

Clusters and The Boston Mutual Fund Industry

by

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## TABLE OF CONTENTS

Chapter I	INTRODUCTION	5
Chapter II	THE THEORETICAL BACKGROUND <i>Differences Between Financial Services Industry and Manufacturing Industry; Choosing The Most Suitable Regional Economic Theory; Porter's "Cluster" Theory</i>	7
Chapter III	MUTUAL FUNDS <i>Definition; Overview: Growth and Development of the Mutual Fund Industry; The Boston Mutual Fund Cluster;</i>	
Chapter IV	APPLYING THE CLUSTER MODEL TO THE MUTUAL FUND INDUSTRY <i>Factor Conditions; Demand Conditions; Related and Supporting Industries; Firm Strategy, Strategy and Rivalry</i>	29
Chapter V	THE ROLE OF GOVERNMENT, HISTORY AND CHANCE <i>Government; History</i>	43
Chapter VI	CONCLUSION	56

## ILLUSTRATIONS

Figure 1	Comparison Between the Production Process For a Mutual Fund (a Financial Product) Versus Low Density Polyethylene (a Manufactured Product)	11
Figure 2	The Complete System	13
Figure 3	Two-Tier Structure of Competitive Advantage	16
Figure 4	Growth in the Number of Funds, 1940-1995	22
Figure 5	Mutual Fund Management Structure	25
Figure 6	“The Diamond” in the Context of the Mutual Fund Industry	30
Figure 7	Clusters in Boston and New York City	51
Table 1	Types of Mutual Funds	23
Table 2	Location Quotients for Employment in the Mutual Fund Sector (SIC 672& SIC 628)	27
Table 3	Profile of Mutual Fund Industry in Suffolk County (Massachusetts) and New York County (New York), according to number of employees per firm, 1995.	28
Table 4	Examples of Personnel who are alumni of Massachusetts Colleges and Universities.	33
Table 5	An Example of the Divergent State Regulatory System (pre-1996)	45

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## **Abstract**

In light of the rising importance of the financial services industry, this study aimed to examine the applicability of Michael E. Porter's "cluster" theory to the analysis of the concentration and agglomeration tendencies of the financial services industry. This stems from the fact that most of the other regional economic theories have been developed in the context of the manufacturing industry, which has several inherent differences from the financial services industries. With the Boston mutual fund industry as the case study, this paper also attempts to determine the importance of history for the industry's success. Under Porter's (1990) cluster framework, the role of history is acknowledged, but deems that with good selective government policies, a "cluster", which is a group of industries linked together by supplier or customer or other forms of relationship, can be created. This paper argues that history is vital for the successful development of the mutual fund industry, and it cannot be created through the implementation of appropriate policies alone.

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Rowena Low

## CHAPTER I INTRODUCTION

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The most traditional economists have paid little attention to geography. However, many economists observed that there seems to be some pattern of industrial agglomeration and location. For example, the automobile industry is largely concentrated in Detroit, the aerospace industry in Los Angeles, and the jewelry industry in Providence (Porter, 1998). In their attempt to explain such behavioural phenomena of inter-firm collective gravitation, different regional economists and analysts have proposed different theories of economic agglomeration.

Many of these models in regional economics were developed during the age of industrialization, an era when manufacturing industries were the main engines of economic growth, and were perceived to be the key to long-term economic well-being. Consequently, most of these regional economic theories were modeled with the manufacturing industry in consideration. Although the manufacturing sector is still a major contributor to economic expansion, the importance of the service sector, especially the financial services sector, is clearly rising.

Today's financial services sector encompass much more than just the traditional banking activities; stock brokerage, bond transactions, mutual funds activities, and many other forms of derivatives trading, are some that one might find in the deep jungles of the financial markets. The main reason for such increasing significance is that as an intermediary agent, the financial services sector provides more flexible payments mechanisms, loan maturity intermediation, cost-efficient information processing, and risk diversification than in the past (Fabozzi, Modigliani, and Ferri, 1997.) All these activities help to reduce market frictions and improve resource allocation by mobilizing savings and lubricating the flow of capital (Levine, 1996). This is critical for the continuous upgrading of today's manufacturing sector, which is relying more and more on technology and is becoming increasingly capital intensive.

With the growing importance of the financial services industry, it is sensible to re-examine the regional economic theories in the light of the financial services industry, which has also exhibited industrial-agglomeration tendencies. I have chosen the Boston mutual fund industry to be my supporting case study. The reasons for my choice are simple. Boston has considerable concentration of mutual fund management companies. It is also the place where the first mutual fund in the United States was born. Additionally, the mutual funds industry not only is already a significant player in the US financial landscape, but it is still rapidly growing, with continuous product and service innovations.

In this thesis, I shall first choose from the various regional economic models, the most suitable framework to use to explain industrial agglomeration and location, in the context of financial services industries. Here, I have determined that Michael Porter's "cluster" theory is the most applicable regional economics model, for reasons I shall provide in the next section. Using the Porter framework, I shall examine the determinants of competitive advantage of the mutual fund industry, identify their presence/absence in Boston, and conduct comparisons between Boston and New York. Being the nation's financial hub, it is interesting to ponder why New York City does not have the size nor the degree of concentration of the mutual fund industry that Boston has. Therefore, the ultimate test of appropriateness of the Porter framework, in the context of the financial services industry, would be to see if it is able to explain the abovementioned phenomenon. To this effect, I shall also explore the influence of history on the development of the mutual fund industry in Boston. Finally, I shall attempt to draw some policy implications from my findings.

## **CHAPTER II**

### **THE THEORETICAL BACKGROUND**

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In order to choose the most appropriate regional economic theory to apply to the financial services sector, I first considered the ways in which a financial industry differs from a manufacturing industry. Then, I consider the variables and underlying assumptions of the various regional economic theories. Finally, by process of elimination, I picked the most suitable model to use to analyse the financial industry.

#### **Differences Between Financial Services Industry And Manufacturing Industry**

A financial services industry differs from the manufacturing industry in several ways. While transportation costs incurred in the conveyance of raw materials and final products are a concern for manufacturers, they are not quite as significant to a provider of a financial product, such as a mutual fund. Financial products are basically contracts between the buyers and the sellers. The advancement in information technology and the digitalization of finance that has led to financial products taking on an increasingly non-physical form (scriptless), have distorted the perception of distance. As a consequence, this has also blurred the traditional concept of boundaries. An investment in a mutual fund would show up as a positive change in the customer's investment account (usually computerized). In digital form, such a "purchase" can be sent, just as easily, to a customer who is 10,000 miles away, as it is to send to another who is just in the neighbourhood.

The most traditional financial products, such as stocks and bonds, do not become obsolete. Instead, they persist and serve as a base from which new financial products are created and marketed. As a result, the "make" and "sale" of a financial product, such as a mutual fund, would involve the products and services of many other sub-sectors of the financial industry. For instance, just the assemblage of the mutual fund portfolio would require not only the skills of its portfolio manager, but it would also, at least, involve the services of data vendors (to provide information on the stocks, bonds or money market instruments) and brokers (to carry out the manager's orders). The financial sector is also known to be extremely human capital intensive. Finally, because buying such metaphysical products, like mutual funds, involves the investors' savings, reputation has a large influence on the success probability of a financial services firm, reputation can only be built through repeated dealings and hence, accumulated trust.

#### **Choosing The Most Suitable Regional Economic Theory**

As such, it is possible to eliminate theories that emphasize on distance and transportation costs as a main determining factor of locational decision of firms, as



with those that have constant technology and low reliance on highly-skilled labour, as their basic assumptions. This is due to the complication that would be involved in adjusting for such variables. Central place theory, which is designed to show the trade-off between economies of scale (from being close to counterparts) and transportation costs (due to distance between firm and its supplier/customer) that results in market areas which are nested and hexagonal (Rees, 1986), is clearly inappropriate to apply to the financial services industry. Even Krugman (1991), which strives to explain industrial localization and the differential development of huge regions in the light of a combination of theories, propounded that geographic concentration is dependent on the interaction of increasing returns to scale, transportation costs, and demand (Krugman, 1991).

However, there is something that Krugman (1991) brought up which I feel is critical in analysing the financial services sector -- history. Krugman suggested that there is a clear accidental component and dependence on history in the locational distribution of industries. There seems to be a kind of a circular process of historical accident, initial increasing returns, and rational expectation which culminates into a self-fulfilling prophecy that reinforces the influence of history on the localization of industries. This reflects some sentiments of the Porter's cluster theory. The high wages initially offered in that region helped to propagate the industry. Even when another region might start to rise and begin to offer competing factors of production, the original industrial concentration would persist or even continue to thrive, if people expect it to continue to be better because it had proved itself over the years before (Krugman, 1991). I shall explore this in later sections of this paper.

Although used extensively to examine location of manufacturing firms, the product cycle theory is also not very suitable to use to analyse the financial services industry. With an underlying premise of stable technology, long production runs, and a low reliance on talent and managerial labour, this framework proposes that industries tend to pass through regular product development cycle -- a period of experimentation, a period of rapid growth, a period of diminished growth, and a period of stability or decline. It is the period of rapid growth that is supposed to attract new firms to enter the new market and locate near the pioneering firm. Product-cycle theorists also concede that with new products continuing to emerge, the industry will eventually reach a growth plateau, or decline with obsolescence (Norton and Rees, 1979). However, continuous technological upgrading has almost become the heart of the growth of the financial industry, and the reliance on highly-skilled, talented managers and personnel's has always been the soul of the industry.

Recognizing the some of the shortcomings of the product-cycle framework, theorists have advanced a similar, yet improved, version of the model -- the profit cycle model. In this model, the main variable in question is "profits". The theory propounds that

industrial location is dependent on the path of a long-term profit cycle which exhibits five distinctive stages (Markusen, 1985):

Stage 1: Zero Profit

This corresponds to the initial birth and design stage of an industry. At this stage, competition is generally absent or minor, and no entry occurs.

Stage 2: Superprofit

This corresponds to the period of excess profit from temporary monopoly and innovative edge.

Stage 3: Normal profit

Corresponding to the stage of open entry, movement toward market saturation and absence of substantial market place.

Stage 4: Normal-plus or Normal-minus profit

Corresponding to the post-saturation stage, where either successful oligopolization boosts profits again or predatory and excessive competition squeezes profits.

Stage 5: Negative profit

This corresponds to the obsolescence state of the sector.

The profit cycle proposes that the above would govern the type of activities in each stage and location decisions would be based on factors that will enhance those activities. For instance, during the second stage, product design, research and development, is key to the business' success, so firms require highly-skilled labour, and therefore, locate near the centre of ongoing innovative activity and have better access to information (Markusen, 1985).

It might seem possible to use this profit cycle theory (the new and improved version of the product cycle) to analyse the financial sector. It does not place much emphasis on distance as a variable, and it has adjusted for the imperfect assumptions of the product cycle. The main variable that influence the location decision of firms in this theory is profits (Markusen, 1985). At first, it might seem possible to apply this theory to the financial sector. However, as I have mentioned before, the production and sale of one financial product involves a whole web of transactions among the various sub-sectors of the financial sector. This makes the task of unravelling the entanglement to impute profits a formidable chore.

As an example, consider the “production processes” for mutual funds and low density polyethylene [Figure 1]. Profitability analysis would be simple to apply to the low density polyethylene industry, which has a rather linear production process. However, this would not be the case for the mutual fund industry. Just consider the “production” of a mutual fund, from assembling the portfolio to putting together a “sellable” final product, as shown in this simplified representation. There are already many entities to consider, and many more variables that affect the profitability at each juncture to take note of, before one can arrive at the profitability of the entire system. And this does not even include the sale of mutual funds.

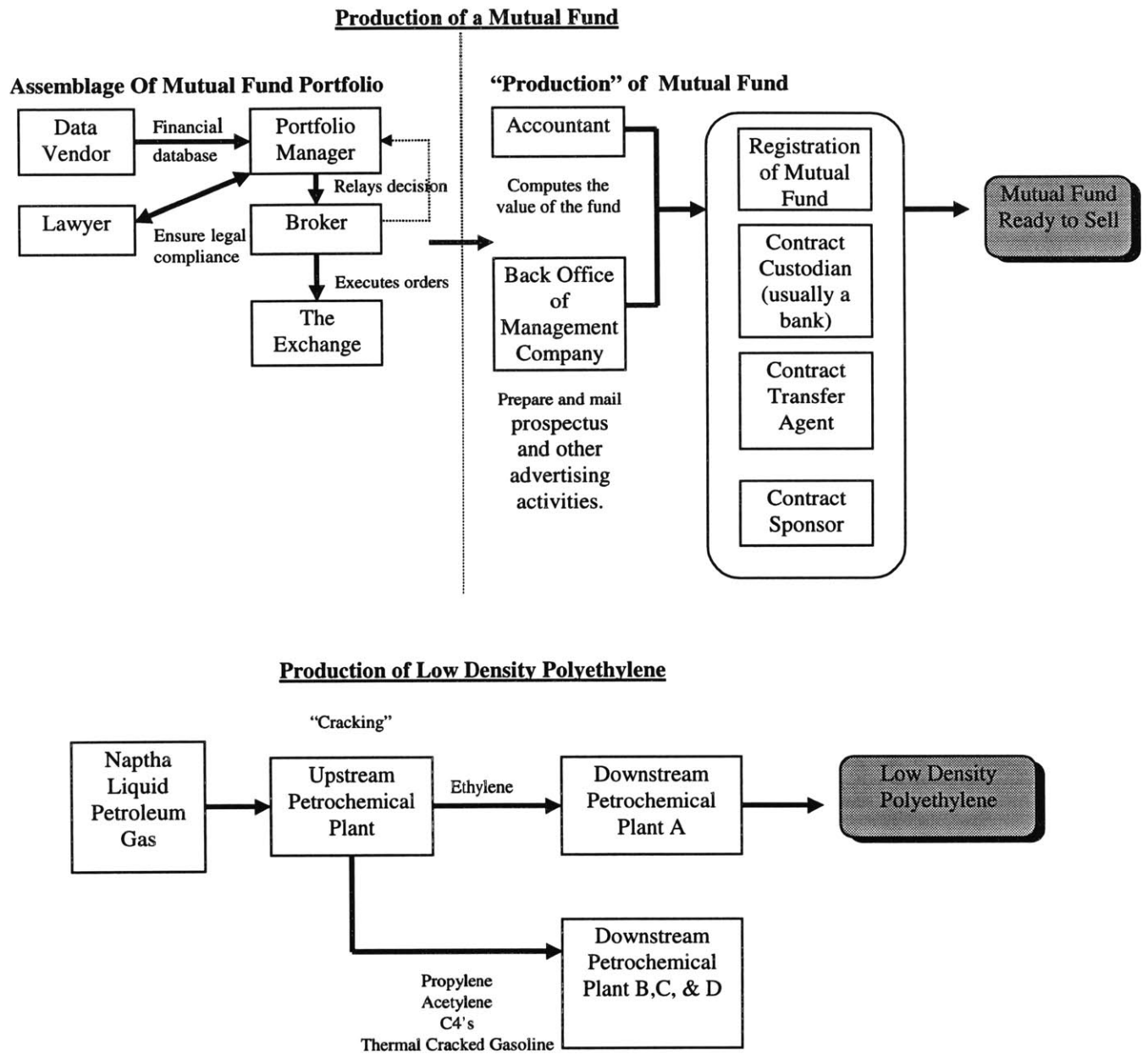
Even if one argues that this is difficult but possible, there is also the issue of data availability and accuracy. Hard sources of accurate, detailed information and data are often difficult to obtain for the financial services industry. Much of the information that one seeks to analyse an industry is deemed to be “sensitive data” and “proprietary information. In the case of the mutual fund industry, it is often tempting to embrace the convenience of published data on operating expenses of mutual funds for the purpose of profitability analysis.

For mutual fund industry, the common sources of cost-and-profit data that one usually finds are operating expense ratios. For example, in 1996, average expenses for Fidelity (assets exceeding \$100 billion) were around 0.75% (*Forbes*, August 25, 1997, p.152-153). These expenses include management fees, charges of the fund’s custodian, accountants, and attorneys, the cost of issuing share certificates and disbursing dividends, and expenses for printing, postage, and mailing. Nevertheless, one must be aware of the possibility of using “soft dollars” to pay for some expenses, and not just take such expense figures as given.

As an illustration, suppose a fund manager needs a computer. Instead of directly purchasing one with cash and writing it down as an expense item, the manager can just pay a slightly higher-than-necessary commission (soft dollars) to the stock broker and the broker buys the computer for him. Or, he might buy the computer himself but send the bill to the broker. In essence, soft dollar credits are accounting conduits for fund managers to channel their expenses over to the stockbroker and make the fund expenses appear lower than they are.

The reason for such practice is clear. With weekly and quarterly reports on mutual fund performance appearing on newspapers and magazines, as well as a proliferation of self-help books on mutual funds investment guidance, investors have become more well-informed. Such awareness has also been heightened by the increasing presence of institutional investors who generally have better resources to evaluate and select a

**FIGURE 1. Comparison Between The Production Process For A Mutual Fund (a Financial Product) Versus Low Density Polyethylene (a Manufactured Product)**



Source: Fortune, Peter. “Mutual Funds, Part I: Reshaping the American Financial System” *New England Economic Review*, July/August 1997.  
 Moon & Siu, 1995. “Analysis of the Boston Mutual Fund Industry”  
 Low, Rowena. “The Petrochemical Industry in Singapore” *ASEAN/Singapore Briefing*, April 1996

fund. No rational investor would choose to invest in a fund that has high expenses relative to its assets. It is inefficient. Therefore, soft dollar credits usage to hide expenses is common among fund managers. Together with the problem of complicated web of transactions associated with financial services, soft dollars' effects would only be magnified. Furthermore, it is difficult to draw a line at each stage and all it stage 1, or stage 2. At the margin, it is often terribly vexing to try to distinguish, say, normal profit from normal-plus profit. This makes the use of the profit cycle as an analytical tool daunting, if not impossible.

Porter (1990) proposed a "cluster" theory, which is modeled to analyse the agglomeration effects of firms in a region and the region's competitive advantage in that "cluster". The strictest definition, in the spirit of Porter, defines "a cluster" to be a grouping of industries linked together through customer, or supplier, or other relationships (Porter, 1990). Aside from this, he did not provide the details as to the pre-requisites of a cluster. In his updated version, Porter (1998) mentioned that the group of industries must be of "critical mass" (significant in terms of size), and that it includes both upstream and downstream industries<sup>1</sup>. Scrutinizing the examples of "clusters" that Porter (1990; 1992) gave in his works, I noticed three similarities among them -- presence of innovation, linkages (relational and spatial) among the group of industries, and competitive advantage over other regions/nations (with regard to the cluster in question). These should also appear on the list of criteria to qualify as a "cluster".

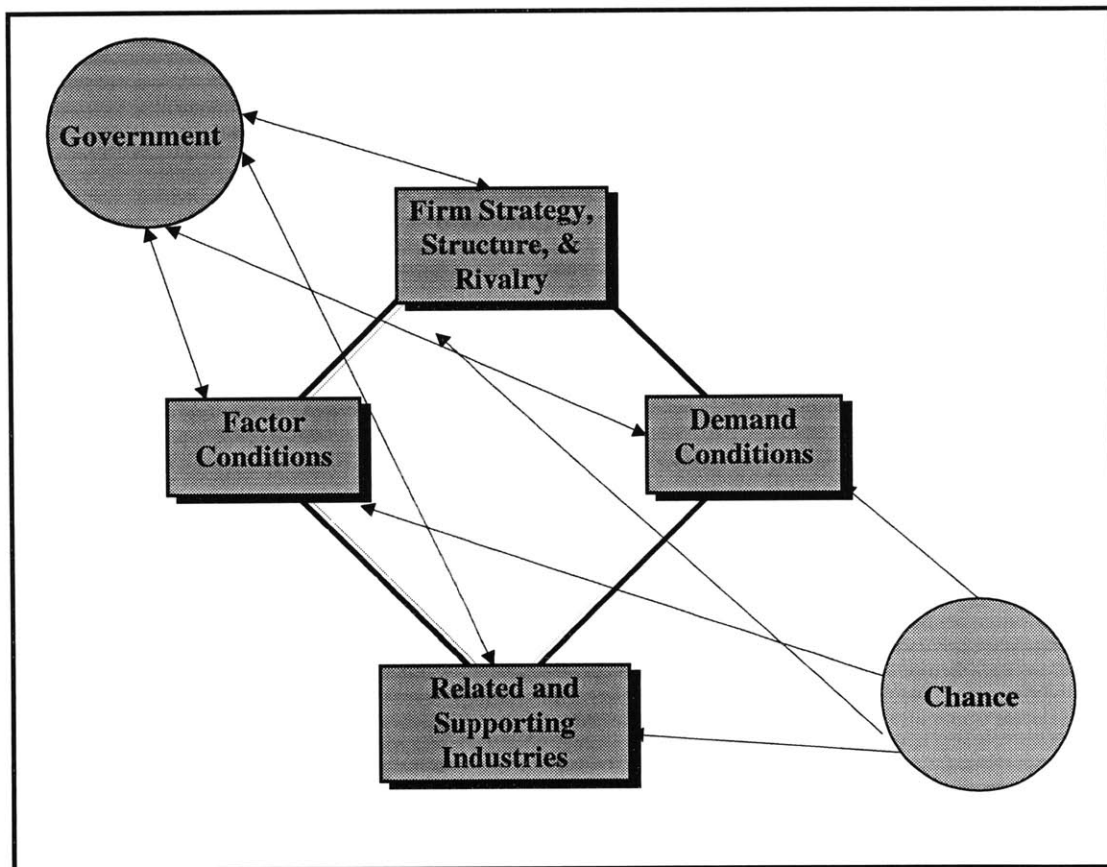
The determinants of competitive advantages are factor conditions, demand conditions, related and supporting industries, and firm strategy, structure, and rivalry (Porter, 1990). Together they form what Porter calls a "diamond system"<sup>2</sup>. In addition, Porter also acknowledges the role of the government in his model, to take into account the effects of government policies interacting with the "diamond system", as well as the role of chance to rationalize its effects on the determinants of competitive advantage. Together with the "diamond", they form the "complete system" [Figure 2]. He also recognizes the magnitude of influence that culture and history has on competitive advantage because the effects are difficult for outsiders to emulate (Porter, 1990). This echoes Krugman's consideration of the role of history in locational and economic agglomeration of firms. Porter (1998) revisited his model and updated it. However, there were no major changes, and much of the original framework remains intact.

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<sup>1</sup> The product of an upstream industry would serve as an input for the downstream industry.

<sup>2</sup> Granted that both "diamond" and "square" have four corners, and that the former is just a tilted version of the latter, I think it is the nuances of the words that made Porter label his system as "the diamond". After all, it is more desirable to possess a sparkling stone than a stodgy square. But there could be also some suggestion of dynamism by using the diamond (diagonals create visual instability and motion), which is fitting in his framework.

**Figure 2. : The Complete System**



Source: Porter, Michael E., 1990. *The Competitive Advantage of Nations* (p.127)

In the following section, I shall take a closer look at the “cluster” theory and explain why I have chosen it to be the most applicable model to use in analysing the financial services industry.

### **Porter’s “Cluster” Theory**

Porter’s “cluster” theory, though more elaborate and updated, share the basic underlying structure with Francois Perroux’s growth-pole model (Parr, 1973). For this reason, it is worth taking a moment to look at the basic premises of the growth-pole theory. Under the growth-pole theory, the presence of a “propulsive entity” and innovation are key to explaining the emergence of growth poles. A propulsive entity can be a firm, an industry, or even a tertiary education institution, that is highly innovative. This ingenuity is the main drive that propels the firm or industry to grow at a disproportionately higher rate than other economic entities around them (Rees, 1986). With such enviable robust growth, this propulsive firm/industry would then attract others to join in the economic as well as geographic space. This is because by locating near this key entity, others would be able to enjoy and benefit from all the positive spin-offs that it generates, as well as the organizational structure set up by the propulsive firm (Rees, 1986).

In a similar, but more elaborate, fashion, Porter’s industry cluster framework is modeled to analyse the agglomeration effects of firms in a region and the region’s competitive advantage in that “cluster”. Here, the propulsive forces are two-fold -- the drive derived from the cluster that gives the region its competitive edge, and the push resulting from a mutually enhancing integration of factors, in the region, that affect the innovative capacity, which is key to the creation and sustaining of competitive advantages. The former is what Porter calls “industrial competitiveness”, and the latter “the diamond”. As in the growth-pole framework, this drive from the cluster is highly dependent on innovation (which can be incremental, rather than radical in Porter’s framework) (Porter, 1990, Chapter 3).

The two-tier approach to competitive advantage analysis makes sense. It is necessary that the industry itself should have some competitive advantage before it can exploit the strengths of the region to enhance its competitiveness. Competitive advantage is created and cultivated through industrial competition. The higher the intensity of competition, the more competitive the industry would be. It is simply the outcome of Darwinian selection. Porter (1990) has identified the five competitive forces that determine such industry competition:

- the threat of new entrants;

- the threat of substitute products or services;
- the bargaining power of suppliers;
- the bargaining power of buyers; and
- the rivalry among the existing competitors (Porter, 1990, Chapter 2).

The threat of new entrants into the industry would mean either a smaller slice of the pie for each firm, or existing firms could engage in intensive research and development (R&D) activities and introduce some form of innovation that would enlarge the entire pie. Similarly, the worst-case scenario of having their product replaced by another new product or services is enough to push existing firms to improve and upgrade their products and services. In the mutual fund industry, this is one of the forces that pushes the management companies to continue to introduce new funds and investment features into the market. The bargaining power of suppliers and buyers, and the rivalry among the existing competitors, all prevents the industry from sitting on its laurels -- it keeps them alert in the fear of becoming obsolete.

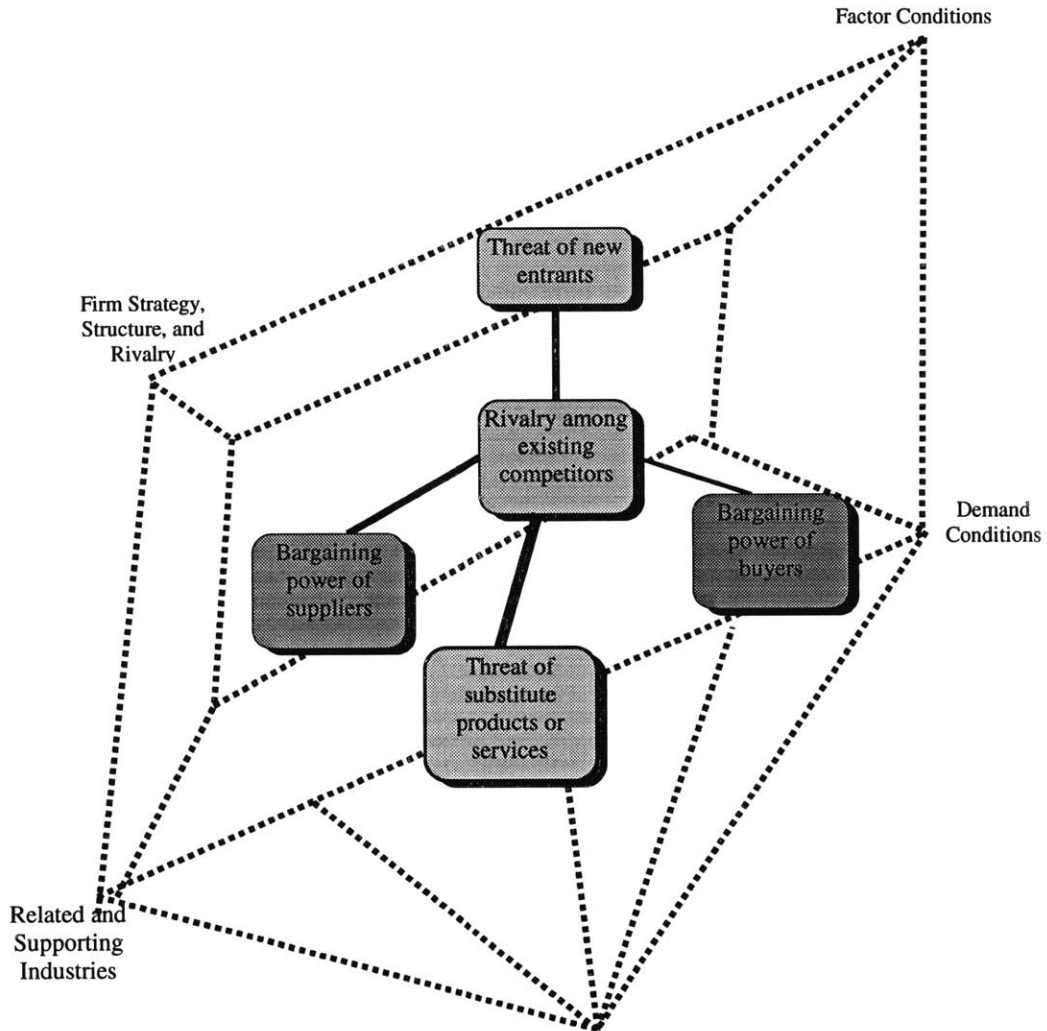
These forces shape the prices firms can charge, the costs they have to bear, and the investment required to compete in the industry. Therefore, these are also the determinants of the profitability of the industry (Porter, 1990, Chapter 2). Only when equipped with industrial competitiveness can an industry use the location's strengths to its own advantage [*Figure 3*].

Competitive advantage also grows out of history (i.e., to be the first in the business realm) through the process of rational expectation. In light of Krugman's insight (Krugman, 1991), the circular process of historical accident, initial increasing returns, and rational expectation, sets forth a self-fulfilling prophecy that buttresses the early mover against newcomer attacks. For example, Boston was the first state to have a sizable and efficient money management industry, which includes trusts and mutual funds. Because Bostonians were in the business longer than most others, they had more time to grow and build up reputation. This leads the average rational expectator to expect that if Boston has had such a long history in the business, Boston-based companies should continue to carry out this line of interest better than the new comers. History raises the early mover onto a pedestal that bestows credibility, prestige, and competitive advantage.

The strengths of the location of the industries constitute the diamond, which is a mutually reinforcing system. The effect of each variable is contingent on the state of the others in such a way that advantages in one can have positive effects on the others (Porter, 1990). Factor conditions refer to factors of production, or basic inputs, that allow competition to occur. These, which include labour, land, natural resources, capital, and scientific knowledge, can be broadly classified as basic or advanced, or generic or specialized inputs (Porter, 1990, Chapter 3). Of these, factors of



**Figure 3. Two-Tier Structure Of Competitive Advantage**



Source: Porter, Michael E. *The Competitive Advantage of Nations*, 1990.  
Author's illustration.

production that are specialized, or industry specific, wield the largest influence over the particular industry's competitiveness.

For instance, for the mutual fund industry, advanced inputs include labour which is not only highly-skilled, but with skills specialized to the industry (e.g., portfolio managers); on the other hand, semi-skilled labour are considered to be basic factors of production. A telephone operator can work for other companies just as well as it could for a mutual fund management company like Fidelity. Even office space can be divided in to basic and advanced factors of production, with the back office operations in the suburbs (basic input), and front office (advanced input) in the downtown area.

Demand conditions refer to the nature of the home demands. Home demand conditions are crucial in shaping an industry and determining its competitive advantage. This factor affects the industry in three main ways -- the mix and character of domestic buyer demands, the size and pattern of growth of domestic demand, and the mechanisms by which the region's domestic preferences are transmitted to foreign markets (Porter, 1990, Chapter 3). Related and supporting industries refer to the local presence or absence of suppliers of materials, components, machinery and services, as well as the existence of related industries. The presence of competitive, specialized home-based creates advantages in several ways. First, customers who are geographically close to the suppliers often have the benefit of early access to the latest models and newest products (Porter, 1990, Chapter 3). Second, proximity and close working relationships with home-based suppliers enhances innovation and upgrading. This is because there is the advantage of quick and continuous flow of information, joint work on improvements, and mutual pressures to advance (Porter, 1990, Chapter 3). Third, proximity to each other allows better, ongoing coordination between supplier and customer (Porter, 1990, Chapter 3).

As for the fourth determinant of competitiveness, firm strategy and rivalry, it refers to the rules, incentives, and norms governing the type and intensity of local rivalry. Porter (1990) posits that competitiveness grows out of a context that supports innovation, through policies and norms that encourage sustained investment in skills, capabilities and physical assets. Local rivalry and competition spurs companies to innovate and improve their capabilities to lower costs, enhance quality, and invent new products and processes (Porter, 1990, Chapter 3). This would depend on the concentration of firms within the industry of that region.

Finally, the entire diamond is strengthened further by the interplay of government policies and the role of chance, history, and culture (Porter, 1990, Chapter 3). Porter (1990) has chosen to place these factors exogenous to the diamond probably because a change in any of these could either enhance the workings of the diamond, or it could tip the delicate balance and negatively affect the whole system. For example, overtly

protective trade policies to shield the home industry from the waves of competition might undermine its ability to innovate and circumvent the situation. Chance events are occurrences that firms and industries have no control over. They are important in that they help to introduce discontinuities that allow the industries to augment its competitive position (Porter, 1990, Chapter 3). As for history and culture, Porter (1990) agrees that these have significant effects on the diamond by influencing the development of the determinants. Furthermore, these effects are usually difficult for competitors to mimic. Later in the thesis, I shall show how persistent perceptions can be, and how such apprehension about Bostonians being the ideal conservative “Yankee trustee”, has made it difficult for competitors to emulate them.

What is it that makes the “cluster” theory most easily adaptable to the financial services sector? First, the concept of “a cluster” being a group of industries interlinked via various forms of relationships, fits the financial sector which is made up of many sub-sectors. The activities, products, and services offered by each of these sub-sectors usually require those offered by another. For example, a mutual fund management company usually requires a bank to act as its custodian and safeguard the assets of its funds. The portfolio manager of a fund often would need brokerage services to execute his/her orders to buy or sell a stock or bond.

Second, a cluster is easier to identify than a propulsive industry alone. In the web of inter-relations of the financial world, it can be terribly difficult to discern which unit, exactly, is the propulsive industry in question. Moreover, the modern take of this model is rather flexible. For example, one may include the effects of transportation costs and distance under the “factor conditions” category when considering locational decisions of, say, the aluminum industry. But one may also choose to eliminate such factors when considering an industry for which such factors might not be of much concern.

Finally, even though profits are still the crux of decisions in Porter’s model, the diamond proves to be a helpful guide as to how one might approach the issue of profitability and hence, location and agglomeration decisions. Not only does the diamond-framework allow systematic analysis of an industry, it also provides the analyst or policy maker a good way to determine how he/she might affect the profits (and hence, firm/industrial location and concentration) through these four channels of the diamond system.

Although the cluster theory does meet at least more of the needs of the mutual fund industry (financial sector), than the other theories discussed above, there are still a few caveats. The effect of home demand on competitiveness depends very much on which sub-sector we are looking at, and the nature of its activities. For sub-sectors that have non-regional clienteles, and products that are similar to those sold by competing firms and are equally accessible to clients (e.g., brokerages), it is not

entirely clear how home demand affects the industry's competitiveness. On the other hand, the mix and nature of home demand certainly plays a part in affecting the industry's ability to grow and compete, if the activities of the subject in question are concentrated more locally (e.g., consumer banking).

The "cluster" theory was originally modeled to examine the effect of location on competition, identify the region's sources of competitive advantage for a "cluster", and evaluate the region's competitiveness. However, Porter (1998) suggests that the theory might work well in reverse -- examine the region's competitive advantage in the context of the industry and explain the location decision of the industry. Although this seems plausible since industries would choose to locate where the business climate is conducive to their operations, it is still worth putting it to the test. And this is one of the aims of this study. Another issue to consider would be the necessity of a cluster in order to compete in a certain industry. Granted that clustering is important for competition, but can a region be competitive in a certain industry without having a cluster?

Cluster theory also suggests that with suitable government policies, a region can override its lack of favourable cultural and historical foundation, foster the creation of the diamond of competitive advantage and ultimately, a cluster/clusters (Porter, 1990, Chapter 12). Even in the updated version of cluster theory, Porter (1998) still maintains this stance. But could this be applicable to the mutual fund industry or the whole financial services industry as well? In my case study, the analysis includes examining the role of history on the formation of the Boston mutual fund cluster, and determining if the lack of history can be circumvented by appropriate government policies aimed to create a mutual fund cluster. Finally, in light of my findings, I shall attempt to suggest some policy implications of this study.

## CHAPTER III MUTUAL FUNDS

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### **Definition**

Mutual funds are the modern cousins of the British investment trusts. A mutual fund, is a portfolio of assets (e.g., stocks, bonds, etc.) created and managed by an investment company. It is divided into smaller units or shares and sold to investors. Take, for example, Merrily Lynch Asset Management's Developing Capital Markets Fund. This fund consists of a collection of equity investments in various emerging markets, such as Indonesia and China. An individual investor can participate in these investments by buying a certain fraction of the fund and reap his proportionate share of returns when the fund performs well. One might think of mutual fund management companies as a subset of investment banks, conducting only one of the latter's many activities. Traditionally, investment banks were engaged primarily in the underwriting of securities (i.e., purchasing securities when first issued by corporations or government entities and reselling the securities to final investors). However, these nimble members of the financial sector were quick to take on other forms of investment-related activities, of which mutual fund management is one. These secondary market activities have become increasingly important to investment banks. To be clear, by "mutual funds", I refer to open-ended funds; under the Standard Industrial Classification (SIC), the "mutual fund industry" falls under SIC 672 (Investment Offices) and SIC 628 (Services Allied with the Exchange of Securities)<sup>3</sup>.

### **Overview: Growth and Development of the Mutual Fund Industry**

In order to give a better sense of scale, as well as a feel of the magnitude of development that has occurred in the industry since the inception of the first mutual fund in the United States, I have included here a brief overview.

The rate of establishment of mutual fund management companies has been rather steady over the past few decades. Although there is not a period during which there was an especially distinct proliferation of management companies, the growth in mutual funds is quite a different story. During the 1940s, mutual funds became increasingly popular. Within two decades, the number of funds increased from 80 to 160 and total assets catapulted from \$500 million to \$17 billion by 1960 (Investment

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<sup>3</sup> To be accurate, these should be SIC 6722 (Management investment funds, open-end; money market mutual funds; and mutual fund sales on own account) and SIC 6282 (Investment advisory service). However, due to suppression, the County Business Pattern database only allows access to a level of up to 3-digit SIC-codes for the mutual fund industry assumed in the study. However, it is probably the only one that allows one to analyse county-by-county at such level of detail. Therefore, figures are slightly overestimated.

Company Institute, 1996) [Figure 4]. By the end of 1996, the US has a total of 6,270 mutual funds with a total combined assets of \$3.54 trillion. Net new cash flow to stock funds alone reached \$222.08 billion in 1996, up from \$128.22 billion in 1995. It is, therefore, not surprising that mutual fund assets represented about 14% of the total value of all outstanding stock in the stock market at the end of the third quarter of 1996 (Investment Company Institute, 1997). Such dramatic growth in the mutual fund industry can be explained in part by the rising prominence of institutional investors (who usually hold a much higher level of assets per account than an average individual investor) as mutual fund shareholders.

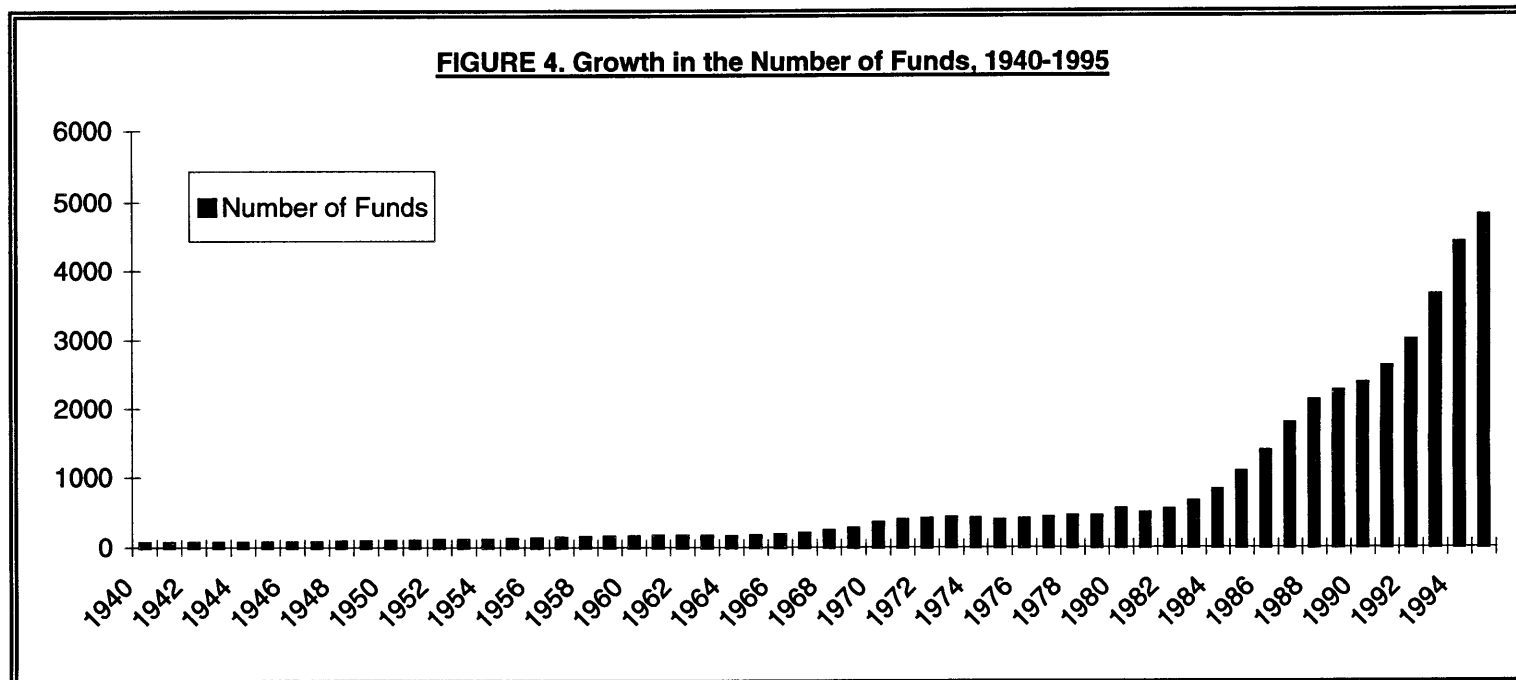
Not only did the number of funds and fund assets rise quickly, but with considerable financial deepening in the mutual fund industry, even the types of funds and investment features offered have increased. For example, according to the Investment Company Institute classification, mutual funds were divided into 16 investment categories in 1988. In less than a decade, the number of such categories reached 21 [Table 1]. Such an increase in the variety in mutual funds points to the amount of incremental innovation that has taken place. The motivating force was a response to the greater ease that investors are with mutual fund investment, and to rising competition as new firms enter the market. With more competitors seeking a piece of the pie, existing firms can preserve their stance in the market only if they innovate. Besides bringing new investment products into the market, various investment features were also introduced. For example, an exchange feature was initiated during the 1980s to allow an investor to swap holdings in one fund to another within a group of funds under a common management (Moon and Siu, 1995). In the light of Porter's cluster theory, these efforts culminate into the existing firms' attempt to protect and improve their competitive advantage.

### **The Boston Mutual Fund Cluster**

As previously introduced, the criteria to qualify as a "cluster" are:

- presence of innovation;
- presence of linkages among the group of industries; and
- competitive advantage (includes size consideration).

***Innovation.*** At the time that the first mutual fund, the Massachusetts Investors Trust, was launched in 1924, four aspects really set it apart as an innovative investment instrument. First, it offered a continuous stream of new shares in addition to the old ones that could be redeemed anytime, at prices based on the current value of the fund's assets (open-ended investment) (Griffeth, 1995). In contrast, investment trusts sold only a fixed number of shares at prices determined by supply and demand (closed-end investment). Griffeth (1995) noted that it was this novel concept of redeemable shares that made mutual funds grow in popularity. With redeemable



Source: CDA/Weisenberger Investment Company Services, *Investment Companies Yearbook 1996*

**Table 1 Types of Mutual Funds<sup>§</sup>**

<b>Equity Funds</b>	<b>Investing primarily in common stocks with the goal of long-term growth</b>
Aggressive Growth	Maximum appreciation with no concern for current income.
Growth	Capital appreciation with some concern for current income.
Growth and Income	Capital appreciation and steady current income.
Equity-International	Capital appreciation from non-US common stocks.
Equity-Global	Capital appreciation from both US and non-US stocks.
Precious Metals/Gold	Maintain 2/3 of portfolio assets in securities invested in securities associated with gold, silver, and other precious metals.
<b>Bond and Equity Funds</b>	<b>Investing in a mix of common stocks and long-term debt with the goal of achieving both long-term growth and income.</b>
Equity-Income	High income from common stocks with history of continuous dividends.
Flexible Portfolio	Stocks, bonds, and liquid assets varying with market conditions.
Balanced	Capital appreciation, current income, and stability of principal.
Income-Mixed	High current income from both stocks and bonds.
<b>Bond Funds</b>	<b>Investing in long-term bonds with the primary goal of income.</b>
National Municipal	Municipal bonds issued by any or all states.
State Municipal	Municipal bonds issued by specific states.
Income-Bond	Mixture of corporate and government bonds.
Government	US Treasury securities.
GNMA or Ginnie Mae Funds	Mortgage securities backed by Government National Mortgage Association.
Global Bond	Bonds of both US and non-US issuers.
Corporate Bond	Diversified portfolio of corporate bonds.
High Yield Bond	Maintain at least 2/3 of assets in non-investment-grade corporate bonds*.
<b>Money Market Funds</b>	<b>Investing in short-term, highly liquid securities.</b>
Tax-Exempt, National	Short-term obligations of state and local governments.
Tax-Exempt, State	Short-term obligations of state and local governments within specific states.
Taxable	Short-term obligations of US government and corporations.

Note: <sup>§</sup> The Investment Company Institute excludes closed-end funds, unit investment trusts, variable annuities, and unregistered funds (e.g., hedge funds) from their data.

\* Non-investment-grade bonds refer to corporate bonds that are rated Baa or lower by Moody's rating service, and BBB or lower by Standard & Poor's rating service.

Source: Fortune, Peter. "Mutual Funds, Part I: Reshaping the American Financial System". *New England Economic Review* (Jul/Aug 97).

Investment Company Institute, *Mutual Fund Fact Book* (33rd Edition, 1993).



shares, investors perceived that investing in a fund is equivalent to having a deposit account at the bank, except that the latter tend to yield a relatively low rate of return in terms of interest earned.

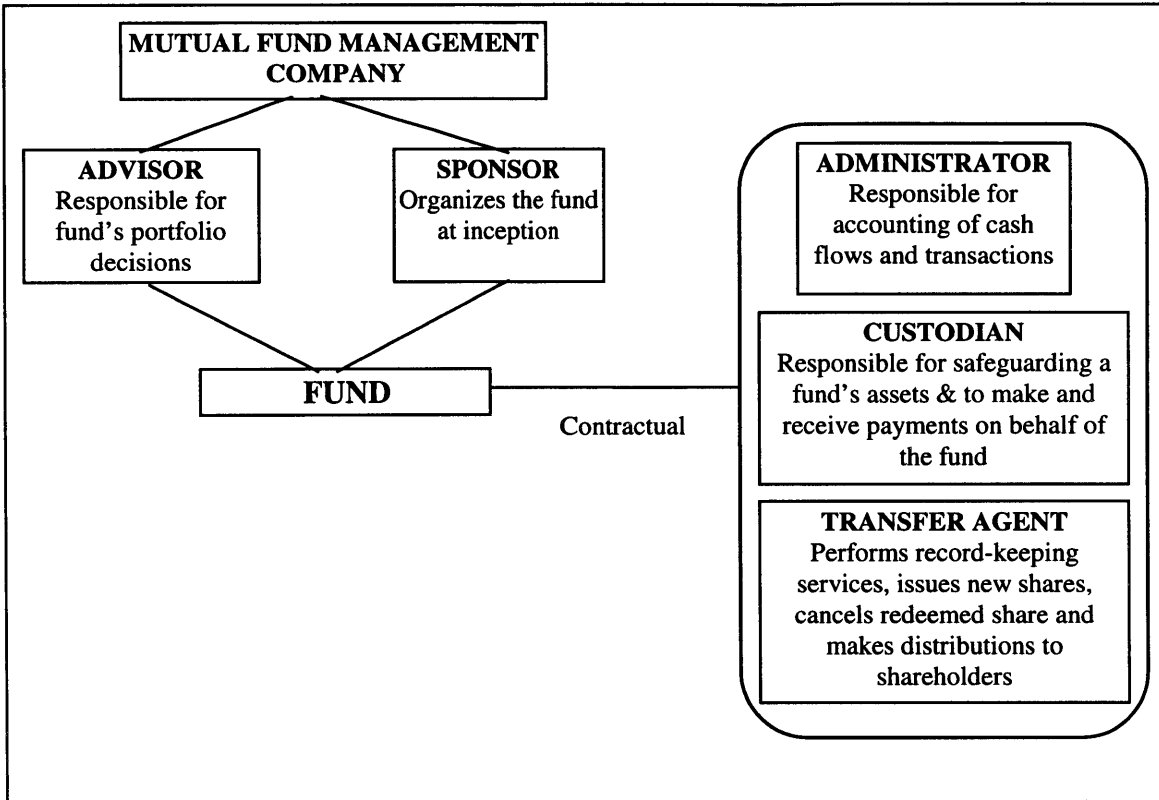
Second, while most prudent financiers of that era invested in bonds, the Massachusetts Investors Trust portfolio was composed entirely of common stocks. Third, although the fund was invested in equities, it adopted a conservative approach (Griffeth, 1995). This contrasted starkly with the more speculative and highly leveraged closed-end trusts that met their downfall when the stock market crashed in 1929. Finally, the fund publicly disclosed the composition of its portfolio, which was unusual for that period. Today, mutual funds are required by statutory law to reveal their investment portfolios (Griffeth, 1995).

**Linkages.** The creation and sale of a fund usually require the services of several entities. For open-ended mutual funds, limited internal resources makes it common for management companies to contract out most of the activities to other independent corporations providing these services (Fortune, 1997). As a result, linkages are formed among mutual fund management companies, banks, and other financial services provider [Figure 5]. These are usually located near the management companies in Boston. For example, State Street Bank & Trust Co., the largest and oldest mutual fund custodian is where its name indicates -- State Street, right in the centre of Boston's financial district. In the case of huge management companies (e.g., Fidelity), however, these agents are often their affiliates (Fortune, 1997).

The sponsor organizes the fund at inception. The advisor, who can either be an in-house or a sub-contracted money manager, is responsible for the fund's portfolio decisions, as well as its borrowing and lending decisions (Fortune, 1997). As an open-ended fund, the number of shareholders, not to mention its shareholder profile, is constantly changing. Amplified by the liquidity of a fund and the fact that investors become increasingly comfortable with mutual fund investment, investors today are more inclined to view mutual fund investment just like stock market investment. With the large number of transactions, three other entities are vital in the management of an open-ended fund. The administrator takes up the task of accounting and monitoring of cash flows and transactions; the custodian, which is usually a bank, safeguards the fund's assets, and makes and receives payments on behalf of the fund; and the transfer agent is responsible for maintaining records of who the shareholders are, for receiving or paying cash from sales or redemption of the fund's shares, and for distributing cash dividends or capital gain distributions (Fortune, 1997).

As for supporting services, the Benchmark Input-Output Accounts of the United States, 1992 reveals that the top five services consumed by the mutual fund industry are real estate agents (US\$4,905 million), advertising (US\$3,424 million), computer

**Figure 5 Mutual Fund Management Structure**



Source: Fortune, Peter. "Mutual Funds, Part I: Reshaping the American Financial System". *New England Economic Review* (Jul/Aug 97).  
John Moon and Joanne Siu. "Analysis of the Boston Mutual Fund Industry" 1995.

and data processing (US\$3,091 million), legal services (US\$2,800 million), and communications (excluding radio and TV broadcasting) (US\$2,716 million). Others include accounting and business services. Legal and accounting services assist in ensuring legal and tax compliance of mutual funds; business services, such as printing services, help the management company in printing prospectus and mailers. Communication services are essential for management companies to reach not only clients, but also their transfer agents, custodians, and other entities related in their day-to-day operations. Computer and data processing services are critical for providing the most up-to-date pricing and fundamental data on companies, stocks, bonds, etc., and software to help the portfolio manager to make quicker and better decisions.

***Competitive Advantage.*** Given the data that are available at the level of detail required (i.e. county-by-county, and at least 3-digit SIC-code), I propose that size, specialization, and renown indicate competitive advantage. This is because, without competitive advantage, profit margins would be narrow, and the industries would not have grown as large, nor would the individual firms have the incentive to specialize; without size and specialization, there would be virtually no fame. In other words, renown can only be attained, provided the group of industries has some competitive advantage to give it the chance to expand, and the impetus to specialize.

In terms of size, Boston stands out in both concentration of employment in the mutual fund industry, as well as in the amount of assets held by Boston-based mutual fund families. Here, I have employed location quotient to show the degree of concentration of employment in the mutual fund industry. Location quotients indicate the degree of concentration a region is in an industry, relative to the national average. In 1994, Suffolk County (where Boston is) of Massachusetts has a location quotient of 25.0 for employment in the mutual fund industry. This means that Suffolk County is 25 times more concentrated than the nation, on average, in the mutual fund industry. This figure rose to 28.6 in 1995. New York County, on the other hand, exhibited location quotients of 8.2 and 7.9, in 1994 and 1995 respectively [Table 2]. In terms of assets, total net assets of Boston-based mutual fund families were about 26% of the total net assets held by the entire nation's mutual fund families, by the end of 1995. In comparison, New York-based mutual fund families accounted for approximately 15% of total net assets by the end of 1995. And under these terms, these two regions (clusters) are, by far, the largest in the nation<sup>4</sup>.

In fact, eight of the fifty largest mutual fund administrators are Boston-based (Moon & Siu, 1995). State Street Bank & Trust Co., The Boston Company, and Investors Bank & Trust Co., the three custodian giants in Massachusetts, provided 42% of mutual fund assets held in custody by the top fifteen custodian providers in 1993

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<sup>4</sup> Author's calculation using data from Investment Companies Yearbook 1996, CDA/Weisenberger Investment Companies Services (a branch of CDA Investment Technologies).

(Moon & Siu, 1995). In addition, Massachusetts transfer agents -- The Shareholder Services Group, Boston Financial Data Services, Inc., and 440 Financial Group -- served almost 26% of the 50,500 accounts served by the top twelve agents (Moon & Siu, 1995).

**TABLE 2. Location Quotients For Employment<sup>§</sup> in the Mutual Fund Sector (SIC 672 & SIC 628)**

COUNTY	LOCATION QUOTIENT <sup>‡</sup>	
	1994	1995
Suffolk	25.0	28.6
New York	8.2	7.9

Source: *County Business Pattern* and author's calculations.

Note: <sup>§</sup> Employment figures are those for mid-March employment in 1994. They reflect paid employment which consists of full- and part-time employees, including salaried officers and executives of corporations, who are on payroll in the pay period including March 12. Included are employees on paid sick leave, holidays, and vacations; not included are proprietors and partners of unincorporated businesses.

<sup>‡</sup> Location Quotients (LQ) are computed as follows:

$$\frac{(\text{Employment in Industry } \mu)_{\text{region}} / (\text{Employment in Industry } \mu)_{\text{national}}}{(\text{Total Employment})_{\text{region}} / (\text{Total Employment})_{\text{national}}}$$

If  $LQ > 1$ , the region is more specialized than the nation in Industry  $\mu$ ;

$LQ = 1$ , the region and the nation has an equivalent degree of concentration in Industry  $\mu$ ; and

$LQ < 1$ , the region is less specialized than the nation in Industry  $\mu$ .

As for specialization and renown, the fact that Suffolk County dominates the mutual fund industry by such a large margin, even though it lags well behind New York County in terms of the number of mutual fund management firms, suggests the higher degree of specialization and larger firm size of the mutual fund industry in Suffolk County relative to New York County, and/or other counties in the United States<sup>5</sup>. This is because the bigger players in New York County are mostly large investment firms (e.g., Morgan Stanley, Prudential Securities) that engage in a multitude of investment activities (e.g., stock brokerage, options trading) and not just in mutual funds. Other New York-based mutual fund management companies are very small relative to those in Suffolk County. But this also brings in the history variable. Firms are usually not huge when they start up. They need time to grow.

In terms of renown, Suffolk County boasts of top names, such as Fidelity and Putnam, that consistently rank among the top twenty mutual fund families. On The Wall Street Journal Almanac 1998 "10-Year Best Performers" list, Fidelity managed funds accounted for 15 out of a total of 50 winning funds. The list also shows familiar Bostonian names such as Massachusetts Financial Services (MFS is the restructured Massachusetts Investors Trust) and Putnam. Once again, history comes into play. In

<sup>5</sup> County Business Patterns, 1994/95.

order to gain renown, a company must be in existence for a long enough period of time to establish a record of performance and build up credibility.

Finally, for Suffolk County, mutual fund activities form the core of these large players' business [Table 3]. Having fulfilled the three conditions of innovation, linkages, and competitive advantage, it is plausible to conclude that a mutual fund industry "cluster" exists in Boston.

**Table 3 Profile of mutual fund industry in Suffolk County (Massachusetts) and New York County (New York), according to number of employees per firm, 1995.**

County SIC-Code	Number of Employees per Firm								
	1~4	5~9	10~19	20~49	50~99	100~249	250~499	500~999	≥1000
Suffolk (MA)									
SIC 628	129	49	32	25	8	12	7	3	3
SIC 672	8	2	3	1	3	1	1	2	2
New York (NY)									
SIC 628	565	178	148	102	36	31	4	4	1
SIC 672	43	16	6	8	0	2	1	0	0

Source: *County Business Patterns, 1994/95.*

## CHAPTER IV

# APPLYING THE CLUSTER MODEL TO THE MUTUAL FUND INDUSTRY

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In this chapter, I shall apply the cluster model to the mutual fund industry, and identify the variables for each of the four determinants of competitive advantage. [Figure 6] shows the way Porter's diamond can be used to view the mutual fund industry. Thereafter, I shall proceed with analysing each of the variables and determine Boston's competitiveness for each of them. Additionally, I shall also look into how history might have contributed to the success of the Boston mutual fund industry.

### FACTOR CONDITIONS

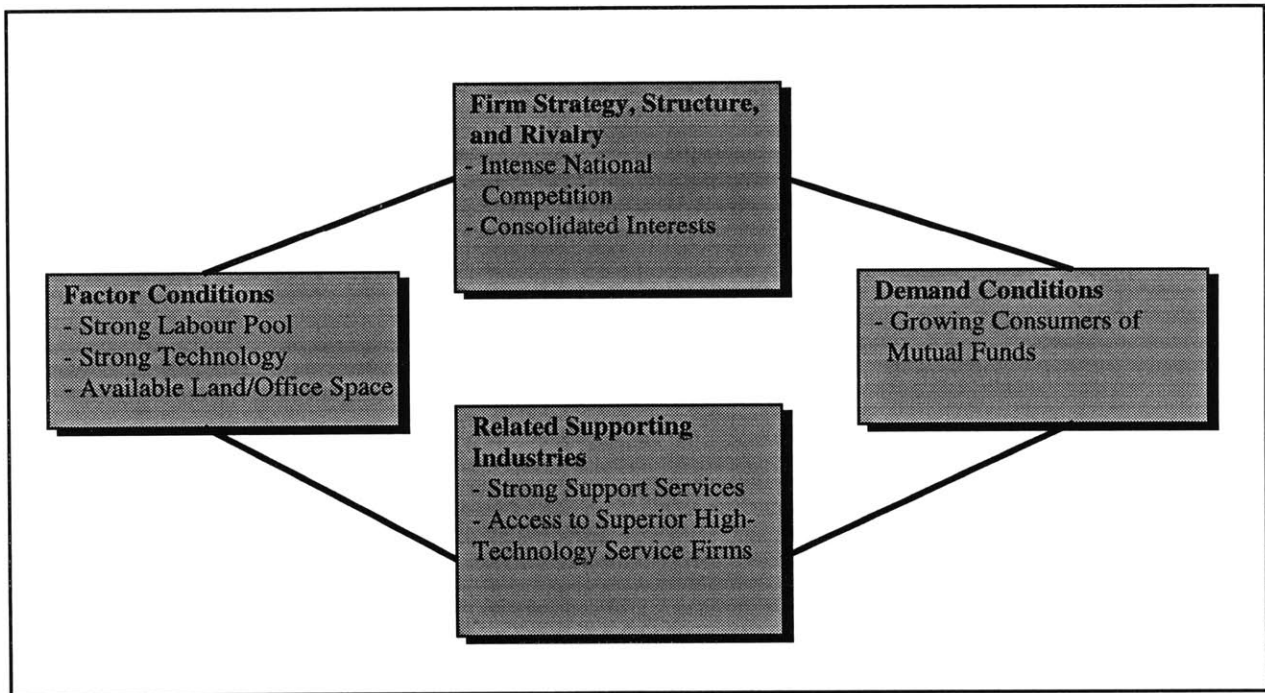
Factors of production are the basic requirements for industrial development and enhanced competition. These include land, labour, capital, infrastructure, natural resources, and scientific knowledge (Porter, 1990). When applied to the mutual fund industry, the specialized factors of production identified are land (office space), strong labour force, and strong technological capabilities. General factors include back office space (usually located in the suburbs) and semi-skilled labour, such as those involved in clerical chores.

#### Land/Office Space

Operations of the mutual fund industry can be divided into two broad categories -- front office and back office operation. Front office operations are mostly managerial in nature, and generally non-routine. They often involve face-to face contact with people outside of the firm, especially clients. In the context of mutual fund management companies, these include portfolio management, analysis, product development, legal services, and central management (McGahey, Malloy, Kazanas, and Jacobs, 1991). On the other hand, back office activities are generally more routine and largely clerical in nature, not requiring much personal interaction with people outside the firm. Examples of back office operations are customer phone service clerks, claims processing and payment, and basic internal management support (McGahey, Malloy, Kazanas, and Jacobs, 1991).

Front office operations, such as fund establishment, benefit from the trust built between parties in face-to-face discussions or negotiations. There is a locational advantage for such operations to be centrally located in the central business district, because the greater access to services such as those provided by downtown law and

**Figure 6 “The Diamond” in the Context of the Mutual Fund Industry**



Source: Moon and Siu, 1995. "Analysis of the Boston Mutual Fund Industry".

accounting firms, translates to reductions in travel time and costs (Moon & Siu, 1995).

Moreover, office location and appearance does have some impact on the mutual fund management company's image. As I have mentioned earlier, there has been a rising prominence of institutional investors on the mutual funds investment scene. And successful courting of such large investors yields attractive gains. Although performance record and reputation are key marketing assets for the management company, a prestigious address would only enhance its image even more. It triggers the almost reflex response from the visitor -- thinking that the company is successful enough to afford such space.

On the other hand, rents/costs weigh heavier on the location decisions of back office operations, which consist mostly of mutual fund services that are conducted over the telephone or by mail (Moon & Siu, 1995). Typically, back office employment account for the bulk of the management company's total employment. For example, of the 3,000 employees working at Putnam, 2,300 are engaged in back office activities (Moon & Siu, 1995). Therefore, cheap land/buildings is/are preferred to house such operations in order to keep operating expenses low. These are usually located in the suburbs where rents are significantly lower.

In this aspect, Massachusetts does not have much cost advantage in terms of office rent compared to most competitor states (e.g., Maryland, Pennsylvania). It has traditionally been relatively costly with respect to office space. However, when compared to New York city, which has the reputation of being one of the places with the most expensive office rent in the world, Boston would have an edge in this area. According to Cushman & Wakefield, on the list of "The 5 Cities With the Highest Commercial Market Rents" (1997), New York City leads with an annual rent per square foot of US\$38.09; Boston ranks third on the list, with an annual rent per square foot of US\$36.20.

The glut in commercial real estate which had rents plunging during the early 1990s was a national, rather than a regional phenomenon. Furthermore, the excess office space available in the early 1990s could not fully explain the decisions of firms to locate in Boston. As I have noted earlier, there is not a particular period in which one can identify as a boom period when management companies proliferated. The rate of increase in the number of mutual fund management companies has been rather constant over the past decades.<sup>6</sup> Therefore, the advantage that Boston has with respect to office space, is for front office operations for which office rent is not as big an issue as it is for back office operations (Moon & Siu, 1995).

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<sup>6</sup> Interview with Matthew Fink, president of the Investment Company Institute (by telephone).



## **Strong Labour Force**

Boston's strength in highly-skilled and specialized labour is drawn from two main sources -- proximity to the nation's leading tertiary educational institutions, and the relative size of the Boston mutual fund industry. Even though front office operations do not necessarily have to draw from the local labour pool, the local availability of highly-skilled labour force still gives Boston an edge over competing states.

**Front Office Recruitment.** Given the non-physical characteristic of a mutual fund, a good record of performance serves as a testimonial to "product quality". With the increasing media coverage and emphasis on fund performance, its importance has risen even more. Consequently, faced with a relatively limited local pool of productive portfolio managers, companies are likely to recruit or subcontract portfolio managers based on their performance record, rather than on their location (Moon & Siu, 1995). For example, a New York-based management company would employ a manager from California to come to New York to manage one of its funds, if it feels that the individual is sufficiently competent. Similarly, the manager would accept the job if the wages and compensation offered are enough for him to relocate to New York.

Evidence suggests that Boston has a relatively large local pool of such highly-skilled and specialized labour for front office recruitment. According to the 1990 US Census Data, around 27% of Massachusetts' population of 25 years and older hold at least a bachelor's degree, as compared to 23% for New York State. Host to some 120 colleges and universities, which include the nation's leading educational institutions, such as Harvard and Massachusetts Institute of Technology (MIT), Massachusetts has ensured a steady supply of highly-skilled individuals entering the labour pool. Should one start to scrutinize the academic records of personnel's in the mutual fund management industry, one is bound to find some "Harvard man/woman", "MIT graduate", etc.. For example, Philip L. Carret, founder of the Pioneer Fund, holds a Harvard degree; Edward C. Johnson II, president of Fidelity Fund and founder of Fidelity Management & Research Company, is another Harvard man; the legendary Peter Lynch, manager of Fidelity's Magellan Fund from 1977 to 1990, acquired his first degree from Boston College; Mark Mobius, manager for the Templeton<sup>7</sup> family of funds, is an alumni of both Boston University and MIT (Griffeth, 1995). Although the list is not exhaustive, [Table 4] gives an idea the extent to which local colleges and universities supplement front office employment. However, one might be quick to point out that New York city should be geographically close enough to Boston to reap this benefit. To a certain degree, New York city does benefit from its relative

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<sup>7</sup> The parent company of the family of Templeton Funds is Franklin/Templeton, which is not a Boston-based management company.

proximity to Boston. But it still lags behind Boston in terms of mutual fund industrial concentration.

**Table 4 Examples of personnels who are alumni of Massachusetts colleges and universities**

Name	Position ( Fund Family/Fund)	Academic Background
George Putnam	President, Chairman, Trustee (Putnam American Government Income Fund)	Harvard University & Harvard University Graduate School of Business Administration.
Daniel Pierce	Chairman of Board (Scudder, Stevens & Clark)	Harvard University
John F. Cogan Jr.	President, Trustee (Pioneer II A Massachusetts Business Trust)	Harvard University
David D. Triple	Executive Vice President, Trustee (Pioneer II A Massachusetts Business Trust)	Harvard University Law School & Harvard University
William H. Keough	Treasurer, Trustee (Pioneer II A Massachusetts Business Trust)	Boston College & Northeastern University
Jefferey Shames	President (Massachusetts Financial Services Co. Inc. <sup>†</sup> )	MIT Sloan School of Management
James Russell	Senior Vice President (Massachusetts Financial Services Co. Inc.)	Boston University & Babson College
David C. Weinstein	Senior Vice President (FMR Corp. <sup>‡</sup> )	Boston University & Boston College
Landon T. Clay	Chairman of Board (Eaton Vance Corp.)	Harvard University

Note: <sup>†</sup> *Massachusetts Financial Services (MFS) is the restructured Massachusetts Investors Trust (the other MIT).*

<sup>‡</sup> *FMR Corp., is the parent company of Fidelity Investment.*

Source: *D&B Reference Book of Corporate Managements: America's Corporate Leaders, 1998*

The size of the mutual fund industry in Boston relative to its other US counterparts also serves to enhance the pool of specialized labour. Reputation is extremely important to portfolio managers. It not only gives them the publicity needed for attracting better employment opportunities, but also serves as a proof to their superior capabilities so that they can command a higher payment in future. Working for big, renown management companies might be the one of the best route.

The fact that Boston has had a early start in the mutual fund industry, plays a role in attracting competent money managers to come to Boston to work. History is important in the realm of financial services. In the world of financial services, as in many other industries, there is some intrinsic and intangible value in being the first bank, or the longest operating management company. Through time and repeated transactions, a record of performance builds up and with that comes credibility and reputation.<sup>8</sup> Massachusetts Investors Trust, the first mutual fund to be launched in the US, came into being in Boston in 1924. Its custodian, State Street Bank & Trust, has

<sup>8</sup> This is probably the reason why we often see or hear the phrase "Since 1862", or "In operation since 1919" , for example, right after the name of the particular company, or bank. Even retailers, such as shoemakers, use this -- it gives them credibility and prestige.

been in operation since 1792 (then known as Union Bank)! Scudder, which offered its first no-load mutual fund in 1928, has been in the investment business since 1919. Only with history of performance would there be credibility and reputation; only with credibility and reputation would there be any “branded” institutions. Portfolio managers like working for such “branded” institutions, because they benefit from their reputation and share the trust and credibility that these institutions have earned over the years.

By being the first in the game, Boston has had time to grow and gather momentum ahead of others. By 1947, Massachusetts Investors Trust was the biggest fund in the business at \$200 million in assets (Griffeth, 1995.) There is no doubt that the biggest company garners the most attention, the most media coverage, and the most publicity. Being bigger and longer in service, Boston has also gained, to a certain extent, prestige in the sphere of mutual funds management. Furthermore, Bostonian companies, being bigger, tend to have more resources to devote to performance-enhancing strategy, like investing in computerization of the firm, subscribe to better data vendors/providers, employing more research assistance, etc.(Wall Street Computer Review, various issues). All these factors make it much more desirable and attractive for money managers to come and work here, because it provides better tools for them to enhance their performance record, as well as boost their image and their future marketability. A higher concentration of mutual fund management companies in Boston also implies that more job opportunities are open to a portfolio manager, and job switching might be easier here than in other states. Therefore, with more money managers seeking employment in Boston, domestic management companies have access to a better, more favourable labour supply.

***Back Office Recruitment.*** Recruitment for such administrative, accounting, and computer-related positions, usually draw from the local labour pool. In this area, proximity to the nation’s leading universities gives Boston-based management companies some competitive advantage over their competitors. It would be easier and less costly for such companies to organize career fairs at local colleges or in the Boston vicinity to recruit fresh graduates, because its travelling costs and time would be less than those for companies located in other states. For example, at the career fairs held in the easily accessible Back Bay area earlier this year, companies that were there to recruit were mostly Massachusetts-based companies. Mutual fund-related companies, such as Investors Bank and Trust, were also there. By comparing the costs that would have to be incur by a Massachusetts-based company (local transportation fares, and booth fees), with those of a non-Massachusetts-based company (inter-state transportation costs, lodging expenses, food & beverage expenses, and booth fees) makes it clear that the Massachusetts-based company has a cost advantage.

Moreover, since these new recruits have already been in the area for at least three years, there is less uncertainty in remaining in Boston than relocating to another state to work, and so they are likely to be more attracted to mutual fund job opportunities in Boston that are not inferior to those found in other states. Hence, for similar job openings in back office operations, not only would a Boston-based firm have a better chance in employing a more competent individual, it need not compensate the person for relocating to Boston.

### **Strong knowledge-creation**

To stay at the fore, both mutual fund management and information technology industry require not only high levels of human capital, but also a constant infusion of new ideas and new blood. In this aspect, effective systems in advanced education, R&D, consultancy, and other institutions involved in the perpetuation and creation of knowledge, are extremely vital to the growth of these two industries. Massachusetts has the highest concentration of employment related to “knowledge creation” in the US. Included in the “knowledge creation employment” statistics are employment in tertiary educational institutions, research and development laboratories, think tanks, consulting firms, law firms and market research organizations (Porter, 1992). Furthermore, Massachusetts has been ranked first among the 50 states of America in terms of level of applied intelligence<sup>9</sup> (Thomas, 1994).

With the existence of the Massachusetts Institute of Technology (MIT), the tertiary education institute that has been the torchbearer of technological advancement for decades, technology has almost weaved itself into the traditions of Massachusetts. MIT has always been fervently investigating, researching, and developing new concepts, new machines, and new technology. During World War II, its research laboratories had developed a bewildering array of methods, systems, and devices relating to fire control, missile guidance and navigation, metallurgy, optics, photography, and electronics. All these discoveries and progress had contributed significantly with to America’s edge in technological warfare (Adams, 1977).

Such zeal did not end with the war. In the post-war years, the institution continued its love-affair with technology, channeling its technological quest into other areas, such as developing computers, biomedical instruments and methods, and catapulted the state of Massachusetts to yet another level up the ladder of technological sophistication. For example, Ken Olsen and Harland Anderson were both from the Digital Computer Laboratory at MIT. They later founded Digital Equipment Corporation (DEC) and used the Whirlwind and Sage computer technologies (that MIT has designed for the US navy and Air Force respectively) to develop their

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<sup>9</sup> Ranking is determined by the state’s scoring in the following five categories: (1) proportion of college graduates; (2) proportion of doctoral candidates; (3) number of MacArthur fellows per million residents (1978-92); (4) patent awards; and (5) research and development funding.

interactive and interlinked computers (International Directory of Company Histories, 1988).

Proximity to these fine colleges has also allowed for some linkages to be formed between the incubators of knowledge and research, and the mutual fund management and information technology firms. Such relationships are often in the form of internships, and funded research, which at many times, lead to permanent jobs at the companies for the participating students. This has, in a way, helped Massachusetts retain the best and the brightest, even though many were originally from other states, or even other countries.

### **Strong Technology: Indigenous versus Bought**

Not all technologically-advanced states or countries have the same degree of inventiveness nor willingness to partake in extensive R&D activities. Technology can be bought. Take Singapore, for instance. Its petrochemical sector and aerospace industry are fairly well established and have good regional standing. However, most of its technologies are imported, bought with some good foreign reserves<sup>10</sup>. Even when the little country obviously is more technologically advanced, with regard to these two industries, than most of its neighbours within the Asia-Pacific basin, it still cannot be considered to be at the cutting edge of those technologies. Unless it takes on the task of developing something significant on its own, it would still be lagging, in terms of technological competitiveness, behind the countries from which it has acquired the know-how. Nevertheless, Massachusetts is different. As I have shown above, the presence of MIT ensured that Massachusetts is always at the cutting edge of technology.

Reputed for its dedication to technological advancement, MIT has produced many engineers who, like Ken Olsen and Harland Anderson who founded DEC, decided to stay on and set up their companies in Massachusetts. In 1968, 0.5% of the labour force in Massachusetts were scientists, of which 13% were in the field of Statistics, Mathematics, & Computer Science; for the same year, scientists account for 0.4% of New York State's labour force, and of these 13% were in the field of Statistics, Mathematics & Computer Science (Statistical Abstract of US 1970). By 1979, the number of engineers as a share of total number of scientists in Massachusetts was already about 15%; New York garnered 13% for the same year and statistic for the same year.

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<sup>10</sup> Source: Economic Development Board of Singapore; Low, Rowena. "Singapore's Aerospace Industry" ASEAN/ Singapore Briefing Oct. 1995.

Furthermore, with software prowess, Massachusetts also has database providers that could supply fundamental analysis databases through programmes that were more cost-efficient and more user-friendly than competitor products. Fundamental analysis, which is key to a complete investment strategy, helps to determine the intrinsic value of a company (whether it is over/undervalued). Fundamental analysis databases are electronic reservoirs of detailed corporate financial data combined with a variety of screening tools. They allow an investment manager to analyse the financial performance of multiple companies simultaneously, conquer intimidating calculations to gain insight into a company's performance, and test investment strategies before putting them into action (Wall Street Computer Review, October 1990, p.45). Such service has become increasingly important to investment-related activities, such as mutual fund management. As the number of companies listed on the exchange rises and investment choices sky-rocket, few portfolio managers can visit a significant number of firms to acquire a full understanding of the investment universe. For example, managers have expressed their preference for Market Base, a basic database system from MP Software (Massachusetts), because not only does it provide good coverage and timely updates for a lower cost, but it was also much easier to use (Wall Street Computer Review, October 1990, p.50).

The mutual fund companies in Boston have benefited greatly from locating near computer companies offering state-of-the-art technology would be Colonial Group of Boston. The company had eliminated timesharing costs and is providing its fund portfolio managers with flexible access to investment information from a variety of sources through a relational database management system from DEC (Wall Street Computer Review, February 1988, p.116). The VAXcluster system that DEC had installed for the Colonial Group already allows almost uninterrupted access database. And this was during the late 1980's.

## **DEMAND CONDITIONS**

Under the Porter framework, home demand conditions are crucial in shaping an industry and determining its competitive advantage. This factor affects the industry in three main ways -- the mix and character of domestic buyer demands, the size and pattern of growth of domestic demand, and the mechanisms by which the region's domestic preferences are transmitted to foreign markets (Porter, 1990).

In the light of the mutual fund industry, however, besides the initial spur from the need of Boston's affluent community to preserve their wealth, home demand conditions does not seem to have much influence on Boston's competitiveness in the mutual fund industry. The need for an investment vehicle that is safe and preserves wealth prompted L. Sherman Adams, Charles Learoyd, and Ashton Carr to create the first mutual fund, which is more liquid than the traditional trust instrument and is therefore safer, and satisfies the wealth preservation need as well. However, with the

technological sophistication in telecommunications, the borders and constraints that once separated domestic demands from demands from other states of United States, home demand conditions no longer wield much influence over the competitiveness of Boston's mutual fund industry.

Demand for mutual funds is not differentiated or constrained by region. Unlike manufacturers, geographic proximity to customers is not an asset for a mutual fund. Whereas manufactures incur costs of transfer from "production site" to the buyer, such as transportation fees and time, this is not much of an issue for a financial product like mutual funds. Even during the early trading days of the first fund, Massachusetts Investors Trust, telephone and telegraphic communication has, in a sense, reduced the distance between two transacting parties. In today's world of highly advanced information technology, the concept of geographic boundary for a financial product like mutual funds, is being eroded even more quickly. With excellent telecommunication networks in the United States, individuals and institutions can invest in any fund that strikes their fancy by just picking up the telephone. So even if a fund aimed at the Northeastern regional market were created, investors in other regions of the US can buy into the fund at no greater inconvenience or cost than those sited in the Northeast. In other words, with investors having relatively equal access to any fund, the investment in mutual funds is driven by national, rather than local, demand. This greatly reduces the advantages of being geographically close to the "market" or "point of sales" for mutual fund management companies (Moon and Siu, 1995.)

## **RELATED AND SUPPORTING INDUSTRIES**

The presence of competitive, home-based suppliers of specialized components, machinery, and services creates advantages in several ways. First, customers who are geographically close to the suppliers often have the benefit of early access to the latest models and newest products (Porter, 1990, Chapter 3). Second, proximity and close working relationships with home-based suppliers enhances innovation and upgrading. This is because there is the advantage of quick and continuous flow of information, joint work on improvements, and mutual pressures to advance (Porter, 1990, Chapter 3). Third, proximity to each other allows better, ongoing coordination between supplier and customer (Porter, 1990, Chapter 3).

### **Ancillary Industrial Synergy**

*Competitive information technology industry.* Massachusetts strength in technological capabilities, especially in the area of computer-related know-how, has certainly helped hone the competitive advantage of Boston's mutual fund cluster, and propelled its growth. It is also an area that Massachusetts has a clear advantage over

New York, as well as many other states. Massachusetts has a concentration of computer and data processing services industry<sup>11</sup> that is slightly over twice as large as the national average; on the other hand, the concentration this industry in New York is a mere 90% of the national average concentration.<sup>12</sup> The nature of the mutual fund business involves a lot of information that needs to be processed in a timely fashion. Customer account changes, up-to-date prices of stocks, bonds, and bills, and fundamental data are just some of the information that a management company needs to deal with on a typical day. In addition, it has to continue to innovate and create new products and investment features.

In order to see more clearly how advanced information technology can help the mutual fund management industry, consider the legal front. The mutual fund industry is the most highly regulated sector of the financial services industry (Fink, 1996). Prior to the 1996 legislation that abolished state regulation of the mutual fund industry, different state regulations added to the confusion and made legal compliance a nightmare.<sup>13</sup> Faced with so many unique state regulations, specially tailored software programmes would definitely help management companies to sort through, with higher efficiency and productivity, the highly complex mesh of legal compliance involved in the sale of every single fund that it sets up.

From the perspective of introducing creative mutual funds and investment features, management companies would also enjoy room for creativity. This is often made possible only by the operational and analytical capacity boost from custom-made computer software programmes that are designed to handle the increasing complexity of portfolio analysis and management. Given the make or break nature of the financial market, the timely processing and dissemination of information is crucial to the management companies. Managers need to obtain information, process it and make their investment decisions within the shortest time possible. A buy or sell order submitted to the broker a moment later can mean a difference in thousands and millions of dollars. This is especially true in today's financial market in which state-of-the-art telecommunication infrastructure allows transactions to be made internationally, 24 hours a day.

Telecommunication infrastructure accessibility for management companies, at least in the United States, is more or less the same, regardless of their location. However, this does not apply to technology (Moon & Siu, 1995). Management companies which are geographically close to a strong information technology industry, have an advantage over those that are not. Being close and therefore, have ready access, to

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<sup>11</sup> SIC code 737 : Computer Programming, Data Processing, and Other Computer Related Services. (Executive Office of the President Office of Management & Budget, Standard Industrial Classification Manual, 1987)

<sup>12</sup> County Business Patterns, 1994/95

<sup>13</sup> Interview with Tammy Reed, a lawyer at the Investment Company Institute (by telephone).



such hardware and software expertise, management companies have a better knowledge of which is the more competent firm and can forge a cooperative relationship with the computer industry more easily.

Geographic proximity allows for more frequent consultations regarding new technological breakthrough, system maintenance or upgrade, which in turn, gives the management company much greater freedom in the creation of innovative investment products and customer services. Without doubt, innovation, ingenuity and acute foresight are the makings of a successful management company. Should a “virus” get into the company’s network or programme, being geographically closer to these experts also ensures a speedier rectification of the problem, which could save yet more dollars. Computer technology, which allows all the above to be done with relative ease, accuracy, and less manpower, were definitely appreciated. In 1992, the mutual fund industry bought a total of US\$3091 computer and a computer related goods and services. As a share of total expenditure of the mutual fund industry, this represents more than a six-fold increase over what it had bought back in 1988.<sup>14</sup> The increasing reliance of the industry on computer technology is clear.

From the perspective of the computer industry, having a major mutual fund industrial cluster nearby provides the it with a ready market with high rewards. Striving to get contracted by, or entering a partnership with, the company offering the highest rewards (both in terms of immediate monetary payoff and long-term earning potential), firms within this technological sector are forced to be highly competitive operations. Competition fires up the zeal of R&D activities and unleashes the powers of innovativeness, which together have proven to have transformed Boston into a mighty dynamo in both mutual fund and applied investment technology industries. And Boston has remained, for all these years, at the fore of both industries.

As an illustration to show how highly rewarding the ingenious use of technology can be for a mutual fund management company, consider the case of Boston-based Fidelity. Fidelity had begun, ahead of most other investment companies and banks, to invest heavily in technology in the late 1960s. By the 1990s, the company was pumping over \$150 million a year in the technology realm. As a result, Fidelity was at the cutting edge of providing technology-based customer services, and has become the largest mutual fund management company today. Some of the fruits of Fidelity’s technological investment and research development include the interactive, automated-service telephone system in 1983, and the upgrading of the phone answering system to the point where it could handle 672 calls simultaneously on its automated toll-free lines, while a master console in Boston routed calls to the first available operator around the country. These creative services, made possible by

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<sup>14</sup> Benchmark Input-Output Accounts of the United States, 1988 and 1992. In 1988, expenditure on computer and computer related goods was 2.7% of the mutual fund industry’s total output; in 1992, this figure rose to 20.9%.

technology, have contributed significantly in bringing customers all over the nation closer to Fidelity ( International Directory of Company Histories Vol. II, 1988).

Furthermore, the establishment of the American Research & Development Corporation (ARD) in the mid-1946 helped to power the spirit of technological innovation. ARD was a publicly owned investment company formed to supply venture capital to new research-based enterprises engaged in inventing new peacetime uses for technology that had been used during the war. Its existence was important in supporting the growth of technological industries in Boston. At that time, most of Boston's financial resources locked in investment trusts, mutual funds, and insurance companies, which were too conservative to invest in such risky projects (Adams, 1977). Without the support from ARD, many of the technology-based firms, which include Digital Equipment Corporation, Tracerlab, Incorporated and High Voltage Engineering Company, would not have come to be due to the lack of start-up capital. Lacking practical economic value other than wartime use would have seriously dampened the earnest of Massachusetts pursuit of technological advancement.

Located in Maynard, Massachusetts, the beneficiary of ARD, Digital Equipment Corporation is now a renowned worldwide supplier of networked computer systems, software, and services. Digital is best known for introducing the minicomputer to the information processing industry (International Directory of Company Histories, 1988). When Digital was first established, the only commercially available computers were million-dollar mainframes from manufacturers such as IBM, Univac, and Burroughs. The company introduced its first computer, the PDP-1, in 1960. The system came with a cathode-ray tube so that the user knows what was being entered and received from the central processing unit (International Directory of Company Histories, 1988). In terms of size, the system was about the size of a refrigerator, but mainframe computers of those days were around the size of a room. In terms of cost, it was almost ten times cheaper than its contemporary competitor products (International Directory of Company Histories, 1988). This had brought computers closer to non-computer-specialist users, such as mutual fund management companies.

### **FIRM STRATEGY, STRUCTURE AND RIVALRY**

Porter (1990) posits that competitiveness grows out of a context that supports innovation, through policies and norms that encourage sustained investment in skills, capabilities and physical assets. Local rivalry and competition spurs companies to innovate and improve their capabilities to lower costs, enhance quality, and invent new products and processes (Porter, 1990, Chapter 3).

In the context of the mutual fund industry, the high concentration of mutual fund management firms simultaneously provides the impetus for innovation, and consolidates mutual interests of firms (Moon & Siu, 1995). As Boston has a greater concentration of mutual fund interests than any other city, this factor could have worked to keep the mutual fund industry in Boston highly competitive, and therefore, attractive for new firms to locate in the Boston industry and enjoy the positive spill-over effects.

As the stringent Glass-Steagall Act disintegrates, and deregulation of the financial sector gathers momentum, legal barriers of entry into the sphere of mutual fund business are decreasing<sup>10</sup>. Consequently, competition faced by the mutual fund management companies has been increasing steadily. For example, insurance companies, like John Hancock, hopped onto the mutual funds bandwagon during the 1960s; brokerage firms, such as Merrill Lynch, entered the mutual funds business during the 1970s; and, when finally permitted by a relaxed legal structure, banks, like State Street Bank & Trust Co., took interests in mutual fund management<sup>15</sup>. With an explosion in the number of mutual funds entering the market, management companies face intense competitive pressure to create new investment features and fund types in order to preserve their competitiveness. The need to fend off other competing financial services in their pursuit of investment capital also helps to keep management companies honed and nimble. In fact, mutual fund companies are increasingly competing on national grounds, which certainly intensifies the fight. For example, consider the “invention” of the money market mutual fund in the 1970 by Reserve Management Co. of New York. Two years later, Benham Management Corporation of California joined in with its introduction of Capital Preservation Fund. By 1976, these two companies had had to share the pie with many other companies. Companies are therefore always on their toes.

Higher concentration of firms engaged in the similar activities also consolidates interests. Underwriters and brokers are likely to make Boston their first stop for their routine “dog and pony” shows because given the high concentration of mutual fund management companies, they would be able to present and sell their products more efficiently. So firms in Boston are likely to be the first to learn of the newest and best products or securities.

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<sup>15</sup> Interview with John Rea, economist at the Investment Company Institute (via telephone).

## CHAPTER V

### THE ROLE OF GOVERNMENT, HISTORY, AND CHANCE

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In this chapter, I shall be examining the role of government policies on the development of the Boston mutual fund industry. I shall also show the importance of history in the success of the Boston mutual fund industry and that it cannot be left out of the diamond when considering the mutual fund industry.

Porter (1990) suggests that governments have the power to manipulate, and enhance or hurt the region's competitive advantage in the a cluster. In the interest of the economy, the government should implement the correct mix of policies to reinforce the region's competitive advantage, and the diamond should be able to provide the government with the policy analysis guidance that it would need. It the responsibility of the government to create the basic inputs, such as modern infrastructure, educated human resources, sufficient supply of investable capital, and a technological base (Porter, 1990). Furthermore, it should direct its policies in such a way as to create a conducive climate for innovation and upgrading (Porter, 1990). The government should also shoulder the task of reinforcing existing local clusters. Finally, Porter (1990) postulates that when a cluster has yet to be formed, the government can encourage or hasten its formation by challenging the target industries (1990).

As for chance or historical events, Porter (1990) acknowledges the role that they play in creating and shaping the determinants of regional competitive advantage. He suggests that history works on the four determinants through the influence of culture which is hard for competitors to mimic. For chance events, he maintains that they are important in that they cause some form of discontinuity which allow shifts in competitive position to take place. Some examples that Porter gives include acts of pure invention, discontinuities in input costs (e.g., oil shocks), and major technological discontinuities (e.g., biotechnology).

Nonetheless, he maintains that the role of government and the determinants of competitive advantage have a larger influence in sharpening a region's competitive edge (Porter, 1990). If neither the region's government nor the region take the necessary steps to embrace a golden opportunity that it "chanced upon", it would not help the region gain competitiveness in that industry. The reason he gave for this is that industrial innovation is not all random (Porter, 1990).

Although Porter (1990) and Porter (1998) did not elaborate much on the historical influence on a financial services industry, I shall show how it is not possible to ignore the variable when analysing the mutual fund industry, or the financial services industry, for that matter.

## GOVERNMENT

As I shall illustrate below, government policies do not offer adequate explanation for the continued clustering and dominance of the Boston mutual fund industry. The initial enactment of the Massachusetts Business Trust could have provided the legislative alchemy for management companies in Massachusetts to gain competitive advantage and hence, served as an attractive force to pull new management firms to locate in the state. However, once other states emulated, the Massachusetts Business Trust is no longer the competitive asset it once was. As for the tax environment, it was not conducive for mutual fund industry prior to 1996, due to an unfavourable tax apportionment formula and the choice of using “source” test over “destination” test in determining state-taxable corporate income.

*State regulatory and legislative environment.* Prior to the enactment of the 1996 National Securities Markets Improvement Act, Tammy Reed, who is a lawyer dealing with “Blue Skies” Laws at the Investment Company Institute, pointed that this state was actually rather notorious for its cumbersome state regulations which were very fickle, changing every now and then. Indeed, such excessive unique rules and uncertainly did frustrate the management companies. Also, the call for compliance analysis raised the administrative and management costs of mutual funds. But, it was not a problem that could be solved by relocation of the management companies. It was a problem that emerged from the destination, not origin, of sales.

Regarding this problem with state regulation, Matthew Fink, President of the Investment Company Institute dubbed the pre-1996 system “a crazy quilt of inconsistent and conflicting regulation.” Regulatory environments varied not only from state to state, but also year by year, and, often, fund by fund (Fink, 1996). In fact, it is possible for two different mutual funds, even within the same fund complex, to be subjected to very different treatment by the same state during the same period in time [Table 5]! Because sales of mutual funds have more of a national, rather than a regional, characteristic, relocation to a “good” state like Wyoming would not ease the pains of such state regulatory compliance for mutual fund management companies. Besides, Massachusetts was not the only state guilty of such legislative frivolity. And this does not elucidate the effect of government policies on competitiveness and agglomeration, as in the light of Porter’s “cluster” theory.

**Table 5 An Example of the Divergent State Regulatory Systems (pre-1996)**

Regulatory Conditions	States
Exemption for “blue-chip” investment companies	Alabama, Colorado, Kansas, Michigan, Nevada, New Mexico, Oregon, Rhode Island, Utah
Exemption for “blue-chip” investment companies and active commenting of registration statements of investment companies that do not claim the exemption .	New Jersey
Exemption for “blue-chip” investment companies, active commenting on registration statements of investment companies that do not claim the exemption , and imposition of inconsistent substantive limitations on investment companies by rule.	San Diego
Exemption for “blue-chip” investment companies but filing of advertising by investment companies that do not claim the exemption is required. Does not review advertising.	West Virginia
Exemption for all investment companies from registration upon the filing of a notice.	Wyoming
Exemption for all investment companies from registration (no notice required).	Hawaii
No requirement for registration of securities, including securities issued by investment companies.	New York, Washington DC
Exemption from registration for all securities registered under 1933 Act.	Georgia, Louisiana
Registration of investment companies required but exempts investment company offerings from review.	Wisconsin
Registration of investment company offerings required, but generally do not review registration statements or review them in a manner consistent with federal law and do not require filing of advertising.	Connecticut, Delaware, Florida, Idaho, Illinois, Iowa, Kentucky, Maine, Mississippi, Nebraska, New Hampshire, North Dakota, Oklahoma, Pennsylvania, South Carolina, Tennessee, Virginia
Registration of investment company offerings required. Imposes inconsistent substantive limitations on investment companies by rule, but generally does not review registration statements or reviews them in a manner consistent with federal law.	Washington State
Filing of registration statements and advertising required, but does not actively review registration statements or advertising.	Indiana
Registration of investment company offerings required. Occasionally issue inconsistent comments, but do not require filing of advertising.	Alaska, Montana
Registration statements actively reviewed and frequently issue inconsistent comments. Filing of advertising not required	Arizona, Maryland, Minnesota
Registration statements actively reviewed and inconsistent comments are frequently issued. Imposes inconsistent substantive limitations by rule, but do not require filing of advertising.	Arkansas, Missouri, Ohio
Filing of registration statements and advertising required. Actively reviews registration statements but not advertising.	Massachusetts
Filing of registration statements and advertising required. Actively reviews registration statements but not advertising. Imposes inconsistent substantive limitations by rule.	California, Texas
Filing of registration statements and advertising required. Actively reviews both.	Vermont

Source: Fink, Matthew. “Mutual Fund Regulation: Forging a New Federal and State Partnership” Investment Company Institute Perspective Vol. 2 No.1 ( Jan 1996)

***Business Trust Code.*** Massachusetts is the first state to have a trust code -- the Massachusetts Trust Code<sup>16</sup>. As mentioned before, a mutual fund can either be organized as a business trust, or a corporation. In general, being organized as a business trust offers a more flexible form of organization, because the trust code under which a business trust is governed, may have provisions often not permitted under a state's corporate laws. A corporation, on the other hand, not only has to abide by the terms of its bylaws, but also have to comply with the guidelines of its domiciliary state's corporate statutes. For instance, a business trust has the right to issue an unlimited number of shares without the need for further shareholder approval. But, a corporation would have to obtain shareholder approval in order to increase its capital.

The existence of the Massachusetts Trust Code has made it a lot easier for management companies to set up a fund. Furthermore, it prevents double-taxation of the management company which is already subject to corporate income taxation. Without the provision that exempts mutual funds from state taxation of income, franchise or stock issuance, mutual funds would be taxed because they are regarded as separate legal entities from the management company that established them. However, state taxation of mutual funds, which are not more than mere paper entities, simply translates to state taxation of the management company, in addition to whatever state taxes the company is already liable for. With the nightmarish web of legal compliance that management companies have to work through in selling their funds, management companies would certainly have welcomed a substantial reduction in redtape in fund formation. Therefore, it is understandable why many mutual funds are incorporated in Massachusetts.

Now, Delaware and Maryland also have favourable business trust statutes and corporation law for mutual fund management companies, respectively. Maryland's corporate statute offers both the flexibility of a business trust and the limited liability of corporate form. Another state with a business trust statute that rivals Massachusetts' is Minnesota. Minnesota's business trust statute grants limited liability of shareholders and trustees, a provision not present in Massachusetts' trust code; the former also mirrors the latter in eliminating the need for annual meeting of shareholders, and its tax laws embody the Regulated Investment Company (RIC)<sup>17</sup>

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<sup>16</sup> Source: Interview with Peter Fortune, Senior Economist at the Federal Reserve Bank of Boston.

<sup>17</sup> A RIC is a company registered under the Investment Company Act, and it derives at least 90% of its gross income from dividends, interest, discount, payments with respect to securities loans, gains from the sale or disposition of stocks or securities, and other related "investments income", and no more than 30% of gross income can come from the sale of securities held less than three months. In addition, a RIC should not hold securities of any one issuer or of any two or more issuer if they are substantially identical (excluding government securities), that exceeds 25% of asset value. It would have to distribute at least 90% of its taxable income to shareholders in order to qualify for tax exemption.

treatment under the Internal Revenue Code<sup>18</sup>. (Moon and Siu, 1995). Although Delaware and Maryland are major competitors for mutual fund incorporation, Massachusetts still dominates as the place where most funds are incorporated. Massachusetts Trust Code has been an edge over other states in simplifying the process of fund formation. But with the emergence of competing states that have come up with similar statutes that are just as appealing to management companies, this should be an advantage of yesteryears. However, Massachusetts has not waned in its dominance in the business of mutual funds. It is, once again, the mystic powers of history.

**Taxation.** An individual living in Boston is taxed rather heavily relative to counterparts in cities such as Chicago or Minneapolis. This is especially so when the focus is narrowed down to the high-income category in which portfolio managers would fall under.

In order to analyse the full effect of taxes, Tannenwald (1994) used the “representative household” approach to compare the tax burden on representative high-income families of four residing in various cities. Taxes that are taken into account in such an analysis include state and local personal income taxes, property taxes, general sales taxes, motor fuel taxes, motor registration fees, and motor vehicle excise taxes (Tannenwald, 1994). The study also took into consideration of the manner in which the burden of state and local personal income taxes and property taxes is lightened by their deductibility from federal taxable income (Tannenwald, 1994). Results show that the representative high-income household residing in Boston had a higher state and local tax burden relative to its counterparts in most of the other cities. With the household’s tax burden in Boston at about 8% of income, the city ranked 13th (out of 51 cities) in the study. Nevertheless, it still holds an advantage over New York City, which was ranked as the second highest in the same study (Tannenwald, 1994).

Regarding corporate taxation of the mutual fund industry, however, Robert Tannenwald, Senior Economist at the Federal Reserve Bank of Boston indicated that pre-1996 Massachusetts was one of the states that posed the highest tax burden. This was due to the way that Massachusetts structured its “apportionment” formula, which is used to determine its fair share of the taxable corporate income of a multistate corporation, the selection of using a source test<sup>19</sup>, and having high property tax rates..

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<sup>18</sup> Source: Interview with John Rea, Economist at the Investment Company Institute. Mutual fund management companies and mutual funds do not show the same pattern of locational distribution. A management company based in New York might incorporate a new fund that it has set up in Massachusetts.

<sup>19</sup> When a source test is used, then sales “done” or “performed” in Massachusetts, regardless of where customers reside, would be regarded as in-state sales income.



In most states, the apportionment factors are the state's shares of the firm's total payroll, property, and sales.

Until 1996, Massachusetts had imposed a source-test model (otherwise known as "throwback" practice) on the mutual fund industry. As discussed earlier, sales of funds are rarely, if not never, limited to the domicile state of the management companies. Consequently, most of the profits are considered in-state sales income that are subjected to Massachusetts taxation.

The state's tax competitiveness for the mutual fund industry slipped when several states -- Kentucky, New Jersey, New York, Ohio, Texas, and Washington -- adopted the destination test model. Under this model, only sales to the residents of the firm's domiciliary state are subject to taxation by that state. Furthermore, Massachusetts has double-weighted the sales component, which further magnified the ill-effects of distortion:

$$(\text{Taxable income})_{MA} = \frac{\frac{\text{Payroll}_{MA}}{\text{Payroll}_{TOTAL}} + \frac{\text{Property}_{MA}}{\text{Property}_{TOTAL}} + \frac{2 \times \text{Sales}_{MA}}{\text{Sales}_{TOTAL}}}{4}$$

This effect is especially acute when sales of mutual funds sky-rocketed over 100 times the amount in the early 1970s. Aside from the unfavourable tax treatment of corporate income taxes, property taxes in Massachusetts and for that matter, Boston, are also among the nation's highest<sup>20</sup>. It is not surprising how much this would concern a mutual fund management company. Take Fidelity for instance. It housed its Fidelity Capital Markets in Boston's World Trade Centre on a 35,000-square-foot trading floor, which is the largest in the Northeast (International Directory of Company Histories Vol II, 1988). It also purchased the property in Marlborough, Massachusetts, where one of its regional operations centre is located. In addition to its mainstream financial investments, this financial giant also has considerable real estate interests (not to mention its publishing concerns, transportation service, and a chain of art galleries.) The property tax component was definitely not small.

Although the tax burden in Boston that an individual (in the high-income bracket) has to bear is relatively greater than cities like Chicago and Minneapolis, it is still comparatively less than that in New York City. Nonetheless, in terms of corporate tax for the mutual fund industry, Massachusetts has been the one of the heaviest taxing states prior to 1996. After the 1996 lobbying by the mutual fund companies, however, the state has whittled the taxation on the industry to a bare minimum. Hence, the tax environment of Boston for the mutual fund industry only became conducive after 1996. Therefore, favourable tax policies are not among the reasons for mutual fund management companies' decisions to locate in Boston prior to 1996.

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<sup>20</sup> Interview with Robert Tannenwald, Senior Economist at Boston Federal Bank of Reserve.

## **HISTORY**

In the following, I provide the evidence of how historical events and accidents are more than just fleeting opportunities that would disappear if there were not a conscious effort to take chance to create the determinants of competitive advantage for the mutual fund industry in Boston. It works through the nature of the business. Success of a mutual fund management company depends heavily on its reputation, which is really a function of the trust and credibility that it has earned. And these can be had through repeated transactions and building a record of performance over time.

Should history be left out, or given less weight in the analysis of the Boston mutual fund industry, there seems to be many missing pieces to the whole picture. High level of attainment in technological deepening and the presence of excellent educational facilities are certainly conducive to the development of the mutual fund management industry in Boston. Even as the nation's financial centre, New York lags behind Boston in technological innovation and the magnitude of concentration of superb educational institutions. The synergy created by the harmonious interaction of these industries, and the never-ending quest for knowledge, in Boston is key to fostering this city into the hub of mutual fund management. But this synergy did not come about overnight. Nor could it explain entirely why the mutual fund industrial cluster did not shift to New York, which is, after all, the centre of the nation's financial activities.

### **The role of history in the development of the Boston mutual fund cluster.**

One thing is for sure -- fund management requires a lot of savvy<sup>21</sup>. While good education can certainly enhance one's knowledge and skills, it is doubtful that the classroom is where one acquires all the shrewdness and canny that is often associated with mercantile and financial professionals. It is more likely to be the influence of society and family. And the structure of society is dependent on its past, its history.

Boston had been a trading hub between the Old World and the New World since the early days of American Settlement. As a Seaboard Colony, Boston's extensive trade with England during the seventeenth century dealt with almost everything from staple crops to servants and slaves. It was also the centre of America's trade with China (Adams, 1977). This was largely an outcome due to insufficient arable land in Massachusetts for large-scale agriculture, that makes it a lesser competitor than Virginia, Maryland and the Carolinas, and crushed the Puritan dream of devout agrarian life. Instead, Boston became a bustling seafaring and trading town (Adams, 1977).

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<sup>21</sup> Interviews with Peter Fortune and Robert Tannenwald, both Senior Economists at Federal Reserve Bank of Boston, emphasized this point.

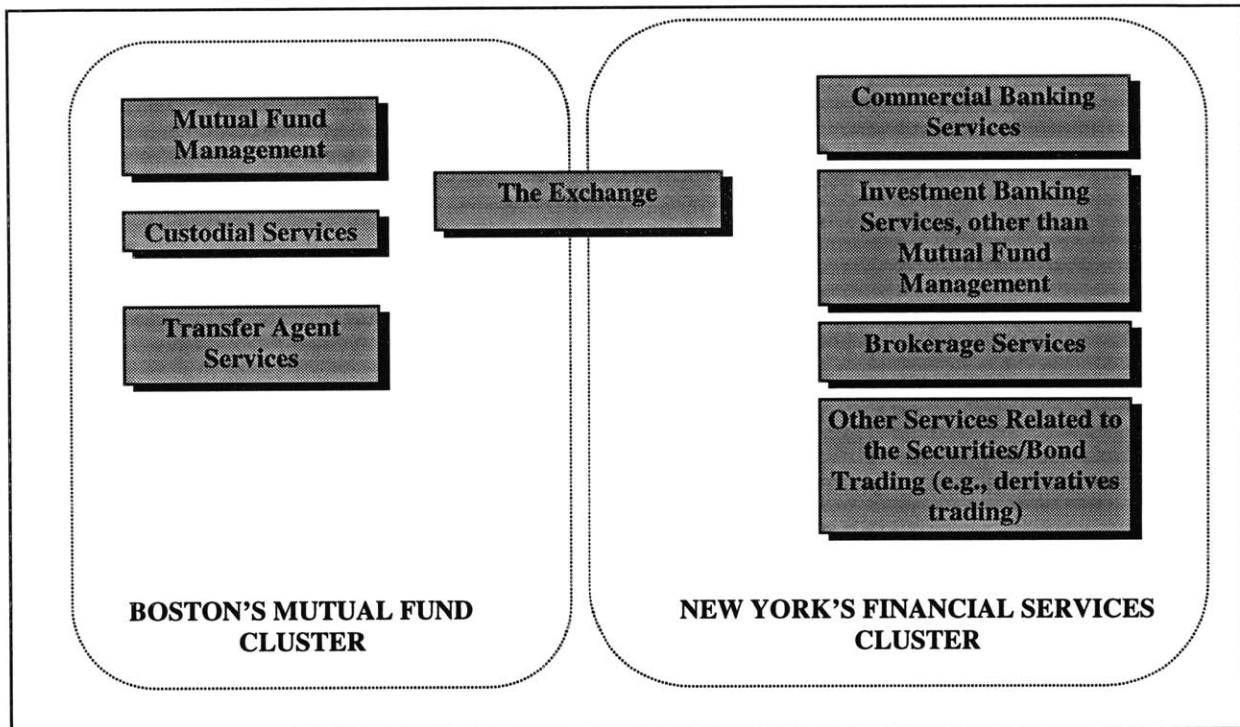
Wherever there is trade, there is finance. Wherever there is trade, there is a need for a medium of exchange, just as there is a need to store this medium of exchange and/or convert it into other forms of assets. It is no surprise that Massachusetts was one of the first states to establish a bank, issue its own colonial mint, and to circulate paper currency (Shultz and Caine, 1937.) Where there is trade, there is always bargaining, as there is the risk of falling prey to dishonest conduct. Honed by the ways of trade, Boston's merchants were definitely more "street-smart" than the simple folks living in the agrarian states. Children of these sharp men of commerce were likely to be raised and taught in such a manner that they too became more shrewd than their contemporaries.

Furthermore, the early accumulation of capital in Boston, as well as New York and Philadelphia, sowed the seeds of financial development and capital-market formation. During the early years, most private fortunes were not liquid investments but of property. Start-up capital for commercial or industrial ventures through accumulations from individual frugality. Later during the eighteenth century, corporations over the nation started to tap the growing pool of liquid capital, inducing the early formation of capital markets in Philadelphia, New York, and Boston. (Shultz and Caine, 1937).

By the late nineteenth century, 218 of the 277 bankers and brokers in New England were domiciled in Boston. They mostly belonged to what we know as security houses today. Some of these security houses have been in operation since 1850s, but most of them started in 1870s. Examples of such security houses are Lee, Higginson & Company, and Peabody & Company. Several commercial banks were also partaking in underwriting activities as well, and these include Old Colony Trust Co. (Federal Reserve Bank of Boston, 1973). This shows that Boston has had a long exposure to the world of finance and hint at its level of sophistication.

Savvy and a tradition in trade and finance are Boston's advantages over other states that were traditionally agrarian (e.g., California). Once the comparison is struck between Boston and New York City, however, the two cities seemed tied in their scores for these two factors. Furthermore, since the first mutual fund was launched in 1924 in Boston, a time when New York has already dominated as the nation's financial centre, it is interesting to ponder why the mutual fund industry did not shift or form a cluster there instead. New York already has a cluster of financial services industry which would ideologically be conducive to the development of the cluster of mutual fund industry. But the mutual fund industry persisted in its place of origin instead [Figure 7]. New Yorkers, by any measure, were no less savvy than the

**Figure 7: Clusters in Boston and New York City**



*Source: Fortune, 1996; Porter, 1990 & 1992.*

Bostonians. In terms of wealth, New York was no less endowed than Boston. Boston had the Forbes, the Cabots, and the Higginsons; New York had the Vanderbilts, the Goulds, and the Morgans. Nevertheless, a closer scrutiny of the mutual fund management business would shed some light on this enigma.

*A tradition in money management.* Boston has had a long history in money management and preservation of wealth. It is the first place where the concept of institutionalized trust management was conceived. Bostonian institutions have the reputation of knowing how to manage money for others, and do it well. Mutual funds were borne of the traditional concept of trusts. As such, they traditionally require a more conservative approach than the usual stock market investment. On the other hand, the speculative spirit of Wall Street did not agree with the early principles of a mutual fund industry. The flamboyant ways of New York were too risky. Wall Street was oft associated with risky acts like financial pyramiding (a game of gaining maximum control over a certain company with minimum cash., through holding companies) and “watering down of stocks” (diluting the value of a stock) (Allen, 1935).

Before the existence of trust institutions, Bostonians often put the care of their money in the hands of others. Travelling sea captains and traders might have a successful merchant manage their investments for them; a wealthy man might, in his will, put his estate in his trusted friend’s care on behalf of his less enterprising beneficiaries. In the first half of the nineteenth century, an attempt to raise sufficient funds for Massachusetts General Hospital led to the institutionalization of trusteeship (Adams, 1977). The main idea behind a trust was to provide a safe and steady income for its beneficiary without dipping into the principal amount. The investments made with the entrusted funds were very conservative, since the aim was safe and steady, and keeping “always in view the safety of the Capital, rather than the greatness of the income.” This was particularly appealing to the rich. Not only was the fee on income less than generally charged by private trustees, but by turning funds over to an institution rather than an individual, they were able to secure the kind of long-term perpetuity so desired in planning for the welfare of their unborn descendants (Adams, 1977).

The mutual fund management industry has also received a historical boost from the demand-side of the equation -- the demand for trusts and trust-like investment instruments. The creation of wealth in Boston was tremendous. Boston had garnered huge rewards first as a tradeport, then from the textile business and later, railways (Adams, 1977). Given its early start, Boston was the first American city to offer a considerable number of its citizens the chance to grow rich (Adams, 1977). Similarly, it was also the first to become preoccupied with conserving the large amounts of money that its people had made. Wealthy men who doubted their sons’ mettle or worry that a good-for-nothing prodigy might squander the family wealth away, started

to squirrel away large amounts of Boston's wealth from productive enterprise into trusts (Adams, 1977). Here we see that, in the very beginning, home demand did help to kick-start the industry.

***The first in business.*** Another historical aspect to consider is simply being the place where the first mutual fund was established. There is always an intrigue associated with being the first, be it the first college in the US, the first man to land on the moon, or the first state to have a subway system or a mutual fund. In our awe and admiration for the cleverness and ingenuity behind the innovation, we have attached a certain value to being a groundbreaker or trailblazer. This is probably why pioneers always seem to have more prestige, legitimacy, credibility, and of course, reputation. As I have mentioned earlier, mutual fund investments involve people's savings. And the government does not provide the Federal Deposit Insurance Cover (FDIC) for mutual fund investment, as it does for savings banks. Therefore, prestige, legitimacy, credibility, and reputation are essential to making a mutual fund business successful. Such attractive features might also have been one of the forces that drew new management companies to locate in Boston, because they too want to share such a desirable image that only time and performance can buy.

As the groundbreaker of the mutual fund management industry, the Massachusetts Investors Trust was the one to bear the risks and uncertainties. Its success was proof that mutual fund business in Boston was a "tried and tested territory" and served as the seedbed for the growth of new companies. For example, Philip L. Carret, the founder of the Pioneer Fund, was a feature writer at Clarence Barron in 1924. He had overheard the conversations between his editor, Herb Cole, and Sherman Adams, who was seeking the former's opinion on starting a fund -- Massachusetts Investors Trust. Having paid closed attention to the discussions and tracked the progress of the Massachusetts Investors Trust, he ventured into the business of mutual funds in 1926 (Griffeth, 1995).

It was also the investment firms in Boston that were the first to jump onto the mutual fund bandwagon. This is probably because these firms' operations were the closest in nature to that of mutual fund management. Years of experience dealing with trusts was a springboard for Boston's financial sector to jump onto the mutual fund bandwagon. State Street already had most of the knowledge, skills, and organizational structures required to handle trusts. It did not have to go through a steep learning curve to adapt to mutual funds. It just needed some adjustments to accommodate the few new features that mutual funds differ from trusts. Also, they were located closest to the centre of activity and were therefore, in the best position to gather first-hand information or investor feedback about the business. Scudder, Stevens & Clark, an investment firm in Boston that has been in operation since 1919, launched its first fund in 1928, just four years after Massachusetts Investors Trust<sup>22</sup>.

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<sup>22</sup> Source: Scudder Investor Services, Inc. (Website)

Cromwell & Cabot's Boston money management arm organized Fidelity Shares in 1930. Edward C. Johnson II, who was the president of Fidelity Shares at that time, allowed the contract of the fund with its parent company to expire and created Fidelity Management & Research Company (FMR Corp.) to be its advisor.

Furthermore, it is not uncommon for fund managers to leave the company that they were working and strike it out on their own. The reasons are varied. For some, it is because they had a less than pleasant relationship with their colleagues. For some, it is because they felt that they have hit the glass ceiling in the management company. And there is a tendency for these people to remain in Boston. For example, Kenneth Heebner left Loomis Sayles, a major mutual fund management company in Boston, and founded the Capital Growth Management (CGM) in 1990 in Boston (Griffeth, 1995). As companies beget companies, the pioneers have served as an incubator to spawn the growth of the mutual fund industry in Boston, to the extent that the city has become very specialized in the area, and eventually resulting in a mutual fund cluster in the very place the first fund was founded.

***Strength in numbers.*** The security and clout that an industry has just from being big is an attraction for new firms to locate in Boston, where there is already a larger "mass" of mutual fund activities. Having an early start in the mutual funds, the Boston mutual fund industry grows ahead of other competing states. And size matters. A new mutual fund management firm would probably choose to locate in Boston, where the industry is big, over a place like South Carolina, where the industry is significantly smaller than that in Boston. The bigger the industry, the better investors assume it to be; the better the business, the more attention it gets from the "suppliers" and other related concerns, and the higher the priorities given to it. It is a self-perpetuating phenomena. The reasons for this are simple.

First, higher concentration of firms engaged in the similar activities consolidates interests and reduces costs. Underwriters and brokers are likely to make Boston their first stop for their routine "dog and pony" shows because given the high concentration of mutual fund management companies, they would be able to present and sell their products more efficiently. So firms in Boston are likely to be the first to learn of the newest and best products or securities. Second, there is strength in numbers. Although firms usually do not agglomerate because they want to lobby for favours, but rather, it is rational to do so for it offers a sense of security. If there were large enough numbers, the government might have second-thoughts before imposing, say, a tax-increase on that particular industry, because it is wary of the magnitude of and the form that possible opposition to the policy might take. In this way, a large industry has clout and is capable of keeping certain unfavourable policies at bay. If, however, the government indeed, in its own folly, imposes some undesirable policies on the industry, or if there is some form of legislative improvement that the industry wants, there is enough leverage for the industry to lobby for their demands. For example, the

mutual fund industry managed to sway the Massachusetts state government to change the tax apportionment formula and switch to a destination test, and greatly reduce the industry's tax burden. This was because the industry accounts for a considerable share of the state's employment and wages. The threat to move their operational base to Rhode Island would have meant a huge loss of tax revenues for the Massachusetts government<sup>23</sup>.

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<sup>23</sup> Interview with Robert Tannenwald, Senior Economist at Boston Federal Bank of Reserve.



## CHAPTER VI CONCLUSION

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Porter's "cluster" theory is quite appropriate to apply to the mutual fund industry. First, as an answer to a question that I have raised earlier on, although the model is able to explain the factors behind industrial agglomeration and clustering, I feel that it services the purpose of identifying regional competitive advantages and disadvantages of clusters better (for which it was built initially).

Nonetheless, it still provides a systematic analytical guide as to how one might bisect and examine the financial services industry (I am extrapolating from "mutual fund industry"), which is a very different beast from the manufacturing industry. This is because the products are metaphysical and can take on almost infinite forms; through financial alchemy, new and innovative products are created via different combinations and permutations of both primary (e.g., stocks, bonds) and secondary (derivatives, which are themselves assembled from the primary financial products) products. The linkages and contractual relationship among different sub-sectors of the financial services industry would be a nightmare to ramify without the help of the "cluster" model.

By constraining the "demand conditions" to home buyer demand, the theory failed to account for the non-regional characteristics of customers of export-oriented financial products. For a sub-sector like mutual funds industry, or brokerage industry, which is more export-oriented, it is not too clear how home demand conditions would influence or boost the competitive advantage of the mutual fund industry. With the advanced information technology, the borders and regional constraints that segregates the customer base are not entirely obvious. But for other sectors of the financial services industry, like consumer banking, home demand conditions might have a more perceptible effect on stimulating the banking sector to respond to local consumer needs, innovate, and lead the market. Nonetheless, this shows that the cluster theory is not without flaws when applied to the financial services industry.

To account for export-oriented financial sub-sectors' markets, I would suggest that they are determined by investor-type/investment purposes instead. Different products carry with it different characteristics. In this case, the mutual fund is traditionally a more conservative form of investment, although is taking on more varied forms and different degrees of risk tolerance. By identifying such properties, rather than just home demand conditions, one would be able to identify the type of investors/customers the product is targeting. This then serves as a guide to examine the "style" of investment that a place is associated with (i.e., high risk/high return, or conservative, or "middle-of-the-road"). This probably explained why the mutual fund

industry did not grow quite as big in New York City, which is the nation's financial hub, as it did in Boston.

Financial services depend a lot on credibility, trust, prestige, and reputation to succeed. And such properties may only be built over time. Therefore, I propose that the model would be able to explain financial services agglomeration better if the factor history and chance were added as an element within the diamond, or each element were analysed in a historical fashion. The importance of credibility and reputation is due to the fact that these products do not have FDIC-coverage, and they invariably involve investor capital.

Second, do we really need the cluster to compete? It depends on the industrial structure. For an industry like the mutual fund industry, which is very top-heavy (the two largest regional concentrations -- Boston and New York City -- already accounts for almost half of the total net assets held), a cluster is definitely a must. For other industries that are not this extreme, I would suggest that it is not a must for industrial competitiveness. There are several degree of competitiveness. Clusters are associated with the cutting-edge type of competitiveness. But there is also the mediocre type of competitiveness. For this, whether a cluster is required for competitiveness, I would say it depends on the structure of the industry.

Third, the importance of history in the development of the financial services industry suggests serious rethinking of Porter's (1990) argument creation of a cluster is possible. Porter (1990) advanced that by removing obstacles and constraints to productivity growth through correct implementation of policies, the government can create a diamond of competitiveness, as well as a cluster. But does that mean the government is helpless if its region does not have the rich historical past in trade and finance? Apparently not.

Finally, we come to the policy implications of this study. Although it is unlikely that governments can just emulate and create an existing cluster (of similar configuration/composition of industries in a cluster located in another region), governments can create new types of clusters. The point is to observe industrial development trends. The financial services industry today is showing a trend towards financial mergers (e.g., Chase and Traveler's Group) and eventual one-stop shopping type of financial centres. As such trends unfold, some imbalance in the system would give rise to some form of unsatisfied customer needs and demands. A government that wants to carve out a "cluster-niche" should therefore be always alert and anticipatory to the changes around it. This implies that the government should start by investing in basic factors of production, as well as certain advanced factors of production. This would provide the supporting base on which it can strengthen its advanced factors of production. With today's technological advancement and quick pace of change, today's advanced or specialized factors of production would be

tomorrow's basic or generic inputs for competition. Only with the "groundwork" laid, can the government be nimble enough to pounce upon the opportunity when it comes and form a new form of "cluster". Not only would this grant it competitiveness, but it also gives the region the so-called "early-mover advantages".

Furthermore, the region can partake in what I call, technological leap-frogging. To catapult itself faster and further up the competitive advantage ladder, today's world allows for regions to buy technology and not have to endure the slow process of technological development from the very basics. But in order to remain competitive or become even more competitive, the government should, at the same time, invest in knowledge-creation (e.g., recruit more professors and lecturers from good universities, or form joint-ventures with these leading institutions to set up learning facilities at home), and invest more in Research & Development (R&D). All these actions are to improve the factors of production of the region.

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