Factors affecting firm size

Before explaining the factors that exert limits on the size of firms, it is very important to understand what a firm is and how do we measure it’s size.

Let’s start with a basic definition of a firm. In simple terms, a firm is a legally recognized organization designed to provide goods, services or both to consumers or tertiary business in exchange for money(Sullivan Arthur; Steven M. Sheffrin (2003).

Now that we have an idea of what a firm is let’s move on to the ways in which we can measure its size. A lot of ways can be used to measure the size of a firm. One can measure its size by the total revenue it generates, but this does not tell us anything about the scope of a firm’s underlying activity. Another way is value added(i. e. the sum of factor inputs). This gives us a precise measure of activity in the firm , but this data is generally not available from the company. Lastly, there is the number of employees working in the firm, which is the most widely used measure with more than 80 percent of the studies using it (Kimberley(1976, 587). The size of a firm has been measured as per the number of employees working in a firm in this essay.

Before we embark on the long list of factors that exert limits on a firm’s size, let’s just see if these limits are just theoretical aspects or do they actually exist. Have you ever wondered why do big companies like Toyota only limit their area of operations to a few sectors like automobiles? Why don’t these companies expand in different directions and produce a wide array of products like food products, milk, laptops etc.? Everyone talks about how important size is, but if size was such a great advantage, the smaller

companies would have soon disappeared. But as we see around us, this is not happening. If there had been no limits to the size of a firm then there would have been an inexorable concentration of industries and economies until there was only one global firm left. Since this is not happening, this proves that there do exist certain factors that exert certain limits on the size of a firm.

Let’s study these factors in detail:

FACTORS LIMITING FIRM SIZE

Diseconomies of scale

It is a well documented fact that higher levels of production permit the use of more efficient techniques. They vindicate the investment in cost reducing technologies and allow workers to be more specialized. But however persuasive they may be, returns to scale have their limits. Machines related to two production units can be advantageously pulled together only if they are not employed to their capacities, similarly the law of large numbers becomes smaller and smaller as the firm grows, ultimately leading to increasing cost of production of goods and services for the larger firms leading to diseconomies of scale. Williamson(1975) identified four main categories of diseconomies of scale

Communications Failure due to bounded rationality

It is impossible to expand a firm without adding hierarchical layers. As information is passed between layers their is a high probability that it gets distorted, reducing the ability of high level managers to make decisions based on facts and leads to declining return to entrepreneurial function.

Bureaucratic insularity

Williamson argued that as firms increase in size the senior managers are less accountable to the lower ranks of the organization and to the shareholders. They thus become insulated and will strive to maximize their personal benefits rather than the profits of the firm. The consequences are that large firms tend to more easily accept organizational slack and resources are misallocated

Employee alienation

As firms expand there will be increased specialization, but also less moral involvement of the employees, according to Williamson (1975, 128-129). The decline in moral involvement is due to the difficulty for the employee to understand the purpose of activities as well as the small contribution each employee makes to the totality. Thus, alienation is more likely to occur in large firms.

Misalignment of incentives

Firms can not compensate their employees perfectly due to a number of limitations according to Williamson (1975, 129-130). First, large bonus payments may threaten senior managers. Second, performance related bonuses might affect the employment contract so that less than optimal behavior is encouraged. The outcome is that large firms tend to pay based on tenure and position rather than on merit. This is especially important in product and process development where the large firms are at a disadvantage to smaller enterprises.

Availability of Finance/Capital

Every firm at some point or the other needs to employ some external capital to grow. There is a strong and positive relationship between the amount of finance that a firm can raise and the managerial ability and entrepreneurial capital that the firm has, i. e. higher the entrepreneurial capital higher the amount that the firm can borrow. Also, given the existence of capital market imperfections, it would be unwise to assume that finance is never a real problem.

It has been generally observed that the average size of firms is larger in countries with better financial markets, suggesting that financial constraints keep firms small. An example in this regard can be of Finland, where the size of the firms are large, despite the country's small size, as compared to say Spain or Italy because it has a very efficient financial system, as measured by its accounting standards.

Role of Government/Judicial Factors

Government also plays a crucial role in determining the freedom that the firm enjoys in performing its operations with full capacity. Governments often employ certain regulations which put a limit on the size of the firm. Many costly regulations apply to larger firms (for example the obligation to provide health insurance in the US or Union Laws in Italy). This tilts the playing field towards small firms. Other regulations, such as strong product liability laws, favor the creation of separate legal entities that can avail the protection afforded by limited liability. This further leads to smaller firms.

High corporate taxes could also drive many economic activities into the informal sector, and reduce reduce the incentive to create larger firms, this is probably why Italy has so many small firms.

It has been observed in certain countries, that the government in order to protect the local market sometimes puts restrictions on the import of certain raw materials or machinery. This puts the firms in such countries at handicap when competing with foreign firm and in turn puts a limit on the size of the firm, as their area of operation remains limited to the local market.

An efficient government and legal system on the other hand eases management's ability to use critical resources other thaan physical assets as source power, which leads to establishment of firms of larger size(Rajan and Zingales(1998c)). It also protects outside investors better and allows larger firms to be financed . Finally, an efficient government and legal system reduces coordination costs and allows larger organisations(Becker and Murphy(1992)).

Limitations of the market

Another major factor that limits the size of the firm is the limitations posed by the market, the expansion of which would require unprofitable price reductions or increase in selling cost.

Adam Smith(1776) had suggested that the extent of specialization was limited by the size of the market. If a worker needs to acquire task specific human capital, there is a " set-up" cost incurred every time the worker is assigned a new task. It is, therefore reasonable to expect workers to perform specialized tasks and to expect a firm to hire more workers when its

production process becomes more specialized. Therefore, one would expect not only the extent of specialization but also the size of the firms to be limited by the size of the market that is being served.

Security

There are always considerations of security to take into account- both security against bankruptcy and security against a takeover bid. The faster a firm attempts to expand, the more it will be driven to accept high-risk investments and the more it may have to rely on fixed interest debt. Both endanger the future of the firm. The failure of a major investment or the high level of fixed charges that a firm is obliged to meet when trade is depressed may bring it to its knees. Too rapid a rate of growth may also expose the firm to the danger of a takeover bid. This may occur if rapid expansion depresses the firm's profitability or if it results in high retention of profits and low dividend payments to shareholders. Too low a rate on the other hand, may also attract a takeover bid. A profitable firm with a high conservative management may have a high level of liquidity. A prospective acquirer may feel confident that the funds can be put to more profitable use. Thus, this fear of security may also limit the size of the firm in that the firm may not be inclined to accept high risk investments in view of the fixed costs they have to pay off, thus limiting growth.

Fear of expropriation

Fear of expropriation is also a key factor that limits the size of the firm. This fear has been appropriately analyzed by Rajan and Zingales(1998c) with the help of a stylized model where an entrepreneur has a critical resource with which he wants to produce. In order to produce he has to offer employees

access to the resource and its mode of employ. There are constant returns to scale in production but increasing returns to scale in marketing so that a larger firm captures a disproportionate share of the market. The problem is that the property rights of the entrepreneur are not fully secure. As a result he has to limit the number of employees who have access to the resource. The reason is that while he has a “ noyeaux dur” of employees who have specialized to the firm’s business, have high switching costs, and are therefor loyal, new unspecialized employees on the other hand have low switching costs. If there are sufficient number of them, they will know they can capture a large market share if they band together and make away with a copy of the critical resource. thus, the entrepreneur can employ only a few employees, and has to wait until they specialize and become loyal before admitting new ones. It turns out that not only does this fear of expropriation limit the rate of growth of the number of employees in the firm, it also limits its eventual size.

An example in this regard can be taken of the Venezuelan steel company Sidetur, which was recently expropriated by the government.

Availability of Technology

Sometimes the availability of a particular technology also limits the size of the firm. For example a person may have patented a particular technology and might be the only one who can use it for some time to come. In that scenario a firm producing the same product is handicapped as they do not have the access to the same technology that its competitor has and thus cannot increase its size and becomes stagnant.

Another example in this regard can be a strict government policy which does not allow the firms in a particular country to import a particular technology, thereby limiting the size of the firm by not allowing the firm to compete in the global market.

Uncertainty

Uncertainty plays a crucial role in limiting the size of the firm. It is clear that the seriousness of this problem can be reduced, but only at the cost of additional management effort, which may affect the pattern as well as the rate of growth. This can be illustrated by considering some of the ways in which a firm might respond to uncertainty. One possible response is to increase the variety of goods produced . This would clearly affect the pattern of growth and might increase the managerial resources needed to coordinate the firm’s activities. Indeed, management problems in a diversified firm might be so acute that they lead either to voluntary disinvestments(can be expanded ;), or to exposure of the firm to a takeover bid. Part of the attraction of a takeover for the predator might also be the profitable sale of subsidiaries of the acquired company to more specialist producers. Another response may be to emphasize short-term projects to the neglect of the long term ones, which again would affect the pattern of growth as well as the long term growth rate. Yet another response is to take longer in arriving at investment decisions : for instance, by carrying out more market research before deciding to launch a new product. In this respect different attributes would have a crucial impact on business performance, for the firm that is perfectly risk averse may find that it delays for so long before making a

decision that it loses a potential position of market leadership to a competitor.

Given the managerial resources available, uncertainty will place a limit on the rate of expansion or size by affecting the volume of managerial services required for a given amount of expansion.