

Equilibrium Financial Exclusion: A Multi-Layered Capital Markets Structure as a Solution

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Equilibrium financial exclusion occurs when a would-be borrower lacks necessary collateral and reliable information about its investment projects, and therefore cannot get access to bank credit and equity finance. Equilibrium financial exclusion arises from asymmetric information. In most cases, sufferers of financial exclusion are the poor and Small and Medium-Sized Enterprises (SMEs). They usually become potential customers of informal financial institutions such as pawn brokers. The present paper aims to offer a policy suggestion called "Multi-layered Capital markets" in order to discuss the possibility of providing a partial solution to the problem of equilibrium financial exclusion of SMEs.

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1. Introduction

Many emerging economies suffer from wide-spread financial exclusion despite the presence of efforts to develop financial sector. Financial exclusion refers to inability or difficulty of accessing to finance in the formal financial sector, which includes banking and equity finance. One form of financial exclusion is equilibrium financial exclusion that occurs when a would-be borrower lacks necessary collateral and reliable information about its investment projects, and therefore cannot get access to bank and equity finance. In most cases, sufferers of financial exclusion are the poor and Small and Medium-Sized Enterprises, which usually become potential customers of informal finance such as pawn brokerage. Shem and Atieno (2001, 1) state that "financial dualism, entailing the coexistence of the formal and informal financial sectors describes the financial sectors of developing countries". Country practices showed that informal financial sector continued to exist despite the presence of government intervention in the form of subsidized direct credit to the financially excluded. Although there are a number of different theoretical approaches that attempt to explain some features of informal financial sector "they share a common general theme: that the world of informal credit is one of missing markets, asymmetric information, and incentive problems" (Ghosh, Mookherjee and Ray, 1999, 2).

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The present paper aims to discuss a policy suggestion called “Multilayered-Capital markets” in order to provide a partial solution to the problem of equilibrium financial exclusion of the poor and SMEs and the resulting financial dualism from the perspective of asymmetric information. To do this, first, the theoretical background is introduced by referring to asymmetric information and information problems such as adverse selection and adverse incentive. Moreover, the paper explains how these information problems can cause equilibrium credit rationing, and the resulting financial exclusion of the poor and SMEs. Second, a “multi-layered capital market” (MCM) structure as an unconventional way of overcoming information problems is presented.

2. Theoretical Background: Asymmetric Information

In an ideal world of rational individuals, costless and complete information, a financial contract would be likely to occur without a bank intermediation. Since information would be available to all parties without cost one, being aware of his consumption patterns, could easily lend his surplus funds directly to the best would-be borrower who had the same maturity preferences as the lender. In this case, there would be no need for a bank intermediary for liquidity, screening and monitoring purposes.

However, asymmetric information affects the decisions of market players and the way it affects markets result in deviations from the perfect allocative scenario described above which paves the way, first, for the existence of banks, and then for the presence of equilibrium credit rationing and permanent financial exclusion particularly in emerging economies. Asymmetric information is the differences in information available to different parties in a financial contract where borrowers have an informational advantage over lenders because borrowers know more about the investment project they want to undertake (Mishkin, 1991). There is an informational advantage because a financial contract “involves the exchange of money for the promise of money in the future, usually with some form of return” (Caprio and Honohan, 2001, 78). In other words, there is a time gap between when the contract is established and when the interest is paid. However, “the interest rate is nothing more than a promise...what is promised and what is actually delivered is tenuous” (Stiglitz and Weiss, 1990, 96) It is tenuous because AI causes “lemons”, “adverse selection” and “moral hazard” problems all of which increase the probability of undelivery of the promise (Akerlof, 1970; Stiglitz and Weiss, 1981, 1990). In this respect, for a debt contract to occur, a lender has to ensure what is promised will actually be paid, and therefore, he has to overcome these problems arising from AI.

“Lemons” problem occurs in many markets when buyers cannot differentiate between prospective sellers and use “some market statistic to judge the quality of prospective purchases” (Akerlof, 1970, 488). In this case, as these statistics reflect the average quality of the goods without specifically differentiating the better quality goods from the bad ones, sellers have an incentive to merchandise the bad goods. Thus, bad goods drive out the good, and therefore both the average quality of goods and the size of the market decline (Ibid). In credit markets, the “lemons” problem takes the form of driving out good borrowers while decreasing the average quality of borrowers in the market. That is to say, if the lender cannot differentiate between the prospective borrowers, the interest rate is offered so as to show the average quality of borrowers. This gives incentives to bad borrowers to borrow with a premium while discouraging good borrowers. Thus, debt markets in an environment of widespread information asymmetries are dominated by “lemons”. As a result, the problem of adverse selection increases and the probability of delivery of the promise decreases.

In this respect, a would-be lender has to make sure that he can differentiate between the lemons and good borrowers to avoid adverse selection. Adverse selection refers to “ex-ante asymmetry of information” which leads to picking up the “lemon” instead of the good borrower. Avoiding this problem requires information acquisition and processing about potential borrowers. However, this information is not without cost and it requires specialization. This requirement and costly information leads to the first deviation from the perfect direct allocation scenario by creating a need for a financial intermediary specialized in information gathering. As a result, banks step in and act as agents specializing in acquisition and dissemination of information and provides solution to adverse selection problem (Stiglitz and Weiss, 1990). They collect and share information about various potential borrowers. They evaluate the signals from borrowers and screen them to put them into appropriate risk categories (Ibid). This process is subject to economies of scale, and therefore, banks are able to decrease the information cost arising from the adverse selection problem.

Existence of “ex post information asymmetry”, which refers to moral hazard problems, causes a second deviation from the perfect direct allocation scenario while creating another justification for the existence of banks. “Ex post information asymmetries come about when the lender is unable easily to observe the entrepreneur’s choice of investment methods and the effort put into making the project a success” (Lewis, 1994, 16). It causes an information problem because the lender has to make sure that the loan will be used as promised. This lack of observation by the lender may lead to a moral hazard problem “when a borrower engages in activities that reduce the likelihood of a loan being paid” (Claus and Grimes, 2003, 10). In this respect, “the temptation to increase the risk at the expense of lenders is a form of moral hazard” (Beim and Calomiris, 2001, 199). This possibility of behavioural change after taking the loan requires monitoring which is too costly for individual lenders. Moreover, it requires specialization. Thus, for a debt contract to occur, a need for financial intermediation emerges. In the real world, would-be-lenders who are unable to lend directly to would-be borrowers due to monitoring requirement arising from moral hazard problems delegate this costly task of monitoring to banks (Diamond, 1984 in Claus and Grimes, 2003). As delegated monitors, banks prevent opportunistic behaviour of the borrower during the realization of the project (Xavier and Freixas, 1997). They ensure that “borrowers use the funds in the manner intended, and they do not undertake undue risks” (Stiglitz and Weiss, 1990, 393). Monitoring costs are reduced by economies of scale and specialization. The credit contract includes sanctions and the borrower is not allowed to keep any of its profits in case of default. Thus, by acting as delegated monitors, banks provide a solution to the moral hazard problem.

In allocating credits, two opposing forces are in operation regarding the expected return of the bank. First, the expected return increases as interest rates rise. This is the direct effect. However, the expected return decreases as interest rates rise due to adverse selection and moral hazard. This is the indirect effect. Due to this indirect effect arising from AI, “the expected return by the bank may increase less rapidly than the interest rate; and, beyond a point, may actually decrease” (Stiglitz and Weiss, 1990, 394). For this reason “banks deny loans to borrowers who are observationally indistinguishable... beyond the interest rate at which the expected return to the bank is maximized...” (Ibid, 394). Thus, credit is rationed. This type of credit rationing is called equilibrium rationing which is particularly problematic in DCs where, unlike developed countries, information acquisition and processing institutions like third rating agencies do not exist and therefore, information problems are more severe.

As a result of equilibrium rationing, would be borrowers who are ready to pay a high interest rate, but are not supplied in formal market even if they have good projects turn their

faces to informal sector. This situation paves the way for the existence of an informal financial sector with a higher interest rate due to high information costs. In this regard, the presence of a large informal sector and the financial exclusion of vast majority of SMEs implies that the developing country suffers from a large extent of information problems which cannot be overcome by the mainstream banking system.

This situation suggests that unconventional ways of tackling AI are necessary. An unconventional and innovative approach to information problems is group lending in micro finance. In group lending, since the group members themselves select who will be in the group ex-ante and monitor themselves ex-post, adverse selection and moral hazard problems can be overcome and information costs can be reduced by using informal information. Thus, microfinance institution can extend credit to individuals for whom information is unavailable and costly, and therefore, otherwise, who would be excluded by the mainstream banking system. However, it can hardly provide a solution to the financial exclusion of SMEs as group lending is not an appropriate technique for firms. So, although group lending in microfinance opens a new horizon in making use of informal information, the main policy question still remains unanswered: That is, how can SMEs get access to finance so as to reduce the size of informal sector?

3. Policy Suggestion: Multi-layered capital markets

It is the main aim of this chapter to explain what “multi-layered capital markets ” means and how it can provide an innovative solution to overcome severe information problems by making use of informal information. In this structure, two broad layers refer to the informal and formal sector. The proposed mechanism is based on equity financing. It aims to reduce information problems by constructing a stepwise bridge between the informal and formal sectors with different financial reporting and accounting standards. The last step is a conventional stock exchange whereas the first step and the steps in between are determined according to related information problems.

A stock exchange stands at the top of the information hierarchy in the formal sector in terms of data dissemination and financial reporting. It is highly regulated and it requires the production of vast amount of publicly available standardized information, which is usually compatible with international accounting standards (IAS). In this respect, firms excluded from the banking sector - such as most SMEs in developing countries - are highly unlikely to bear these information costs, make initial public offerings (IPOs) and reach stock market floatation. In other words, for most SMEs stock market floatation is an unreachable target. Moreover, if “hard and reliable” information is not available or firms do not have incentives to provide this information, as in the case of most SMEs operating in informal sector, it means that these firms are also out of the reach of private equity investors who also demand hard and reliable data. Thus, both public and private equity finance for SMEs become impossible to access. This situation is consistent with the existence of suboptimal multiple equilibria with poverty and inequality traps where SMEs are stuck in the informal sector, private equity investors and stock exchanges cannot thrive and banks do not extend credit to SMEs, but heavily rely on large firms as in most developing countries.

Under these circumstances, if proper mechanisms are established, equity finance might be a viable way of shifting to a more optimal equilibrium, as it theoretically provides investors with an opportunity to overcome moral hazard problems and reduce ex-post information costs due to ownership status and control rights. In this respect, it can be more advantageous than bank lending. However, when hard and reliable information does not exist,

adverse selection is still a problem, and therefore, fund suppliers are still deterred from investing. In the absence of “hard and reliable” data, mechanisms which are able to make use of “soft and reliable” information can perhaps overcome this problem until incentives and the ability to produce publicly available standardized and periodic information materialize.

This mechanism involves a stepwise bridge between the informal and formal sectors, where local stock exchanges in the informal sector are linked to national stock exchange in the formal sector to constitute the main structure. At this proposed structure the local stock exchange is not a conventional stock exchange. It is unconventional in the sense that it would provide an organized environment where local informal IPOs could be realized, and then, issued shares traded. It would also be characterized by multi-tiered financial reporting and accounting standards, which gradually progress with each layer so as to converge to the international accounting and financial reporting standards at the final layer. The entry point to the system would be called the first layer which is the informal IPO market at the local stock exchange.

The first layer provides an informal public offering market at the local stock exchange where SMEs in need of finance can register with their existing books so as to get access to informal equity finance provided by local investors. In other words, the aim is to provide SMEs with funds they need from local people who know the firm well due to their day to day relationships and geographical proximity. It is based on the idea that adverse selection and moral hazard problems can be overcome by making use of informal local information. As local people are likely to be more informed about local firms than the third parties in the formal sector, just like in group lending, it might be possible to overcome the adverse selection problem *ex-ante* by means of local informal information. Since the information used is informal, *ex-ante* information cost can be reduced so as to make a viable investment. When these local fund suppliers become a shareholder in the firm, monitoring, *ex-post* information cost can be reduced as well. Thus, at the very first step, informal equity finance could potentially provide the firm with the funds needed.

The second layer provides a secondary market for the shares initially offered at the first layer or elsewhere. Trading of the issued shares on the secondary market aims to create liquidity, hence to provide local investors with an exit strategy, which in turn can facilitate their investment decisions. As for the first layer, registration for the second layer would not require further data producing requirements. In other words, any SME could be listed with their existing books provided that it is willing to do so. The rationale for this is not to burden the SME with additional costs so that an incentive is given to enter the system.

In order to promote registration at the first and second layers, further incentives for SMEs would need to be provided beside equity finance and liquidity. This incentive may be a tax break. A tax break for early local investors might be an appropriate incentive, for example. Thus, with this informal sector intervention, a number of SMEs could be pooled into an informal local stock exchange to access equity finance. Among these SMEs, the ones which are growth-oriented and productive would have the opportunity to invest with the capital raised so that they can grow and upgrade to the formal sector. In other words, a kick start provided by informal equity finance might be sufficient for some SMEs to grow and upgrade to formal sector.

However, this process cannot be assumed to occur in the same way for all SMEs. So, a mechanism providing a gradual progress opportunity might still be necessary so as to bring informal SMEs into the formal sector. In order to support the gradual progress of SMEs, the market structure at the local stock exchange could be further be layered and at each layer, data

dissemination, financial reporting and accounting standards could be increased so as to converge to standards of the national formal stock exchange. Although the number of these further layers and information requirements at these layers can best be decided by local authorities, here, two further layers are proposed to give a general idea. The aim of this further segmentation is to advance the ability of SMEs to provide standardized information gradually and less costly by a kind of “learn-by-doing” method so that they can get access to formal finance. It is based on the logic that as the production of reliable and hard data is augmented, the possibility of these firms getting into the scope of formal private investor can be increased.

In this respect, the third layer at the local stock exchange requires the production of standardized financial reporting and accounting standards determined by the local authorities. In determining these standards, abridged IAS as suggested by Ad hoc Consultative Group of Experts on Accounting by SMEs (2001) might give a general idea. It is the aim of this layer to advance the ability of SMEs to provide standardized and understandable information with a minimum cost. For this reason, auditing is not suggested as a requirement at this stage in order to keep the costs low. In this sense, the absence of audit requirement provides a cost incentive for SMEs. Further incentives at this stage might be tax breaks as in the previous layers, free access to consultancy services for preparing business plans, production, marketing, accounting etc. In providing these consultancy services, private equity firms planning to invest in SME sector can be encouraged to be involved as these services can afford an opportunity to collect ex-ante information for their prospective investments. Alternatively, a third party agency providing these services can also be given the function of information gathering for private equity firms.

However, as these services are not for profit, subsidization by government might be necessary. Since a subsidy on information flows is not distortionary, it is economically justifiable. As a result, these services can be practical and helpful in terms of overcoming the adverse selection problem for private equity firms. Moral hazard problems and high ex-post information costs, on the other hand, can be overcome when the private equity firm buys the share of the SME and has ownership status and control rights. For this reason, at this layer investment by private equity firms can be expected although bank finance might not still be possible due to the lack of collateral. Once this expectation has been realized the SME will be likely to end up with formal stock market floatations as public offerings are considered as an exit strategy for private equity investors, and therefore, efforts by the private equity investor can be expected to put in this direction. As a result, again, some SMEs can get the opportunity to grow with capital raised from private equity firms and upgrade to the formal sector.

For the remaining SMEs there exists one further layer. The fourth layer of the local stock exchange is more like the national stock exchange in terms of financial reporting and accounting standards. However, independent audits may not be required yet for cost purposes. In order to be able to register at this layer, meeting several conditions like a minimum duration of listing at the third layer, profitability, a minimum capital or asset size would be required. On the other hand, a main incentive for SMEs regarding this layer might be gaining a member status at the local stock exchange with certain rights like participating in the general assembly. Actually, a membership mechanism and discretions of members at the management of the local stock exchange might be an appropriate incentive as “people need to feel involved and effective to make a change mechanism” (Dawnay and Shah, 2005, 2).

However, are there incentives for governments or national stock exchanges to establish a MCM structure? The answer for both is positive. Governments have incentives to

invest in infrastructure because multi layered capital markets can contribute to the solution of financial exclusion problem. National stock exchanges, on the other hand, have incentives to invest because this system has the potential to increase the number of listed companies. This means that these exchanges can grow and deepen as new firms reach to stock market floatation owing to multi-layered capital markets. As a result, income generating capacity of the stock exchange increases in the long run.

Based on this analysis, the proposed multi-layered capital markets structure can be illustrated as in figure 1.

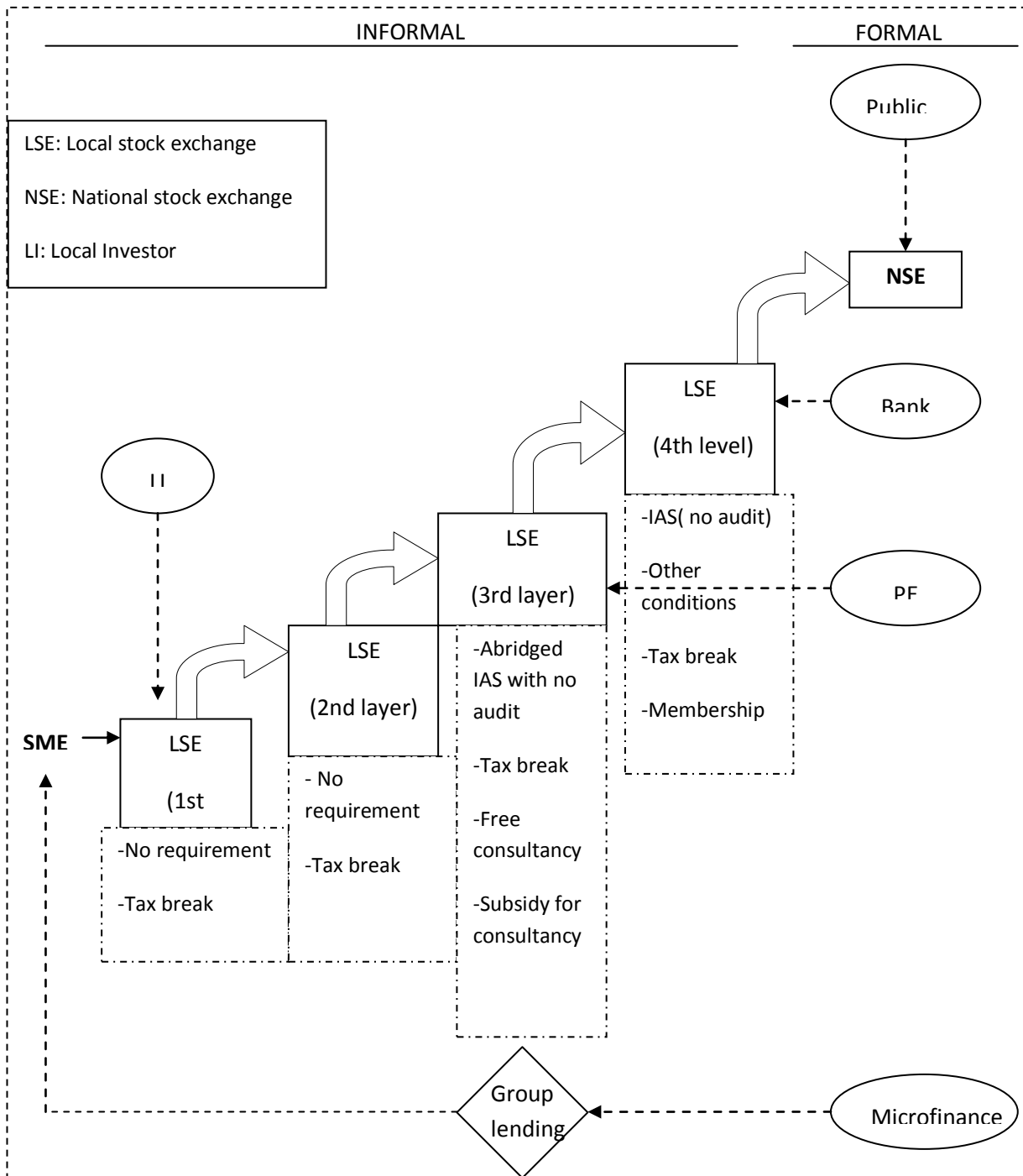


Figure 1 Representative Illustration for Multi-layered Capital Markets

However, for this suggested system to work legal structures matter. An effective protection of shareholders by a sound legal framework is a pre-requisite. Otherwise no investor would be willing to take an equity stake in a firm. Moreover, the legal framework has also to provide effective protection of minority shareholders right without which dispersed ownership and entrance of prospective investors to the system cannot be encouraged.

Finally, provided that an effective and sound legal framework exists, it can be said that, within this multi-layered capital market structure designed to overcome information problems, some SMEs may start with informal equity finance, get access to formal finance at any layer in the system, and finally, end up with floatation at the national stock exchange at the top of the information hierarchy. For this reason, it is the suggestion of this study that further research should be undertaken into the feasibility of establishing multi-layered capital markets in developing countries, to overcome the severe information problems that have been described.

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