

Notes Toward a Theory of Industrialization in the Developing World¹

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In the world where markets are perfect and contractual inefficiencies are absent, economic theory tells us that the location of industry is a function of resources, synergies, transport costs and demand. In this paper we put forward the hypothesis that an equally important influence on the location of industry particularly in the developing world is the availability in a particular area of either capital or that particular connectedness of communities that is sometimes described as *social capital*.³ We will argue that a number of striking examples of localized industrialization in Asia are best understood in terms of two related but distinct processes of industrialization which we will call community-based neo-industrialization and savings-based industrialization.

By community-based neo-industrialization (CBNI), we have in mind a process of industrialization in which a modern outward-looking industry develops in a symbiotic relation with some existing community: the industry succeeds where others may not, because it is able to draw on the peculiar intimacy of some close-knit communities which makes life more pleasant within the community and makes contracts between members of the community easier to enforce. The word *neo* is included in the appellation to distinguish this process from a similar process leading to the development of a traditional industry. While this particular conceptualization may be novel, the basic idea should be a familiar one, indeed perhaps embarrassingly so - in particular the idea of the workplace being in harmony with the home, has been a recurrent theme in pop social theory.⁴

The idea behind savings-based industrialization is also a familiar one. Indeed it runs the danger of being a non sequitur - after all, isn't all industrialization savings-based? The distinction we want to make here is between situations where the local supply of savings determines the pace of industrialization which we call savings-based industrialization, and situations where it is some economic opportunity (resources, synergies, demand) which is the determining factor (what may be called opportunity-driven industrialization). While it is clear that the distinction we are making is sharper than reality permits, we will argue that it is nevertheless useful.

What we have called savings-based industrialization really encompasses two distinct phenomena: there are situations where the economic opportunity is there, but savings is a constraint on

¹This paper grew out of my discussion of Otsuka (1998) at the 1996 I.E.A round-table conference in Tokyo.

²I am grateful to Arundhati Banerjee, Nirmala Banerjee, Julian Dwek, Maitreesh Ghatak, Michael Kremer and Michael Piore for helpful conversations.

³See Loury (1987), Coleman (1990).

⁴A la 'Small is Beautiful' for example (see Schumacher (1977)).

how fast the industry can grow and there are situations where there is no real economic opportunity but an industry develops nevertheless because the savings are there. The first of these processes we will call savings-constrained industrialization (SCI) and the second we will call savings-driven industrialization (SDI).

The purpose of this paper is to develop the basic concepts of CBNI and SCI/SDI and try to understand the circumstances where they are most likely to arise. Our basic contention will be that these processes often go together and for this reason we may expect to see a lot of them in today's developing world.

The plan of the paper is as follows: section I introduces the basic concepts of community and locality; section II develops in detail the ideas of SCIs and SDIs emphasizing the connection with CBNIs. Section III does the reverse. We conclude with some discussion of the desirability of certain patterns of industrialization.

I. Some Basic Concepts

A *community*, for our purposes, is simply a group of people who are connected to each other through multiple and durable relationships, that would individually be costly to dispense with.

An extended family is usually a community by this definition, but a neighborhood or a village may or may not be, depending on the kinds of lives people live (i.e., whether they also work in the village, whether there is a lot of collective action in the village etc). A firm in the U.S. is not usually a community (since the workers usually only share the single relation of working together) but a Japanese firm may be (since the workers also socialize extensively and sometimes exclusively with each other). A religious group, a caste or a kin-group can be a community if it is small, endogamous and preferably, highly localized. Thus, the Maghribi Jewish traders studied by Grief (1993) among others, did form a community in our sense - most of them were linked to each other both through common friends and family connections and through business relations⁵. On the other hand, Bengali Brahmins, though largely endogamous, are too numerous and too dispersed to be a community.

Being part of a community matters in our framework for two reasons: first, since people get a lot from their association with other community members, living in the community may be preferable for many people and therefore labor costs may be lower if participation in an industry does not require leaving the community.

Second, the existence of a community affects contracting possibilities. Members of a community are more likely to be better informed about other members of the community since there are multiple points of contact. Under some conditions, members of a community are also better able to punish breaches of contracts by other members of the community both because the threat of cutting off all relationships is more potent between community members and also because the collectivity of the community may take the side of its injured member. In other words, the community might either complement or even substitute for the legal system as a means of enforcing contracts.

On the other hand, it may also be harder to punish people who are within one's own community

⁵Their not being localized apparently was not a serious enough problem, probably by virtue of their small numbers and extreme marginalization wherever they went.

because one has more to gain from one's relation with them and therefore the threat of limiting or suspending the relation is less credible. Thus, the threat of cutting off relations with one's brother if he defaults on a loan, may be hard to stick to, especially if the parents also get hurt in the process.⁶ This is an important issue and ideally one would have a characterization of communities according whether it is easier or harder to punish a fellow-member. However, this is the subject of a different paper. Here we will limit ourselves to cases where being a part of the community helps contracting.

It is also worth emphasizing that being a member of a community may it make harder to contract with those who are not community members because the community protects its own against outsiders. Faced with an entrepreneur from outside who hires some of its members, for example, a community might choose to cover up for the mistakes and malfeasances of the workers and take care of them when they are out of a job, making it harder for the entrepreneur to give them the right incentives.

From the point of view of efficient contracting, the community therefore plays a dual role - facilitating contracting between members and perhaps impeding contracting between members and outsiders. This will be important for the argument we make in section III.

The other key concept that we will use is a *locality*: we need to be clear about what we mean when we say that savings are invested locally or that an industry is located somewhere.

For our purposes, the definition of local can be geographical but it can also be regulatory, institutional or community based. Being local matters in our framework because being local reduces transaction costs by reducing inefficiencies in contracting. Sheer physical closeness can define a locality because it is costly to have to travel in order to execute or enforce a contract. Likewise, regulations can define a locality because having different laws or regulations may stand in the way of being able to write the most efficient contracts. Being local could also be being covered by the same institutions - for example, having the option of dealing with the same bank may also make contracting easier by allowing the bank to intermediate. Finally, for reasons that should be clear given our discussion above, being part of the same community could define locality.

These notions of locality are of course distinct; when two Maghribi Jew living thousands of miles away traded with each other, as they frequently did, they might have seen it as a kind of local trade - more local than trading with an outsider who was physically closer would ever be. Bankers in a private bank in India may feel a closeness to a banker in England who does business by the same rules that he cannot feel towards the local moneylender who sits outside his door.

That having been said, it is also clear that in many cases all these notions of locality will coincide. Regulations tend to be geographically local because governmental authority is usually defined in geographical terms. Institutions within the same geographical area tend to be similar for historical reasons and reasons of convenience. And communities often evolve precisely because a certain group of people live in the same area. As a result, most examples of localized industrialization that we will consider here are also going to be localized in the colloquial sense of the word.

⁶Dewatripont--Maskin (1995) have argued that the very fact that one knows more about certain people may limit the ability to punish them, "tout comprendre est tout pardonner"!

II. SCIs and SDIs

If capital markets were perfect, the local supply of savings would not have any effect on the pace of industrialization the area. Savings would simply flow to where they earn the highest return. There are several related reasons why savings tend to stay local: it could be regulation - savings may not be allowed to move; it could be institutional - the legal or financial institutions necessary for non-local lending may be missing; it could be distance - monitoring a loan at a distance may be costly; or it could be that lending within the community is less subject to contracting costs - in other words, savings-based industrialization may also be an instance of what we have called community-based neo-industrialization.

There are two (obvious) implications of lending being local. An area which has an obvious economic opportunity may not attract enough savings to industrialize, while an area which does not, but has savings, may develop an industry. What we call SCI and SDI correspond to these cases.

We call a process of industrialization in a particular area savings constrained industrialization (SCI), if despite there being an obvious economic opportunity in the locality (abundant skills, cheap inputs, high unmet demand, etc.) industrial growth is limited by the lack of savings in that particular area⁷. The lack of savings could be the at the aggregate level. Or, if, capital markets are imperfect, it may be that even though on the aggregate there are enough savings, the people who have the savings are in no position to start firms and those who can start firms do not have the savings. In either case, initially the firms will be small and the returns to capital will be very high and then over time, as savings accumulate, the capital constraint will be relaxed and the firm size will converges to the standard scale for that industry

What we call savings driven industrialization (SDI) differs from a SCI in that it takes place *in the absence of any real economic opportunity in the locality merely because savings are available*.⁸ More precisely, it is industrial development which takes place only because there are locally available savings, even though this is not the best possible use for the capital. Of course, this can only happen when capital markets do not work very well: in such situations only those who have significant amount of savings of their own will be able to borrow enough to start firms, which in turn implies that those savers who have sizeable amount of savings but do not wish to start their own businesses, will earn low returns on their savings (since few people will actually have the wherewithal to borrow from them).⁹ As a result these savers may end up choosing to put money into their own businesses (or that of someone they know and trust) even though the firms they finance may be quite inefficient.

Two things distinguish an SDI from a SCI . First, firms do not have to be too small. Indeed it is even possible that all the firms in the industry may be larger than the efficient scale. This could happen if very few firms have enough capital to enter that particular industry. It could also happen if a particular

⁷It must also be the case that the capital markets institutions are not very effective in bringing in capital from outside.

⁸ The argument that follows draws on Banerjee-Newman (1993) and has also been discussed in Newman (1992) and Legros-Newman (1995).

⁹ This is consistent with the evidence that borrowers pay very high rates of interest since as Aleem (1993) has demonstrated, a very large part of the interest paid by borrowers simply goes to cover the lender's monitoring costs.

industry was particularly advantaged in attracting capital away from other industries not because it was more productive but because it had better links with the capital market.¹⁰ More generally, one would expect to see undercapitalized firms coexisting with overcapitalized ones, generating the curious combination of low rates of return on capital and undercapitalization.

A second aspect that distinguishes SDIs from SCIs is the fact that as the industry grows many of the firms may actually shrink. These are the inefficient firms which shrink under pressure from the more efficient firms that grow by plowing their relatively high profits back into the industry

It is worth pointing out that the idea behind the category of SDI applies, *mutatis mutandis*, to the case where investment being made was in human capital rather than physical capital; one can imagine parents investing in teaching their child a skill so that he can start a firm. In this case the equivalent of the inefficient firm would be the untalented child who is taught a skill at considerable expense by his moneyed parents while more talented children of poorer parents remain untrained.

It is also worth emphasizing that the forces making for SCIs and SDIs are reinforced if, as seems plausible, there are insurance market imperfections in addition to the credit market imperfections. In such situations, people who have made some money in one industry will want to expand into other industries in order to limit their exposure to any one source of risk¹¹. In other words, portfolio diversification may lead people to invest too little in industries where they do have a comparative advantage and too much in industries where they do not. In other words, the inefficiency may lie in the composition of the investment in a particular area rather than the level of investment. It might also be reflected in a preference for technologies which have a high ratio of output to fixed capital even within the same industry.¹²¹³

What are practicable empirical strategies that would allow us to distinguish between SCIs and SDIs? And how can one tell if a particular development is neither? These are challenging empirical questions which we cannot hope to address in this paper. Here we confine ourselves to proposing some hypotheses about what are possible instances of SDIs and SCIs.

H1) Light Manufacturing in the Punjab: All over the Punjab, on both the Indian and the Pakistani sides of the border but particularly around the towns of Ludhiana and Sialkot, the last two decades have seen an explosion of small scale industry; a variety of goods ranging from processed foods and sporting goods to light machines and surgical tools are produced in what are essentially small workshops and sold in both the national and international markets. One thing that is very unusual about this industry at least in the South Asian context, is the fact that many of the entrepreneurs do not come from the traditional entrepreneurial communities - which tend to be largely urban and relatively well-educated. Most of these firms, by contrast, were started by people who are often semi-literate and frequently have very strong rural roots ("hyphenated" peasants, in Michael Piore's very economical

¹⁰The extreme case of this is when (say) a garment industry exists despite the fact that the profit rates are lower in garments than in other industries, solely because those who have capital only know how to produce garments.

¹¹This is likely to be especially true if the primary industry is quite risky, as one often supposes agriculture to be.

¹²I am indebted to Micheal Piore for emphasizing this point.

¹³Morduch (1990) finds evidence for this kind of behavior within the agricultural sector.

description)¹⁴.¹⁵

One explanation for the rise of these industries is that they serve as a way for the rural community in the surrounding areas to invest their surplus and in this sense this industry can be seen as an example of an SDI. In support of this view we note that the firms are extremely small and it is not easy to identify the economic opportunity that could have resulted in so many industries being localized in that area - inputs are largely brought in from outside, wages are high and the area isn't particularly well-connected with the rest of the world. In addition, these industrial areas are surrounded by the most prosperous agricultural belts in all of South Asia with a large and growing surplus looking for profitable outlets. Andharbi (1996) notes that all investment in Sialkot is inside investment. And finally, the one study of the efficiency of factor use in Punjab that we are aware of (Singh (1985) quoted in Singh (1994)), comes to the conclusion that there was a lot of inefficiency in the use of the factors of production (which is what we expect in an SDI).

H2) The TVEs in China: The Township-Village Enterprises in China are well-known for their phenomenal rates of industrial growth.¹⁶ Nevertheless it is quite likely that some of these are instances of SDIs. Savings rates in China are currently phenomenally high and capital has limited mobility; as a result, it seems quite plausible that there will be some areas where there is a capital glut. In addition, several authors including Alwyn Young (1995), have argued that the rate of return on capital in China is quite low.

H3) Some of the examples of CBNIs given in the next section: In the next section it will be argued that even where the presence of a community made a particular form of industrialization possible, it was only when enough savings became locally available that industrialization actually took place. In this sense CBNIs may be savings-constrained or savings-driven. Of course, it is also the case, as has been argued above, that many SCIs and SDIs are CBNIs (in the sense that savings get locally invested because there is a community).

III CBNIs

We begin by proposing some examples community-based industrialization:

i) Examples of CBNIs

¹⁴ Quoted in Tiwari (1993).

¹⁵ This discussion draws upon, Andarbi (1996), Bhalla et al (1990) and Tiwari (1993).

¹⁶ See Otsuka (1998).

(1) **The Stitched Garment Industry in Calcutta, India**¹⁷: This industry is organized in small fully vertically integrated firms owned by a master-cutter who provides the designs and some of the fixed capital. The rest of the fixed capital (mainly sewing machines) as well as the entire variable capital (mainly fabrics) have to be raised by the master-cutter from the market. Typically he will rent some sewing machines and get the fabrics and the yarn from the merchant on credit. The one key problem seems to be scarcity of variable capital, reflected in the extremely short duration of the cloth and yarn advances (less than a week). This requires that there be no delays in the production process. The risk of leakage of designs may also be a problem. The master-cutter therefore endeavors to create a network of stitchers over whom he has the highest degree of control. He recruits family members; he encourages young people from his village to come to work for him; and he will often insist that they eat with him and less commonly, also that they stay in his house. In other words, the organization of the industry requires the master-cutter to play up his traditional role as the patriarch of an extended family.

(2) **The Knitted Garment Industry in Tiruppur, India**: This is an industry which is heavily oriented towards export markets. The dominant group in the industry, with more than half the firms, are the Gounders, a local agriculturist community with no traditional links with industry. The rest are typically outsiders to the area but belong to the communities traditionally associated with industrial entrepreneurship (Punjabi banias, Marwaris, Chettiars). Everybody in the industry puts a lot of emphasis on vertical integration as a way of controlling quality and eliminating delays, but the industry wisdom is that the Gounder's are much more vertically integrated because they can afford to draw capital off their family farms. (See Banerjee and Munshi (1999)).

(3) **Township-Village Enterprises in China**: These may be loosely described as firms 'owned' by local communities. In a recent paper Che and Qian (1995) have argued that the TVEs flourished in the early post-reform years in China, because the community as an owner had better access to capital and was better insulated from government interventions than any private citizens would have been.

Actually, it is also worth emphasizing that, as Otsuka (1998) observes,¹⁸ there are two kinds of TVES -- the so-called co-operative TVES and the independent TVES. The co-operative TVEs are distinguished by their symbiotic relation with a state owned enterprise (SOE)-- they are often manned by retirees from the SOE's and they usually sell their products mainly to SOEs. It is also notable that the cooperative TVE seem to be doing better (see Otsuka *op cit*).

In other words the TVE as a CBNI draws upon two separate connections with two different communities - the community of people who live in the area and the community of the SOE which may be located quite a distance away.

(4) **Family Enterprises in Taiwan**: It is well-known that family firms have played a very

¹⁷ This paragraph draws heavily on a paper by N. Banerjee (see Banerjee (1995)).

¹⁸ Otsuka *op cit*.

important role in Taiwanese development.¹⁹ Family members provide both capital and managerial inputs and in the cases of the smaller firms, much of the labor.

Some less clear-cut example are:

(5) **A Sister Concern in Japan:** An engineer with a large firm in Japan quits his job and sets up a small firm perhaps in a rural area to produce some very specialized input that the larger firm uses. The new firm supplies exclusively or almost exclusively to the larger firm. Given the potential hold-up problems on both sides in such an environment, one could argue that this pattern of specialization could not have emerged had there not been considerable trust between the two sister concerns resulting presumably from the pre-existing social relations between the engineer and his old firm, and for this reason, we should view this as a CBNI. On the other hand, it is clear that if the gains from decentralization were sufficiently large, such a pattern of specialization would emerge in spite of a hold-up problem; in that case the pre-existing social relations would be irrelevant and it would be wrong to see it as a CBNI.

(6) **Light Manufacturing in the Punjab:** We have already argued that this may be an instance of an SDI. But, of course, if it is an SDI it is one precisely because the locality coincides with a community and, for the reasons discussed above, credit contracts are efficient within the community. Therefore if it is a SDI it must be a CBNI.

ii) Characteristics of CBNIs

These examples, while in many ways widely different, share a number of important attributes apart from their success (which brought them to our attention in the first place) and the fact that they are all built around existing communities (which is why we chose them). We list the most important of these below:

- i) The unit size tends to be small relative to the industry standard (this is certainly true of the examples from India and Japan but less clearly of the TVEs).
- ii) The units may be either more or less vertically integrated than the industry standard; in the garment industry in Tiruppur and Calcutta, the effect of the community seems to be towards more vertical integration but in the case of the sister concern in Japan it is the reverse.
- iii) They produce goods which are labor intensive and which do not require very large fixed investments.

¹⁹See Wade (1990) for example.

iv) The focus of these their production is not the local market. It could be either the national market or the world market.

These attributes are also common to what has been called rural industrialization by, among others, Otsuka (1998). It is, however, also worth emphasizing where our examples do not fit Otsuka's model. First, they are not necessarily rural -- Calcutta is a metropolis and even Sialkot and Ludhiana are sizeable cities.. Second, they do not necessarily depend on having a relation with a more conventional urban firm--the garments stitched in Calcutta are directly auctioned to buyers from all over India. Third, while long-term relations between members of the productive system is usually an important feature of these organizations, the most important stable relationship may not be between manager and workers. Indeed in Tiruppur, workers are almost exclusively what they call "contract labor" -- i.e. labor which is hired on a daily or weekly basis. The stable relation is between firms which carry out different stages of the production process.

It is also worth underscoring what are not examples of CBNIs.

1) A steel factory gets set up in a rural community in order to get closer to input supplies and by its sheer size transforms the life of the rural community--as for example in the case of the famous Tata steel factory in India. This is not an example of a CBNI because the steel factory is not in any significant way drawing upon the community as a community - merely on the inputs it has to sell. For the same reason a firm which sets up in a rural area to take advantage of low housing costs for its workers is also not an example of CBNIs.

2) A bunch of electronic firms get set up with in a 'technology park' that the government has set up. In this example, the industry does draw upon the community of the technology park, but the technology park is not an existing community but one that has been set up for this specific purpose.

Community-based economic institutions are of course very common in traditional societies--the standard examples are collective insurance arrangements, rotating savings and credit associations, etc. Traditional handicraft industries like carpet-weaving in Persia or sari-weaving in India are also usually community-based. What sets CBNIs apart is the fact that they neither produce for local use nor do they use a traditional technology: in the language used in the introduction, these industries are both outward-looking and modern.

iii) The future of CBNIs

Are CBNIs a transitory form of production that is symptomatic of incomplete modernization (in some sense of that expression)? Answering that question in full requires having a view of where societies are ultimately going, something I do not wish to take on. In the shorter term however the

evidence suggests that CBNIs are flourishing²⁰

Are there reasons why we might expect CBNIs to become more important in recent years than they have been in the past? To put this question into perspective, it is worth noting that the communities and the obvious advantages which come from building production around the community have always been there. And, as we already know, many economic institutions which take advantage of the community structure exist all around the world--in other words, the potential economic advantages are well-known and have been so for a long time. What is more, some of CBNIs are essentially versions of the putting-out system, whose demise under the impact of the factory system is usually seen as a progressive step. What could reverse this trend?

Community-based production has always had a number of obvious advantages which have been discussed above: briefly, labor costs tend to be low since it allows the workers to enjoy the advantages of continuing to participate fully in the community. There is also a lot of information and a range of social enforcement mechanisms available within the community which, in principle, can be used to improve coordination and to limit problems of incentives. Both labor and credit contracts as well as contracts for the supply of any other inputs, are likely to be more efficient within the community.

However it is easy to see that these advantages accrue disproportionately to entrepreneurs who are themselves members of the community. If the entrepreneur is an outsider, he may prefer not to live in the community. But if he does not live in the community, he will not typically have access to the information and enforcement mechanisms that are available within the community. Indeed even if he does live in the community it is not at all clear that he will have access to them. In fact, as we have argued above, the fact that the workers live within a community may actually be a disadvantage from the point of view of an outside entrepreneur.

It is therefore not surprising that from the point of view of a merchant/putter-out in pre-industrial England, getting the workers away from the bosom of their community and into the unfriendly world of the industrial towns, looked a good thing. But this need not tell us anything about the efficiency of putting-out in particular and CBNIs in general; in fact one of the central hypotheses of this paper is that **CBNIs can be very efficient in many cases when the entrepreneur is an insider while being rather inefficient when the entrepreneur is not.**

One important constraint on CBNIs and one central reason why the putting-out system collapsed, according to this line of reasoning, was the absence of entrepreneurs who were insiders to the communities. Our second basic hypothesis is that this is much less true now - in other words, **there is now a supply of entrepreneurs within many communities which do not fall into the traditional entrepreneurial classes.**

This hypothesis covers a wide variety of cases: in China it is the peasant/community leader who becomes an entrepreneur through the local TVE; in the Punjab it may be the affluent peasant's son from around Ludhiana or Sialkot who puts some of his parents' surplus profits into a small industrial venture; and in Tiruppur it may be the poor peasant from the neighboring areas who first becomes a worker and then uses his accumulated savings to set up a small factory where he can carry out one stage of the production process.

²⁰Otsuka (1998) suggests that the share of rural industry in a number of East Asian countries has been growing over the past two decades.

As we see it, if a number of factors have contributed to the rise of new entrepreneurs:

a) The spread of educational opportunities, to the point where even the worker/entrepreneur in Tiruppur can understand simple manuals, keep accounts which are acceptable to the banks and communicate in very broken English with his German importers.

b) A rise in the social confidence among the traditionally poor resulting both from a rise in incomes and education levels and from democratization very broadly defined.²¹ Many people in many places now feel that they can "take charge of their lives". For example, many people have remarked about the entrepreneurial energy one sees all over in China - we are speculating this is partially a result of the social upheaval caused the communists.

c) Rise in overall living standards which has for example, made it possible for a peasant's son from the Sialkot area to borrow enough from his family to start up a small factory.

This last point is worth underscoring. It says that in this somewhat indirect sense, **CBNIs may be SCIs or even SDIs**- many CBNIs can only flourish when there are entrepreneurs who are from the community and this can only happen when there are savings within the community to finance these entrepreneurs. The reason why we are seeing CBNIs now is at least in part because many more people, especially in poor countries where community networks are still strong, now have substantial savings.

This is not to say that there are no other factors which may be important or even crucial from the point of view certain CBNIs. We list the arguments in the existing literature which we see as the most important:

1) Technology has changed to make certain kinds of decentralization possible. For example, it is important for the knitted garment industry that it is now possible to send prototypes from a small town in South India to Germany within 24 hours so that closely monitoring product development from 6,000 miles away is relatively straightforward. For the same reason, it is also easier to make the supplier respond quickly to changes in demand. It is also possible to monitor the exact time when a parcel of finished goods was put on the plane to Germany so that high-powered incentive schemes can be used to ensure on-time delivery.

2) Tight urban labor markets made it profitable for firms to look for alternative sources of labor.

3) Women's participation in the labor force has increased, which makes combining work with housework more important.

4) The share of goods which are not transportation-intensive in G.N.P. has gone up--examples include data analysis, desktop publishing as well as all those services which do not require personal contact. As

²¹ Democratization is used here to represent a range of processes that have broken down many of the traditional social hierarchies - whether or not they ultimately lead to democracy.

a result more things that can be done in communities which are relatively remote.

5) Government regulations have either explicitly favored firms which locate within communities (as in the case of the handloom\handicrafts industry in India) or at least the government has allowed violations of certain regulations by less visible firms which community-based firms tend to be - the rise of the so-called informal sector.

6) Changes in demand patterns have made it more important to be able to customize goods, which has increased the role of skilled-labor vis a vis fixed capital, which makes it easier to have community-based firms: the 'flexible specialization' argument.²²

iv) CBNI's as Savings-based Industrialization

Our basic thesis, that CBNI's emerge when savings become available is, of course, quite consistent with these other explanations for the trend towards CBNI's. However it does have a number of implications for the nature and dynamic behavior of CBNI which are quite distinct:

i. CBNI will not be observed where capital market institutions are heavily focussed towards traditional industry. CBNI's are also less likely to emerge where the capital markets function very well.

ii. CBNI's are more likely to emerge where the legal system is inadequate, as it is in most parts of the third world.

iii. CBNI is most likely to emerge in an area which has a prior history of growth and increasing prosperity putting capital in the hands of people outside the traditional business community. In other words, it is no accident that Sialkot, Ludhiana and Tiruppur have had CBNI's despite being high wage areas - the high wages and the CBNI's have a common cause - the relative prosperity of the surrounding areas.

iv. CBNI is most likely to emerge in industries where the capital requirements are modest. In other words, firm sizes in CBNI's are small not just because small firms go well with community-based production but also because had the capital requirement been large there would not have been a CBNI.

v) One will see more and more CBNI's as the supply of entrepreneurship within different communities expands, despite the fact that government regulations on industry are becoming less stringent in many countries (such as India) and customization is becoming easier in vertically integrated firms due to the spread of information technology, reducing the incentive to have community based production.

IV. To Conclude: What Now?

²² See Piore and Sabel (1984).

As countries grow, savings will become more and more plentiful. Unless capital market institutions are 'extremely effective in channelling savings into their best possible use, this will lead to SCIs and SDIs. Given that the initial situation in most countries is a preponderance of traditional, large, urban firms, one would observe a decline in the average size of firms over a period of time. However as even more savings accumulate, this trend may be reversed and the average firm size will start to grow.

If, as we argue, CBNIs are also savings-constrained (or savings driven) the same process will also lead to more and more CBNIs. This tendency may be accentuated if, as has been claimed, the information revolution and changing tastes makes decentralization more valuable.

Both these trends are likely to be strongest in less developed countries: the trend towards SCIs and SDIs because the capital markets function less well in LDCs and the trend towards CBNIs because community ties tend to be stronger in LDCs.

Should we consider these developments to be desirable - in other word, what is the policy perspective that follows from our framework? The first observation is that according to the framework developed here, the small size of these firms may be a result of a distortion in the capital market rather than being the optimal choice given the available technologies. This then implies that these firms, as they accumulate capital over time, will move towards a more optimal structure which will typically involve more vertical integration and larger sizes than we currently see. In other words, there is no reason to specially valorize the smallness and intimacy that characterizes many of the current firms in these industries: it is okay for example, if some of the community based industries grow out of the community. The government should not favor firms because they are small - except in as much as it can make it easier for them to grow to the optimal scale by improving their access to capital.

The second point we would like to make is that there is no reason to valorize the fact that industries are growing where we do not expect them to grow. This might just be savings-driven industrialization - it would then be better to encourage an alternative use for the capital.

And to end, while we do feel that CBNIs result from certain economic advantages of using community networks, we do not see any reason to attach any value to the fact they are community-based. Indeed it is not even clear that they are overall welfare-enhancing. As is well-known, flexible labor markets have costs as well as benefits - for example, it is probably true that firms invest less in workers and labor enhancing techniques in flexible labor markets. Also, we have already suggested that CBNIs can be savings-driven. Finally, it is worth noting that the fact that monitoring is efficient within the community means that wages are lower and as result, entrepreneurs from within the community can survive even if they are less efficient producers than those outside the community. This is even more so where CBNIs are favored by regulations. It is true that this effect, which reduces efficiency, has to be traded off with the fact that the CBNI may be the only way certain resources can get utilized: clearly however, the net effect on efficiency is a priori ambiguous. It is true where CBNIs have been accompanied by spectacular growth, as in Tiruppur, in China, in Taiwan, in Sialkot, the evidence seems to suggest the everyone is better off, but one can easily think of cases where CBNIs may just end up cheating workers and fostering inefficient producers.²³

²³ The argument in this paragraph is based on Banerjee and Newman (1996).

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