Wurgler (2000), using industry level data from 65 countries over the period 1963-95, shows that countries characterized by higher levels of financial development are capable of increasing investment more in growing industries and reducing investment more in declining industries. This is perhaps the only study that directly measures the efficiency of financial systems of countries in re-allocation of credit.

1.6 Banks versus Market: Empirical Evidence

Apart from the issue of whether financial development influences economic growth, the issue of whether the financial structure (i.e., the relative importance on financial intermediaries or banks and financial markets in an economy) affects economic growth or not have been raised by Goldsmith (1969) and have since been debated elaborately. We have surveyed the first issue above. We have seen that the rapidly growing empirical evidence makes the claim that financial development exerts significant influence on economic development irrefutable. The next pertinent question that arises is that whether development of banks (or financial institutions or financial intermediaries) or financial markets have larger influence on growth. We briefly survey the empirical evidences on this issue in this section. The answer to the question of whether banks (or financial institutions) or financial markets provide greater impetus to growth has extremely important policy implications for a country like India.

Past studies (spanning almost a century) on the issue have primarily focused on just four countries i.e., US and the UK as the market-based economies and Japan and Germany as the bank-
based economies. Thus, the broad conclusions reached by these studies in the context of the above four countries could not be generalized, especially because these four countries experienced almost similar growth over long run. In fact, in view of the similar long run growth experience of these four countries, it could be argued that financial structure did not matter much so long as long run growth is concerned. More recent empirical works have extended the dataset to include a much larger number of countries (150), and yet have reached somewhat similar conclusions.

Beck, Demirguc-Kunt, and Levine (2001) and Demirguc-Kunt and Levine (2001b) report that both financial intermediaries (bank & non-bank including insurance companies, pension funds, finance companies, mutual funds, etc.) and stock markets are larger, more active, and more efficient in richer countries and these components of the financial system grow as countries become richer over time. They also note that as countries grow, markets become more active and efficient relative to banks, and better functioning legal systems and institutions are associated with financial systems that are more market-based.

While overall financial development might be an important determinant of growth, financial structure of an economy—that is, whether an economy is bank-based or market-based—is reported to have been irrelevant for growth (Levine, 2002). That is, either financial structure is no better in fostering growth than the other, although overall financial development is important. However, Tadesse (2002) has argued that effect of financial structure on economic growth depends on the level of development of the financial system—market-based systems are

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relatively better in countries with more developed financial systems, and bank-based systems perform relatively better in underdeveloped financial systems. Beck and Levine (2002), Demirguc-Kunt and Maksimovic (2002) also provide evidence to argue that financial structure does not matter for growth.

Levine (2004) argues that these studies do not necessarily imply the irrelevance of institutional structure to economic growth. The view that there is no unique financial structure that is optimum for enhancing growth, put forward by Merton and Bodie (2004), is also consistent with these studies. It is possible that the growth-optimizing mixture of markets and banks depends on legal, political and regulatory factors, and hence is different for different countries, and different for different time periods for a particular country.

1.7 Role of Stock Markets in an Emerging Economy

The emerging markets have witnessed an across-the-board increase in the importance of stock markets in their respective financial systems during the last two decades as a result of widespread financial liberalization measures undertaken during this period. Both the primary and the secondary segments of their capital markets have witnessed tremendous growth.

As evidenced from Table 1.3, the growth in primary markets in emerging economies has been spectacular during the 1990s. Both equity issues and debt issues during 1991-95 exceeded by hundreds of times the amount mobilized during 1980-90.
Similarly, the size of the secondary markets has also gone up drastically. World stock market capitalization registered almost three-fold increase during the 1990s from $ 9.4 trillion in 1990 to $ 32 trillion in 2000 (Table-1.4). Relative to GDP of countries, size of stock markets has more than doubled from 47.9% in 1990 to 104.1% in 2000.

Above discussions depict a picture of a drastic growth in both the primary and secondary segments of the capital markets across the countries. One noteworthy feature of the above
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discussion is that even the emerging markets have witnessed dramatic growth in their respective capital markets. This begs the question of what is the nature of the role that stock markets play in an emerging economy. Of course stock markets perform the role of financial intermediation, in a developed economy as well as in an emerging economy. But the nature of intermediation through stock markets in an emerging economy, which has already embarked upon far reaching financial liberalization programme, is vastly different from the role that stock markets play in a developed economy.

First, stock markets are a major, if not the dominant, source of long-term finance in emerging economies. Such countries are normally characterized by narrowly based financial sector dominated by commercial banks which normally do not provide long-term finance to the corporate sector, nor do they provide equity capital. Securities markets help to mitigate this problem.

Table – 1.4: World Stock Market Capitalization of Listed Companies

<table>
<thead>
<tr>
<th>Country Group</th>
<th>Value (current US$ billion)</th>
<th>As % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>High income non-OECD</td>
<td>235.74</td>
<td>221.74</td>
</tr>
<tr>
<td>High income OECD</td>
<td>9,141.10</td>
<td>8,803.36</td>
</tr>
<tr>
<td>Low income</td>
<td>123.65</td>
<td>54.59</td>
</tr>
<tr>
<td>Middle income</td>
<td>227.99</td>
<td>319.98</td>
</tr>
<tr>
<td>World</td>
<td>9,728.47</td>
<td>9,399.66</td>
</tr>
</tbody>
</table>


Second, venture capital industry is normally at a primitive stage of development in most of the emerging economies. Neither there is any other source of private equity capital in these countries. As a result, gearing ratios (debt-equity ratios) are generally on the higher side in
the less developed countries.\textsuperscript{18} Thus equity capital from stock markets assumes special importance in developing economies in containing financial risks of enterprises arising out of high gearing ratios (Roe, 1991).

Third, most of the emerging markets have a history of financial repression wherein interest rates were administered and cost of borrowing was not related to either demand for capital or riskyness of investment. Financial liberalization in these countries aims at replacing administrative allocation of resources by market allocation. Securities markets, by providing a hierarchy of rates of return (and thereby, of the cost of capital), greatly facilitate better pricing of risks. This function of stock markets in emerging economies becomes especially important because the systems and institutions in the financial sector (most of which were government owned) accustomed to operate in a financially repressed regime (where most of the rates were administratively fixed) for decades normally find it difficult to shift to a market-based system for a considerable time after liberalization.

Fourth, Jefferis (1995) argues that stock markets in emerging economies perform the very important role of providing competition to the traditionally dominant commercial banking sector, often controlled by government and/or oligopolistic in nature, forcing them to enhance their efficiency thereby ensuring better rates to the savers as well as to the users of savings and improve the efficiency in respect of various services offered by them.

Fifth, stock markets in emerging economies provide the opportunity to diversify their assets and realize higher rates of return. Jefferis (1995) points out that institutional investors like pension funds and insurance companies receive huge amount of long-term savings, which

\textsuperscript{18} See Kitchen (1986), Samuels and Theobald (1989).
they invest mostly in government securities yielding lower return. Stock markets enable these institutions to achieve a balanced portfolio along with higher return (due to higher expected return on equities and corporate bonds), reduced risk and greater financial stability (due to portfolio diversification benefit). Even more important aspect of an emerging economy stock market is that it provides a channel through which these institutions, which are the single largest recipient of long-term savings, provide a mechanism to match long-term savings with long-term investment requirements of the economy.

Sixth, stock markets in emerging economies can be a source of foreign exchange through foreign portfolio investment as has been demonstrated by most of such countries during the 1980s and 1990s. However, this aspect of stock markets need particular caution on the part of the regulators, as excessive foreign portfolio investment may increase the chance of financial crisis.

Seventh, some authors have argued that stock markets enable local residents of emerging economies to own shares in local subsidiaries of multinationals. Local subsidiaries of multinationals normally have a much larger proportion of their revenue coming from international trade and transactions compared with local enterprises. Thus, opportunity to own shares in such enterprises widens the options of diversification before local investors.

Finally, stock markets have greatly helped the process of privatization in a number of emerging markets in the 1980s and 1990s. In many cases, stock markets have facilitated privatization process, and in turn have got benefited through wider investor participation, listing of companies possessing large real assets, and larger depth (liquidity) of securities markets arising out of privatization process.
1.8 Reasons for Going Public

A very fundamental issue relating to the IPOs is why firms need to "go public" at all. However, it remains one of the least studied aspects of IPOs in the literature. The existing literature on IPO focuses mostly on underpricing and after-market performance and their determinants. Conventionally, going public is simply taken as a stage in the life-cycle of a company. According to this view, in most cases entrepreneurs start companies with their own money. However, after a certain time, the requirement of funds to finance growth of the firm goes beyond the ability of the entrepreneur to supply the same. As a result, the firm turns to external sources of finance to fund its profitable investment opportunities. However, external finance in the form of equity capital is comparatively more difficult to obtain from banks and similar financial institutions than external finance in the form of debt capital, although they do provide equity support in a limited manner. Hence firms need to make public offer of equity to fill that gap.

Then the question that arises is why there are so much differences from country to country in the number of listed firms and their instruments (debt as well as equity) per unit of GDP (converted to some common currency), and market capitalization as percentage of GDP. In short, as pointed out by Röell (1996) and Pagano, Panetta and Zingales (1995), conventional wisdom, although there is some truth in it, fails to explain the enormous variation in the observed importance of listed equity as a form of finance from country to country. Röell surveys a few works on the issue, which were based on the reasons cited by the companies making IPO themselves. The most important reason cited for going public is
the access to new finance. In fact, equity finance through public issue serves several purposes. First, equity base is strengthened so that future debt overhang and associated problems are mitigated. Second, in the presence of information asymmetries, a company with large requirement of external finance may face high interest rates and/or credit rationing.\textsuperscript{19} Issuing external equity plays the role of relaxing this financing constraint. But these benefits could be obtained by placing equity with a few institutional investors as well. Thus there must be something more for going public. This leads us to the third advantage. Prospective investors take into account the liquidity of an investment. An illiquid security needs to generate higher return than another exactly similar but more liquid security in order to compensate for the liquidity risk. Issuing shares to the public generates much more liquidity than if shares are placed with a few institutional investors. Besides, dispersed share ownership might be preferable to the original owner in order to avoid excessive intervention by the large external investors. Third, enhanced status as listed company provides firms with more bargaining power in negotiating bank loans at better rates. In case of bank loans to private companies, only lending banks have information about them, and hence enjoy a monopolistic information advantage over other sources of finance. Banks may exploit this advantage of privileged information about the creditworthiness of their customers to extract rent in terms of higher interest rates and/or larger collateral. By listing on a stock exchange and disseminating information about it in the market place, a company generates competition to its lender, which leads to lower cost of capital and/or larger supply of external finance. Pagano, Panetta and Zingales (1995) find striking evidence that listing enables firms to widen their sources of bank loans and negotiate better terms for loans even

\textsuperscript{19} See Stiglitz and Weiss (1981) for a treatment of how information asymmetries may give rise to credit rationing.
after taking into account the effect of increased equity on their balance sheets. They suggest that this might be due to increased competition among banks as well as with other potential sources of finance. In fact, development finance institutions in India used to charge about 50 basis points less for loans to listed firms.

After equity finance, the second most cited reasons for going public is the enhanced company image and publicity obtained as a result of the going public process. At the time of going public, the firm is discussed in the press, and after listing it remains visible to the public through at least the daily share price quotations published in the financial newspapers. This provides a longer-term signal to the suppliers, workforce and customers.

Third most cited factor for going public is the objective of motivating management and employees. While this may be a result of enhanced company image as well, listing enables firms to motivate their employees more directly through share participation schemes.

Fourth, although not covered in the surveys, is the possibility of "cash in," that is, the possibility of original owners liquidating part of their stake at the time of the public issue or in the subsequent period. Original owners may need to cash in to promote or acquire stake in another company in order to achieve diversification. Evidence in this regard is mixed. While in the case of unlisted securities market of Britain, 40% of proceeds of issues went to the original owners in the 1980s, over half of the owners did not cash in at all at the time of IPO in Italian and Swedish markets. However, so long as cashing in the aftermarket is concerned, empirical studies in the context of Sweden and UK indicate that original owners divest a majority of their holding within five to seven years of going public.
The original owners may also cash in simply to effect wealth transfer, by exploiting "transitory windows of opportunity" when their companies are overvalued by the outside investors. Thus another important reason for going public is to exploit mispricing by successfully timing the issue at a time when investors, especially the small investors, are excessively optimistic. In fact, the owner-manager is capable of doing this because of the existence of asymmetric information between the insiders (original owner) and the outsiders (potential investors). Much of the studies on IPO focuses on this aspect, and is dealt with in detail elsewhere in the present study.

Finally, as suggested by Zingales (1995), going public may be the first step towards selling a company. Zingales argues that by selling a minority stake through an IPO to dispersed shareholders may help to increase the surplus that the initial owner can obtain from a future buyer of majority stake, thus maximizing the total proceeds to the initial owner.
1.9 Comments

Firms have to depend on external finance in order to grow, as internal finance is often insufficient to finance investment opportunities. External finance may be raised from financial institutions (like banks) and/or financial markets (public debt markets and equity markets). Then the obvious question to ask is which source of external finance is better—markets or institutions. Economists have sought to answer this question in terms of whether banks are better for economic growth or institutions. While economists have debated this issue over much of the last century, a more fundamental issue that has been raised is whether financial system development is at all relevant for economic growth. Theoretical works concentrated on the specific roles of financial intermediaries like information production, risk sharing, innovation financing, etc., empirical works attempted to explain long-run economic growth in terms of financial development. Empirical aspect of the debate initially focused on the four countries of US, UK (market-based), Germany and Japan (market-based). Later on, especially from the late 1990s, a much larger set of countries with diverse experience of economic growth and patterns of financial development were included in the data set in the empirical works.

A large body of empirical work found strong evidence in favour of the association between financial development and economic growth. Sophisticated econometric techniques were deployed to provide evidence in favour of financial development causing economic growth. Empirical works not only analyzed the impact of financial development on macro variables,
firm level and industry-level data also provided evidence in favour of financial development fostering economic growth.

Another stream of empirical works attempted to find out whether development of markets or financial intermediaries (banks) is better for fostering economic growth. Existing evidence suggests that financial structure—i.e., whether an economy is market-based or bank-based—does not matter. What matters is the level of overall financial development. Some researchers then attempted to answer the question that what causes some economies to have developed financial systems and others to have underdeveloped financial systems. They argue that legal, regulatory and political factors (including their historical origin) are important determinant of financial development.

Some researchers argue that the empirical evidence indicating irrelevance of financial structure also imply that there does not exist a unique growth-optimizing financial structure for a particular country, and that the optimum financial structure for a country is also dependent on the state of financial development of that country and legal, regulatory and political factors. Theoretical works argue that banks and markets perform certain functions in different manners, and this might influence the structure of industrial growth. For example, markets are argued to be more efficient than institutions in financing industries that are relatively more dependent on continuous innovations. There is some empirical evidence in favour of the hypothesis that markets and institutions perform certain functions differently.

Whether markets are better or institutions, we observe that both the primary and secondary segments of stock market have registered tremendous growth, both in absolute terms and relative to macro aggregates like GDP, especially during the 1990s all over the world.
While the growth in primary segment has been witnessed for both emerging markets and developed markets, the growth has been concentrated to primly equity market for the former, and to both debt and equity market for the latter. The spurt in growth in the secondary markets has been witnessed almost across the world, barring the countries belonging to lowest per capita income category.

Thus, the phenomenal growth of stock markets leads one to ask the role of stock markets in general, and their role in emerging markets in particular. We observe that stock markets play a special role in emerging markets. Apart from providing long-term finance to industry (which is otherwise scarce in supply in developing economies), stock markets are the only source of external equity in such countries where venture capital industry is underdeveloped, and institutions normally do not take equity participation (as in Germany). When a developing country emerges out of financial repression and adopts financial liberalization, stock market provides valuable information that helps agents to price the risks of projects in efficient manner. Stock markets in emerging economies exert competitive pressure on the traditionally dominant banking system, which is often characterized by state monopoly, and help to improve their efficiency and service standard. As the long-term bond market is underdeveloped in most developing countries, certain financial institutions (like insurance companies, pension funds, etc.) suffer from the non-availability of financial instruments to park their long-term funds. Consequently, such institutions are forced to park their long-term funds in short-term instruments yielding very low return. Stock markets in such economies at least partially fulfill this lacuna by providing an avenue for investing long-term funds to generate higher expected return (commensurate
Emerging economy stock markets can also be a source of foreign exchange as has been demonstrated by the experience of the Asian tigers since the 1980s and 1990s and India since the mid-1990s. However, this aspect of stock market in emerging economies has to be dealt with caution, as this could also be a potential cause of macroeconomic disturbances in an otherwise stable economy triggered by transmission of financial shocks emanating in a different country (the so called “contagion effect”).

After discussing the role of stock markets in an emerging economy, we focus on the primary market for equities. The secondary market cannot exist without a primary market where securities that are issued in the primary market are subsequently traded in the secondary market. A vibrant primary market should be characterized by a steady flow of primary equity issues by corporates that have so far been not listed in public stock markets.

The decision by a firm to issue equity to the public and get listed in a stock exchange depends on a variety of factors. We observe that the most important reason for going public is securing equity finance. Other motives for going public include enhancing company image and publicity (at the time of public issue), motivating management and employees (through stock option schemes) and enhancing the liquidity of investments made by the original owner (by admitting the possibility of selling out the stakes of the original owner in market after public listing). However, the motivation for going public may also include the objective of exploiting the temporary windows of opportunity whereby current owners may issue over-valued equity to the public when the market as a whole is attaching a higher than warranted valuation to companies offering equity to the public, thus causing a wealth transfer from the investors to the original owners.
References


Chapter 1

Introduction


