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**Occasional Paper 177**

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# Reconstructing Corporate Business History Using Accounting Data

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June 2009



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CSSSC

Occasional Paper 177  
by Indrajit Mallick

**Publication**  
June, 2009

**Cover Design**  
Bit Blits Digital Workstation

**Published by**  
Centre for Studies in Social Sciences, Calcutta  
R-1, Baishnabghata-Patuli Township  
Kolkata-700 094.

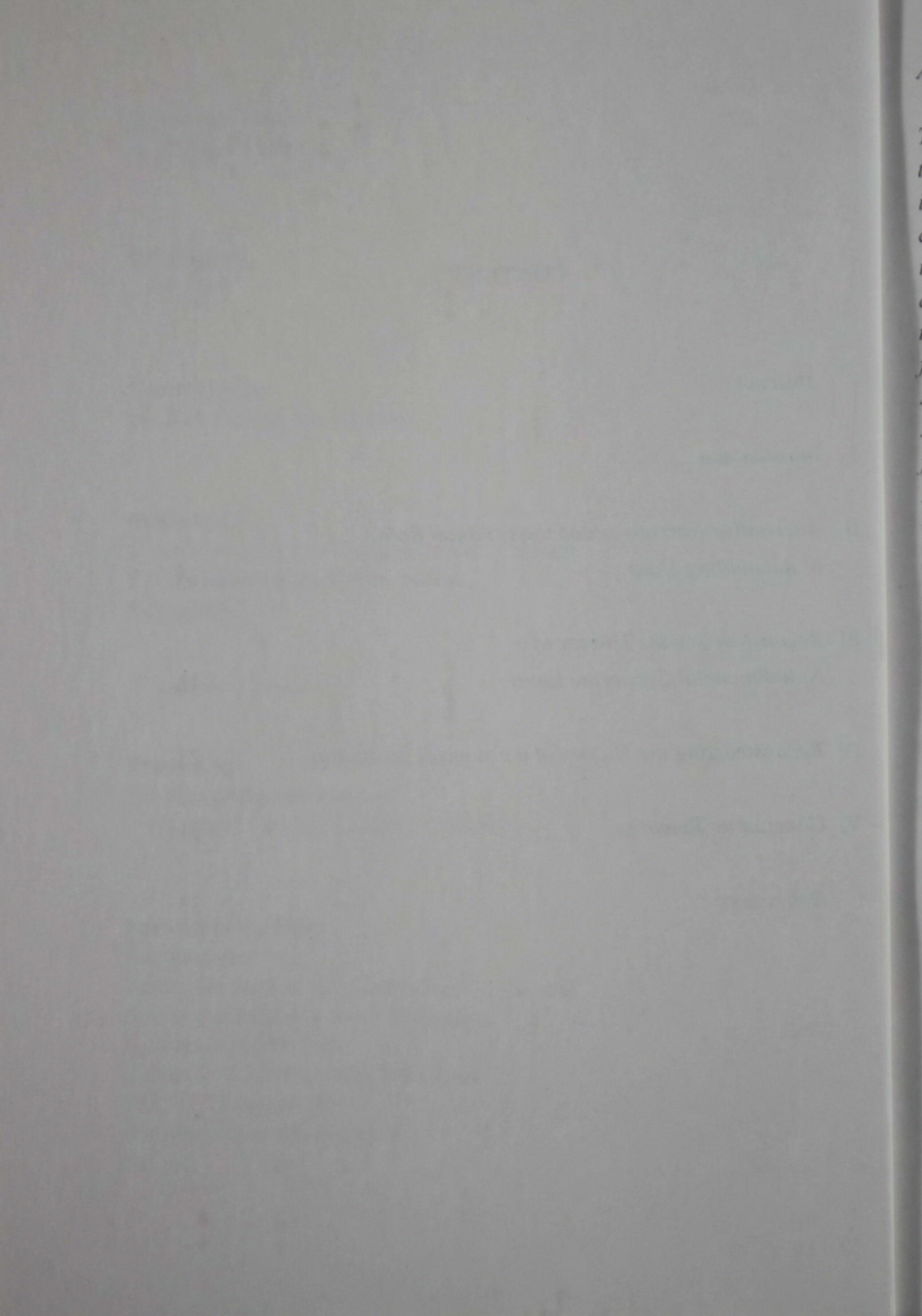
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**Printed by**  
Bit Blits Digital Workstation  
1/4, Gandhi Colony, Kolkata - 700 040

**For copies contact:**  
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Centre for Studies in Social Sciences, Calcutta  
R-1, Baishnabghata-Patuli Township  
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## CONTENT

<i>Abstract</i>	1
I <i>Introduction</i>	3
II <i>Alternative Narratives and the Essential Role of Accounting Data</i>	9
III <i>Reconstructing the History of a Non-Financial Corporate Entity</i>	18
IV <i>Reconstructing the History of a Financial Institution</i>	23
V. <i>Concluding Remarks</i>	31
<i>References</i>	33



## *Abstract*

*This paper attempts to outline a methodology for reconstructing the history of big enterprise. The problem is to construct an institutional narrative that captures the essential dynamics of corporate institution creation, institutional change, development into a large corporation and its maturity. It is argued that accounting data can be one of the most important inputs in this regard. However, accounting data is necessary but not sufficient for a complete account of the history of a large corporate enterprise. Similarly, other sources of information are necessary but not sufficient for the above purpose without accounting data. This paper focuses on the use of accounting data for reconstructing corporate history and also addresses partially how such data can be combined with other sources of information to provide a complete story. We delve briefly into the nature of accounting data and the structure of accounting record keeping. Reconstructing corporate history involves asking appropriate questions on financial structure, capital budgeting and investments, operations and strategy that accounting data reveal.*

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## 1. *Introduction*

Business enterprises are the engines of economic growth and development. Therefore, to understand the process of growth, one has to understand how businesses come into being, grow, operate under different economies of scale and scope, survive firm specific risks, industry specific risks, macroeconomic risks of structural transformation and ultimately how businesses perish from, adapt to, or change the economic landscape. While both big business and small business play an important role in growth of production and employment, our focus here will be on the big business for its significant role in boosting employment, output and income levels. This is not to deny the importance of small business enterprise, but rather, to acknowledge the relatively more important role of the big business in productivity augmented long term economic growth and in providing employment to those who cannot be profitable entrepreneurs. Of course, it will also be almost impossible to engage in the task of writing about big business and small business history together.

Big business, or the modern corporation, has been important since the last three centuries, thanks to the innovation of the concept of limited liability and the growth of the capital markets in important financial centres of the developed world. However, the growth of the large corporations and the world economy (particularly the US economy) started taking place in the second half of the 19th century with the triad of organization, technology and finance beginning to work in an unprecedented way. History of these corporations tell us about the real nature of the real relationship of organization, technology and finance and why they happened when they did in the developed world and why

corporate growth has been limited and sporadic in the developing and less developed countries. There are many important sources for learning and reconstructing corporate history such as diaries, biographies, minutes of board meetings, memos, newspaper and magazine reports. In this paper I shall argue how corporate history can be reconstructed using accounting data and how such a source of information is a necessary factor in the successful reconstruction of a corporate business history.

Neoclassical economic theory treated the firm as a technology of transforming some inputs into some outputs. The firm was essentially treated as a blackbox with what transactions happened inside seen as being unimportant. Over time, there has been significant developments in the theory of the firm. Knight (1921) focused on the entrepreneurial nature of the firm where decision making processes and discoveries of markets were determined under uncertainty. Coase (1937) took the concept of the firm seriously and developed his transactions costs theory which said that whatever could be made cheaper within the firm rather than the market would be characterizing and giving rise to the organizational nature of the firm. Penrose (1959) emphasized learning by doing, and point out that production which requires deliberate rational mental processes becomes routine freeing entrepreneurial and managerial capacity to search for different and new markets and activities. Alchian and Demsetz (1972) emphasized team production and the need for a monitor to prevent shirking. Jensen and Meckling (1976) highlighted the conception of the firm as "nexus" of contracts and argued that the real task lay in mitigating different agency costs accompanying principal-agent contracts. Williamson (1985) extended the notion of transaction costs to characterize modern capitalistic institutions as economizing on them with vertical integration of firms being the most important example. Recently, economists have investigated real versus formal authority in firms, communication methods and control, delegation of decision making, coordination, specialization and ownership of assets and the provision of incentives in a multilayered hierarchy. Management scientists



have traditionally studied the firm along behavioural lines focusing on motivation, cognitive aspects and culture and complemented them with studies on business processes and strategy. However, it has been increasingly becoming clear, that the understanding of large business in all its complexity, would require an interdisciplinary approach with special emphasis on dynamics explored through the tools of historical and theoretical research.

As Chandler (1977) and Milgrom and Roberts (1992) have described it, the modern business enterprise emerged when the transportation and communication revolution made possible the economies of scale in mass production and distribution. In response, each of the organizations growing into large scale made investments in production and distribution capacity and build up a management run hierarchy. There were investments made in management and finance which gave rise to large scale firms in other industries and a momentum of growth was generated for the large scale enterprises. The large corporation further strengthened itself through devising a suitable organizational structure and management hierarchy after World War I. As the authors point out, the modern large business enterprise is distinguished by two characteristics: one, in that it contains many distinct operating units and two, in that it is managed by a hierarchy of salaried executives or managers. Each operating unit within the modern multiunit business enterprise has its own administrative office and is administered by a full time salaried manager. Each unit has its books and accounts which can be audited separately and it could in principle run as an independent business organization. By virtue of bringing many such divisions or units under its control, the modern business enterprise could locate in different geographical areas, have multiple product lines and be functionally differentiated. To monitor and coordinate the activities of these different divisions, the firm needed to be designed as a complex hierarchy of management at each level. At the top level of management there was the problem of planning,

performance evaluation of units below, and allocation of resources for different divisions, at the middle level the management had to basically coordinate and monitor, while at the lowest level there was the task of supervision. This management structure reaped the best of both worlds: creating a decentralized structure enabled companies like Ford, Standard Oil, Du Pont and Sears to use local information to the advantage of the firm, while the organizational structure and management reporting enabled sufficient centralization.

According to Chandler (1977), the modern multiunit business enterprise replaced the small traditional enterprise when improvements in communication and transportation enabled the internalisation of the activities of the different units within the same firm led to some advantages of administrative coordination –“By routinizing the transactions between units, the costs of these transactions were lowered. By linking the administration of producing units with buying and distributing units, costs for information on markets and sources of supply were reduced. Of much greater significance, the internalisation of many units permitted the flow of goods from one unit to another to be administratively coordinated. More effective rescheduling of flows achieved a more intensive use of facilities and personnel employed in the processes of production and distribution and so increased productivity and reduced costs. In addition, administrative coordination provided a more certain cash flow and more rapid payment for services rendered.” (Chandler (1977)).

Chandler focused on management as the most important constituency in the modern capitalistic organization. The separation of ownership and control had resulted in permanence and power of the management hierarchy in an organization. In addition, the rise of managerial capitalism was made possible by replacing families and financial institutions or their representatives (practicing what was then a form of financial

capitalism) by management teams in firms and organizations. The resulting hierarchies became technical and professional – career concerns developed like climbing up corporate ladders and accumulating more authority and control. Along with all this, the progress in management science in universities and best practices emulated by firms in different industries transformed the management profession into a distinct occupational field. This also influenced the shaping of managerial conservatism in running firms: management teams started preferring policies that increased their tenure and advancement prospects in firms. Later on, as the market for corporate control developed, management became more tactical and aggressive. With the accumulated experience of the corporate world and progress in management science, it became clear that vision, mission, planning, culture, teamwork and coordination were extremely important in management. A farsighted policy could create a successful and gigantic enterprise with huge market power. Culture could make or break a firm. It became quite clear that the history of the firm was by and large the history of management and leadership.

But management, in order to function effectively, needs to record and access accounting data. Without such data, planning, evaluation, monitoring, coordinating and allocating (resources) become effectively impossible. The investors in the capital market need accounting data for monitoring firms and for investment purposes. Moreover, as will be argued in the next section, neither the accounts of entrepreneurial history of business, nor the socio-economic-political history of business and nor the structural and functional business history can give us exhaustively the essential insight into business history without weaving the thread of continuity and structure with accounting data. Therefore, in what follows, we shall be concerned about reconstructing corporate history primarily using accounting data. Theory tends to be essentially static or at best quasi-dynamic while the literature on business history described above tends to look for broad patterns and tends to aggregate information that

takes away the details of a single story worth telling for its representative and instrumental value. The problem then is to construct an institutional narrative that captures the essential dynamics of corporate institution creation, institutional change, development into a large corporation and its maturity. We shall investigate the nature of alternative narratives of business in the next section and reflect on the necessity of using accounting data. Section 3 and 4 discuss how institutional narratives can be constructed using accounting data. Section 5 concludes.

## *II. Alternative Narratives and the Essential Role of Accounting Data*

History of big business is usually written in three different ways. The first approach is to focus on the emergence of the entrepreneur who builds his empire by taking advantage of favourable business opportunities and by negotiating adversity through sound and innovative business practice. The second approach is to locate the emergence and continuity of big business within the context of broader social, cultural, economic and political history. The third approach is to write the history of big business as the evolution of strategy, structure, and scale and scope.

In American business history, some of the celebrated entrepreneurs are John D. Rockefeller, Andrew Carnegie, J. P. Morgan and Bill Gates. Each of them started from insignificant beginnings and rose to soaring heights. Rockefeller started as a bookkeeper in a commodities business house and by saving prudently, formed his own business which could eventually become an oil refinery company. He bought out competitors carefully and integrated forward into marketing and transportation of refined oil. He avoided laws against interstate integration by forming the Standard Oil Trust. However, his octopus organization came under attack from the public and the media for anticompetitive and monopoly practices and was eventually broken up into three dozen companies in 1911. Overall though, his business had a powerful influence on American corporate and economic growth. The story of Andrew Carnegie was also a rags to riches story. Starting as a poor Scottish immigrant, he helped build the powerful US steel industry through innovative business practices. While Rockefeller and Carnegie build up the backbone of US industry, they agreed that it was J.P. Morgan who financed the transformation. Morgan was the symbol of financial capitalism in America as he went on to finance and restructure railroads, finance the treasury, finance wars and merger and takeover deals. The story of Microsoft Corporation in recent times is also essentially an entrepreneurial history. It has transformed the world

of personal computers by providing computer languages and operating systems. While America was experiencing the transformation into an economy dominated by big business towards the end of the 19<sup>th</sup> century and the beginning, and middle of the 20<sup>th</sup>, other countries were having difficulties. There was no role for the big entrepreneur in socialist economies. In India the transformation took a long time due to lack of indigenous capital and technology and since the entrepreneurial spirit was stifled by the lack of an organized capital market and risk aversion of bankers in the pre-independence period and by the "licence raj" policy in the post independence period. The relative success or failure of business systems can thus be explained in terms of the incentives and advantages to entrepreneurs who could build up large business structures. However, the place of the entrepreneur, while a necessary condition to be incorporated into business history, does not provide a sufficient account of structure, functionality and causality. While entrepreneurial history often capture the fundamental dynamics of transformation of small into big business, it also misses three important aspects of business – fitting the smaller entrepreneurial story into a broader canvass of social history of business, the evolution of strategy and structure, and the dynamics of team production under management supervision.

In a masterly depiction, Ferguson (1998) recounts the history of the Rothschilds as a combination of social, cultural, political and economic history. The social history aspect focuses on the problems and aspiration of the Jews, particularly in the Frankfurt ghetto, that motivated some of the Jews like Mayor Amshel to rise above the social constraints using economic means. The cultural practice of enforced within-family marriages kept the family ties strong and secure, a necessary condition for preserving the essential unity and coherence of the overflung and loose partnership that the firm was through the decentralized operations in London, Frankfurt, Vienna, Paris and Naples. The political practices of helping governments in need to leverage a high bargaining power and

establish secure long-term relationships, of raising finance for war as well as peace, and of pre-empting important clients through ruthless business tactics, secured the growth and higher market share of the banking house. That the Rothschild's real eminence to financial power and glory was the product of the dislocations caused by the French Revolution and its aftermath also serves to illustrate that political history in the broad sense mattered a great deal. As an economic history, the rise of the Rothschilds can be traced to an elaborate network of communication and actions that arbitrated profit opportunities quickly until the rise of the telegraph, in diversifying well and offsetting idiosyncratic risks, and in specializing in underwriting and raising capital for governments. Later, in late 19th century and the 20th century, competition became more severe with some of the traditional advantages being neutralized, with the emergence of new competitors in railway building in Europe, and with New York replacing London as the financial capital of the world, a place where the Rothschilds did not have a great comparative advantage in banking. However, the closed ties with military financial complex ensured that the Rothschild House would remain the most formidable investment banker in Europe. In recounting this story, Ferguson has created an integrated and multidisciplinary approach to financial history, and has elegantly constructed a narrative rich in texture and successfully bringing about the nature of human interaction in business under varied conditions of risks and rewards. However, several issues remain un-addressed or only resolved partially. One is the sources and uses of funds: it is believed by some historians and the public that funds that came in were embezzled funds while others believe that the inflow of funds were legitimate and rewards of skilled, honest and scrupulous banking. The uses of funds picture could have made it clearer whether on balance the Rothschilds were financing war or peace over the long run and how the short term investment banking strategy of the family was related to the long term goals and policies. While a qualitative picture of the growth of funds and assets is made available by Ferguson, it is not clear how risky and liquid were the assets and to what extent fixed assets were growing relative to

current assets. On the cost side, the author presents little data from which one can ascertain the economies of scale and scope in investment banking. There is also little discussion on nature of the relationship between capital structure and governance of the partnership firm which could have illuminated how the governance of the firm evolved with the changing financial structure that altered relative payoffs and relative and contingent nature of control. Once again, a lack of attention towards the accounting data is the problem. Cliometricians would be interested in the question about whether the Rothschilds could at all have become a formidable investment banking house had the French revolution not taken place. But perhaps a more pertinent query would be that from a business historian about the actual and relative performance of the Rothschilds and the effect of financial structure of the firm on its growth.

Management scientists and business historians have focused on strategy and structure in their account of corporate history and evolution. Porter (1980) has identified five basic competitive forces created by different structural factors: bargaining power of buyers, bargaining power of suppliers, threat of potential entrants, threat of substitute products and competition from existing competitors. He has also identified three generic strategies: cost leadership, differentiation and focus. In his structural analysis of industries he has enumerated the dimensions of competitive strategy by discussing the different generic strategies in terms of their basic components and has defined the notion of strategic groups within an industry as the group of firms which follow the same strategy along the strategic dimensions. This enables the author to construct his comparative analysis and to argue why different performances of firms result within an industry. Porter analyses industry evolution in terms of these structural characteristics and strategies of firms. On the other hand, Chandler (1962) discusses how structure has followed strategy historically in the development of large industrial enterprise. The strategy of growth in volume of throughput and sales required an administrative office to handle one function in one local area. Geographical dispersion was another



growth strategy which necessitated a departmental structure and headquarters to administer local field units. Vertical integration or functional growth called for a control and coordinating structure through the central office and the different departments. Finally, growth through developing new product lines necessitated a multidivisional structure. Thus the strategy of growth revolutionized the method of business administration and marked the most important change in the history of large industrial enterprise. The most important sources of growth have been a tremendous increase in volume produced by large corporations by taking advantage of economies of scale and realizing the economies of scope to produce multiple products using the same set of inputs. Scale and scope economies in production and distribution made possible tremendous cost advantages and required enhancement of the capital-labour ratio and the maintenance of the optimal scale of production with respect to market demand and cost of production. This in turn required an efficient organizational structure and management oversight. Chandler (1990) depicts the growth of modern industrial enterprise in a way which makes it clear how the administrative structure of a firm and the scale and scope of its operations were integral to the way its business history was written: “..the initial step in the creation of the modern industrial enterprise was the investment in production facilities large enough to achieve the cost advantages of scale and scope. The second step, which often occurred simultaneously, was the investment in product-specific marketing, distributing and purchasing networks. The third and final step was the recruiting and organizing of the managers needed to supervise functional activities pertaining to the production and distribution of a product, to coordinate and monitor the flow of goods through the processes, and to allocate resources for future production and distribution on the basis of current performance and anticipated demand.”

The emphasis on the relationship between the structure of business administration and strategy, scale and scope has at the same time underscored the importance of accounting data. Chandler (1990) also

describes how accounting becomes important in the evolution of modern industrial enterprise from the late 19th century:

- managing an unprecedented large scale and scope of operations required a constant flow of information
- coordinating the multidivisional hierarchies require improved managerial communication which required in turn new accounting procedures
- the increased transfer of resources and commodities and services between different functional units
- keeping track of economies of scale and scope of operations through cost sheets (usage of the concept of over and under-absorbed burden with respect to optimal scale and for comparing the benefits of using intermediaries versus in-house distribution or purchasing or procuring or research)

In a similar vein, Johnson (1975) describes the nature of the centralized accounting system which emerged as a response to the increase in scale and scope, the multi-departmental organization, and the vertically integrated business enterprise of the late 19<sup>th</sup> and early 20<sup>th</sup> century. The Du Pont Powder Company was the leader in accounting innovations and Johnson describes how

- financial costing data were shared by the different decentralized mills of the company so that each mill superintendent could set targets to compete with the past performance of that mill and that of other competitors
- the centralized accounting system enabled the top management to control, coordinate and assess the horizontal flow of operations among the company's three main departments- sales, manufacturing and purchases (manufacturing and purchases were supplied with detailed data on buy versus make options and this in turn led to further vertical integration, the sales department was supplied with

the minimum prices and bonuses for sales growth above targets were made possible due to the use of historical price and demand data being continuously updated and analysed for trend growth and measures of deviation)

- for strategic planning purposes, financial forecasts could be made to enable the management to know to what extent internal and external financing were necessary and forthcoming for financing the growth of fixed assets and how investments were to be allocated in the face of competing alternatives

In particular, Johnson notes: "These remarks about the centralized accounting system employed by the Du Pont Powder Company indicate, I hope, that accounting historians can contribute significantly to the understanding of the development of big business. Accounting historians can very profitably examine the accounting procedures of firms which participated in the merger wave of 1897-1903 and were transformed from executing primarily only one activity, such as manufacturing, to integrating a number of operations. There are two major reasons for encouraging such an investigation. First, the inquiry would indicate how giant enterprises, vertically integrated, are able to function effectively. Many people in the early 1900s believed that large firms such as the Du Pont Powder Company would either topple from the weight of internal inefficiency or would abuse their market power and pass the costs of bureaucratic inefficiency onto the consumer. The record of the past seventy years has disproved this gloomy prediction. Giant enterprise is quite capable of efficient and acceptable behaviour. Accounting historians can explain in detail one possible cause of this efficiency. A second reason for the accounting historian's analysis is that, should he help to reveal why large firms operate effectively, he will ultimately provide valuable insight into the relationship between the growth of productivity in the American economy and innovations in the organization of big business."

Corporate history is replete with examples of importance of accounting data: the efficiency of corporate management and business administration has often depended on how systematically accounting data have been recorded and analysed by companies. General Motors suffered huge losses for the failure to charge to divisions for the cost of inventories that were accumulating in a weak market, while delegation with improved accounting information improved productivity in the same company later on. Problems of lack of cooperation at Salomon Brothers cropped up due to emphasis on individual rather than group evaluation and incentives. Not sharing accounting information by different divisions has hurt numerous corporates in their planning and operations. Capital markets have always reacted to accounting data by forming opinion on the future profitability and cash flows of large companies by using historical accounting data. Mergers and acquisitions in particular have always been driven by new information revealed in the capital market through accounting data. However, accounting data, while necessary for keeping close track of corporate histories, is not sufficient. The recent failure of Enron has underscored the need to keep close track of accounting data of firms but has seriously questioned the integrity of auditing firms and the transparency and disclosure process.

Accounting data recognizes that the activities of a corporate entity are characterized by finance, investment, operations and strategic planning. Therefore, when using accounting data, we have to ask questions accordingly. With respect to finance, the question to ask is the following: how did the corporations choose their capital structure initially and how did capital structure gradually evolve and stabilize? With respect to investment, one has to ask: how did the corporations make their capital budgeting decisions? How did they allocate scarce funds over competing investment plans? What was the consequence of the investment decisions? With respect to operations the questions are: how was operational efficiency managed? On what variables did the corporations optimise to

enhance operational efficiency? How did strategic planning coordinate the use of resources to meet the demands made by the present and future external environment on the internal organizational capabilities of the corporates? This is the appropriate question on strategy. As we shall see, securing answers to these questions can go a long way in tracing corporate history.

Accounting data provides a structural framework beneath which lies incentives, habits, culture, leadership, group behaviour etc. To understand change in its direction, causality and dimension requires alternative sources of information. Diaries reveal entrepreneurial vision, biographies tell stories of the spirit of accumulation, minutes of meetings of corporates reveal disputes and settlements over controversial decisions, memos from the central office to divisions indicate the economizing routines of business and pattern of change preferred by top management from time to time, social history documents why particular business and behaviour became "culturally" important, newspaper and journal reports indicate the financial health of a company. All these sources of information are important and necessary for reconstructing business history, but just as accounting data is not sufficient for that purpose without them, so do these alternative sources of information fail to provide the sufficient account of corporate history. Without accounting data, there can be no story of opportunity cost of investment, financial health of the company, and the efficiency with which the company has run its operations. Without access to books of accounts there can be no indication of cash flow generated by the company, nor its sufficiency in terms of liquidity, solvency and profitability. Clearly then, accounting data and alternative sources of information about corporate business history need to be integrated. In this paper, the emphasis will be on accounting data with some indication about how different sources of information can be combined.

### III. *Reconstructing the History of a Non-Financial Corporate Entity*

A private limited company or an entrepreneurial company may exhibit good prospects and the potential can only be realized through a large scale financing of the firm. As the prospect of the company varies, so does the price of its share on the initial public offering. The initial public offering made through an investment bank is typically underpriced. Through this issue the large corporate organization is borne as a public limited company. The debt to equity ratio at this juncture indicates the solvency and rate of return on capital of the company. If the debt to equity ratio is too high then it induces high risk taking behaviour by the management of the company, if the ratio is moderate, then it gives the company the required degree of flexibility to operate. On the hand, a too low ratio of debt to equity tends to give rise to too much of discretion over cash flow and thereby to a waste of resources or to invite a takeover. When the company does poor or average in terms of initial investor expectation, it may be required to change the management team. With dispersed ownership and imperfect market for corporate control it is difficult to replace incumbent management than with concentrated ownership. When the company gets cash rich, it starts financing investment from internal resources which are less expensive than external resources. For a company doing well, the shareholders worry less about short term dividends since dividends in the future are high or capital gains are high in the short term. The story of finance is critical since only through securing finance on a large scale can a big business emerge and grow and the story of the capital structure is also important since choosing the "right" capital structure economizes on the cost of capital and secure the right incentives for management of a firm. In this context three costs of debt financing has to be mentioned. First, when equity holders control management, high levels of debt encourage excessive risk taking since when high returns accrue, the equity holders enjoy all the extra returns

while debtholders suffer part of the loss when bad outcomes occur. When a firm is having an operating loss together with high level of debt, it has to forego profitable investment because new and therefore junior creditors who can finance the investments will fear that part of their investment will be diverted to meet the demands of the senior creditors. Historically, this problem, known as the debt overhang problem, has been quite important. A third, and well known cost of debt is bankruptcy. Despite these costs, debt has been a prominent feature in the balance sheet of corporations because of its disciplining role: it avoids the dissipation of extra cash flow by forcing companies to return them to the capital market and come for extra financing to the capital market more frequently than if companies were building up retained earnings. The modern corporation has used various financial innovations like issuing stock rights, stock splits, warrants, options etc. to achieve the optimal financial structure of the firm and economize on the cost of capital. However, securing finance, though extremely important, acquires its complete significance if it is combined with right decisions about capital budgeting and investment, operations and strategy.

The corporations which decided to grow exponentially by increasing their market share in the products they offered increased their investment expenditure sharply. They build sophisticated and large factories and bought or resorted to homemade specialized equipments (thanks to vertical integration). Advanced assembly lines for making automobiles and R&D laboratories for making new drugs and chemical products were the icons of these new investments made. Due to increasing returns in many industries, the large scale investments and high levels of production ensured low unit costs and oligopolistic market structures. On the other hand, those corporations which failed to increase investment had low growth in fixed assets and could only have a marginal presence. The story of large and small scale investments could be deciphered from unit cost data supplied by the financial

statements. There was another advantage with scale: scale and scope economies went along well together and allowed multiproduct large corporations to flourish. Neither could they achieve significant scale economies. The corporations which made profitable investments in large scale projects over their course of history always had one thing in common: they set aside funds earmarked for depreciation, that is replacement of fixed assets, and they also set aside internal reserves to finance expansion.

Profit and Loss statements provide a good idea of operational efficiency on a continuing basis. Trend growth analysis of profits and detrending the growth path to identify the cyclical pattern could yield rich insights. Sources of revenue from different divisions or different product lines of a company give good indication about sources of growth and the relative profitability. However, the reports may not be true indications of profitability: one company reported in a court proceeding having underreported overhead costs to fend a takeover. Trend and event analysis reveals the persistence of revenues. Cost of sales analysis could also be informative, for example it could tell which items of expenditure like advertisements, delivery etc. were disproportionately high relative to revenue and to other product lines. Finally, break-even analysis reveals the minimum scale of operations. Liquidity management is another aspect of operations which is important since having sufficient liquidity enables the company to invest quickly when investment opportunities arise. Otherwise the company may have to forego profitable opportunity. If liquidity is low then the company is in financial distress and may have to resort to fire sales of assets. For extremely low level of liquidity a corporation may turn insolvent and declare bankruptcy. Liquidity is captured by the current ratio (the ratio of current assets to current liabilities), the turnover rate of inventories, the average payback period of receivables etc.

Strategy can be defined as inter-temporal and cross-sectional allocation of resources to maximize the present discounted value of



the assets of the firm under uncertainty. Besides the allocation of resources, it involves coordination, planning and appraisal. Strategy can be of the following types: (a) diversification (in terms of products and / or geographic expansion and / or client type served) (b) focus on specialized areas (c) vertical integration (d) present versus future oriented growth. If the discount rate is chosen to be fairly high then it implies a proportionately higher growth rate of fixed assets with cash flow patterns that are end-loaded rather than front-loaded. On the other hand, if the discounting factor is much below unity, then current assets would dominate the assets portfolio and cash flow pattern would be front-loaded. Balance sheets would reflect these different strategies and enable the business historian to identify the comparative advantage of the firm. Price leadership through reduction of cost is a popular strategy to increase market share and mergers or takeovers frequently occur to achieve such cost reduction. To identify costs properly the volume must be defined appropriately (like ton per kilometre in case of railway wagons) and costs must be assigned properly. Transfer pricing data can also be used for this purpose though it is susceptible to contamination by different sections of management. The bottomline is growth of fixed assets at a reasonable cost and with a high return. It involves a single-minded dedication of management team to growth and profitability, but more importantly it involves having a vision and mission as to how that growth is to be achieved in terms of market strategy and organizational strategy. The vision maybe to grow through financial innovations and mergers and takeovers, or selling some of the business units and focusing on core areas, or sacrificing short term profits for long term growth: accounting data and financial statements capture all of these.

Note that the short sketch above enables us to think of corporate financing history in terms of how debt and equity were contracted over time, how capital budgeting decisions were made, how operations were conducted and what strategy was chosen. It does not undermine

potential stories about the entrepreneurial process, story of the management leadership in the growth of the firm, the story of labour and organized unions, how the management hierarchy in the firm operated, how effective was the organizational structure, the investment banker- entrepreneur relationship, corporate governance through the board of directors or the social history of capital market formation. Rather, these separate sources of information should be integrated in the complete account of the history of financing the corporate entity. Archival studies of minutes of meetings and memos in large organizations can reveal how capital budgeting and allocation of resources were actually made and how different constituencies pressed for and opposed alternative plans with serious long term consequences. Diaries and biographies reveal the vision and mission of the leadership in management as well in labour. One can trace back the real motivations, incentives and aspiration which resulted in actual decisions and negotiations with ramifications on the corporate growth process.

#### IV. *Reconstructing the History of a Financial Institution*

Here, I shall focus on the history of a bank. The main financial indicators of a bank are the growth of deposits and advances over time, growth of non-interest expenses, interest expenses and interest earnings over time, profitability (total profit/total capital) of the bank, liquidity to deposit ratio, advance-deposit ratio, fixed deposit to total deposit ratio, investment to advances ratio, bill discounting to advances ratio, dividend rates, ratio of establishment costs to deposits, earnings and expenses. All these we can get from the balance sheet of the bank.

Typically, a bank starts as a capital rich entity which has participated in lucrative investment like domestic or international trade finance. It has own capital but has potential to grow at a pace which own capital alone cannot finance. Therefore, the banking entity is created which starts canvassing for deposits in a large scale. Another way a bank can start is as a regional small entity with limited amount of own capital and proficiency in financing local trade, agrobusiness and some small manufacturing or mining industry. It is clear that the second entity has a long way to go to become a large banking corporation, but some do make it big from such humble beginnings and the capital structure management has a lot to do with it. Usually the capital structure of bank beginning its long or short journey into the financial landscape of an economy has some equity of the controlling owner cum management, some equity raised in the local, regional or national capital market, some long term debt from the public and other term lending financial institutions and deposits. Deposits are cheap source of funds under financial regulation but they are a contingent liability – withdrawable on demand. Thus in order to grow cheaply the bank grows through deposits but has to make provision for sudden as well as regular withdrawal. As a bank grows in terms of deposits and advances, it becomes a vehicle for term transformation – conversion of liquid liabilities into illiquid assets. This becomes a major

source of risk and the prudent bank raises more capital and sets aside more reserves to meet this increasing liquidity risk. The not so prudent ones are not bothered to go for costly additional equity and instead tilts dangerously towards more deposits. A local financial panic or an economy wide recession increases the liquidity premium and suddenly people are converting deposits into cash in an unprecedented way. Many banks fail including some of the go alone prudent ones and typical the ones who survive are the ones who are prudent and with some amount of cooperation among themselves like interbank lending or mergers. In the aftermath of the crisis, the deposit to capital ratio has come down to ultrasafe levels such that the surviving banks begin to canvass for another round of deposits. In the meantime, the central bank has declared a lender of last resort policy, a policy of merging banks with weak financial structures and there is new regulatory agency which takes care of deposit insurance at a nominal premium. Confidence is revived, and our bank is encouraged to take a bit of a risk without feeling financial threatened. A new growth phase begins fuelled by increasing confidence in the financial institutions like commercial banks. The demand for capital is low and that for deposits high and the price of capital falls to a level where they start going for equity financing. However, this is limited by the concern not to dilute the equity and return of the existing shareholders. But financial risk can never be underestimated whether emanating from panics based on adverse signals about fundamentals or from beliefs which are only self fulfilling<sup>1</sup>. It is not only liquidity risk that can bring the downfall but also financial fraud and speculative investments made by a bank. No matter what, everything is eventually reflected in the balance sheet, cash flow statements and profits and loss statements like a mirror. A panicking banking regulator sets a high capital to asset ratio and the scramble for equity begins. Those who can ill afford are taken over by bigger banks.

On the assets side, there is cash in hand and in other banks, which are considered safe for banks but yield a low return. On the other hand,

advances generate higher yield but are riskier. There are, in the main, two types of advances: liquid and safe with moderate returns, and illiquid and risky with high returns. If the bank chooses the latter, it grows faster provided the long assets pay off. investments in market securities like government bonds and loans and advances to non-financial business. Investments made in liquid marketable securities One measure of credit risk exposure is the ratio between bills receivable and the advances in the form of loans, cash credit and overdrafts. If the ratio of bill discounting to advances remains the same over time, then this implies that the growth of bills discounting and acceptance business is around the same as the rate of growth of advances, i.e. the bank has been keeping a balance between trade finance and industrial finance. The uncertainty of default can thus be countered by certainty of return in the bill business. The liquidity advantage from the bill business as opposed to illiquid industrial loans business can also be used as a buffer for liquidity shocks. Another important thing to be noticed here is that bank's excessive risk taking behaviour increases with the increase of deposits. Bank with less inside capital and more deposit generally invests its money in risky channel. This is because the higher the risk, the higher will be the return to compensate the risk while having limited liability for low payoffs. Since the large proportion of money employed by the bank is not its own it put all the money in risky assets to get higher return. The higher interest expenditure incurred by bank to meet the interest on deposits also drives the bank to do so.

Keeping a tolerably high advance to deposits ratio is a key requirement in commercial banking. If the deposit curve is increasing over time the bank is expending more on the interest expenditure and at the same time the bank is taking more risk too since the deposits can be withdrawn by the customers at any time leaving the bank in a crisis. When the deposit to loanable advances ratio is high due to high establishment costs in banking, the growth of advances become

constrained. The growth of advances also become limited when the bank on account of its inherent conservatism or due to prudential regulatory liquidity norms, exhibit a tendency to ration credit within and across groups of borrowers. Again if the fixed deposit to total deposits ratio is rising the situation implies that the bank is taking comparatively lower risk as the fixed deposits can't be withdrawn at any time. But at the same time it raises interest expenditure of the bank since bank has to pay comparatively higher interest rate on fixed deposit than on other deposits. Again if the advances are increasing over time the bank has been earning more interest income from those advances. The rising advances to deposits ratio shows that the bank is lending out more fund from whatever it has mobilized i.e. firm is behaving efficiently from an operational viewpoint. On the other hand a bank with falling advances to deposit ratio is a less efficient bank. If the advances for working capital are larger than the advances for fixed capital the liquidity situation of the bank is in better position. At the same time it signals lower interest earning than with respect to finance of long term projects. Over time, movement of the bank's total expenditure (which includes interest and non-interest expenditure) shows the expenditure side or the viability of the bank. If we get data on interest earnings and interest expenditures we can get a clear picture of the bank. Merely satisfying the high growth condition does not mean that the financial intermediary or the financial system it representing is efficiently discharging the process of allocation of resources under uncertainty. A necessary condition (though not sufficient) for this is profitability. It implies the creation of a surplus that can be used to augment the financial and economic growth process further. However, profitability derived from a monopoly or monopolistic position that a bank has does not imply increase in efficiency. So a sufficient condition for profitability to be an efficient signal is the competitive market structure. The other signals of efficiency in banking industry are liquidity provision, term transformation, risk sharing and risk management. However, the provision of these services and functions are intimately connected with profitability.

The ratio of total profit to total capital is a measure of profitability of the bank though cash flows are the actual liquid profit since much of the profits are booked. The important fact here is that the banking profit is not just interest earnings excess of interest expenses, fixed costs are to be taken seriously in the balance sheet appraisal. Liquidity to deposit ratio shows the liquidity risk of the bank. A lower ratio signifies higher liquidity risk.

We can analyze the financial history of a hypothetical bank, say Bank X. It is seen from different balance sheets that both the deposits and advances are increasing over time and these are accompanied by the proportionate growth in capital. This signifies the good performance of the bank i.e. it is not taking undue risks. Most of the deposits are coming from personal loan. Though both the deposits and advances are growing the advances are growing more rapidly i.e. advance to deposit ratio is growing over time. This means the bank is in a secured position. However this did not increase the problem of liquidity of the bank since most of the advances were for short-term. But this resulted in low earning at the bank. The bank's access to financial innovation was limited and the fixed costs were high for several reasons. There were also high interests on deposit. These imply that the bank was earning comparatively lower profit. However, this does not mean that the bank's credit risk exposure is high since the ratio between bills receivable and advances in form of loans, cash credit and overdrafts is more or less stable. As a whole it can be said that the bank's position was more or less reasonable. Lower profit was countered by other factors like liquidity, lesser credit risk exposure etc. In contrast, consider the position of a bank Y which has grown faster: it has mainly grown by investing a greater proportion of its resources in illiquid assets, that is in financing long term risky but high return projects. For that purpose, it has had to set aside a higher proportion of reserves, but that has been countered by a high advances to deposits ratio. Also, it has aggressively moved in the market for corporate control, merging with

other banks or taking over other banks. With the growth of the economy and rising wealth of the consumers, it has made strategic forays into retail banking (apart from its established position in wholesale banking) and the problem of working capital management with respect to credit card receivables has been more than offset by the profitability of its operations. As it grows further it may sell its wholesale business altogether and focus exclusively on the retail business or it may engage in different types of asset management thus reaping the advantages of diversification. It should be noted that both the banks are big corporates but while one has kept on growing at a fast pace, the other has virtually stopped to grow beyond its established deposit base.

Strategy is the bridge between the organization and the external environment that maximizes the value of the bank assets. The fundamental function of a banking firm is to absorb, share and transfer risk while at the same time managing its risk exposure in the process of transforming liquid liabilities into illiquid assets and generating private media of circulation. The complexity of tasks when put together with oligopolistic markets and stakeholder satisfaction requirements, makes it imperative that a bank has a clearly defined strategy at any stage of its life. On the other hand, such a strategy has to take into account the resource constraints of the organization, specific capabilities and assets as well as the nature of the organizational networks and hierarchies. The determination of strategy requires cognitive and motivational effort from the top management. Sometimes the right strategy will not be selected since management has bounded vision and limited computational power while at other times management as a constituency will choose a strategy which is optimal for the management but not for the bank. These constitute the major transaction costs in strategy building. The fundamental tasks of a management team in an organization are the following: to have a clearly defined mission/vision, determine an optimal strategy with respect to that vision, and then implement that strategy through the right



organizational structure, correctly aligned incentives and corresponding business processes. A bank's management may have a vision of the future where the bank transits from a local player to a global player, another bank may choose to define a path for itself in terms of growing competence and profitability in certain core area of operations while still another may focus on a future as a strong micro-credit institution. Theory tells us that the perceived growth of the market for bank assets and liabilities, the risk preference and the discount rate of the management may affect the vision that a bank ultimately has, but there is more to it than just these variables: psychology of the seed capital provider and that of the existing shareholders can affect the vision, so can the perceived areas of comparative advantage and core competence, and the modes of imagining the future have the final say of course. Theory has still less to say on what should be the right vision of an organization in a given circumstance. This is particularly troubling since a faulty vision and mission can have a disastrous effect on an organization. If the variance of a bank's portfolio is relatively low while returns are significantly high, and the assets have high turnover in the market, then one can say that the bank has had a winning strategy. Of course, the story of how the winning strategy was selected was some prudent exercise in risk management at every step of operations, measuring risk, managing and transforming risk (through term transformation and risk transformation). Details of accounting data in banking like loans made, interest renegotiated, turnover frequency, default frequencies, debt to equity swaps, credit derivatives issued, loan commitments honoured, receivables managed, can all point out together towards a successful or a failed strategy.

Memos and minutes of meetings are extremely important sources of information when one is studying the history of a bank. Such sources of information indicate how operations were conducted and different sources of funds were continuously allocated and reallocated from less profitable and less growing areas to areas with high growth and high

profitability potential. Diaries and biographies of bankers and managers and labour leaders can shed light on how the bank was perceived from the point of view of different constituencies and what the growth of the bank meant to each of them. Perspectives of financial planning and risk management help us understand the parametric space within which strategy was negotiated.

## *V. Concluding Remarks*

Though analyzed and ready made financial statements are usually provided to the capital market, they are not sufficient for the purpose of the corporate business historian. The historian must also study the primitive books of accounts, namely the journals, the ledgers and form a view of how fixed capital growth came about incrementally through well planned policies and routines. In addition, he must always further analyze financial statements to gauge the solvency and liquidity of the firm along the path of its growth. Examining micro-accounting data and combining them with other sources of information can finally enable him to have an understanding of causality in business growth, of specific behavioral patterns in business that allowed better coordination by management, enabled strategic divisional teams to work more effectively, of how different cultural patterns become selfreinforcing and lead to growth or stagnation. Finally, using balance sheet and profit and loss data and cash flow data over long periods, the business historian can link market strategy to organizational structure such that the relation between strategy, scale and scope and structure becomes more transparent and revealing in understanding the dynamics of big business.

It is important to finish with some final words on the reliability of accounting data. In accounting, there is always some room for mancoverability and innovations. To some extent, it is widely recognized that there will be some "creative accounting". But excessive creative accounting can try to hide some real important data like actual losses, transfer pricing, management perks etc. Though they are so far rare, their occurrence can create large real and financial shakeouts which are completely unanticiapted. The recent events throughout world like the Enron and Satyam scandals are some examples. In this context the business historian needs to be even more vigilant when assessing accounting data and needs to find method of cross checking and

verification with company transaction records at the microlevel so that the true financial picture emerges. An important step in this regard is not only to check the primitive books of accounts but also to be aware of the incentives to misrepresent true data. A company management can engage in misrepresentation of the data to reduce the burden of taxation or to raise cheap capital or to increase the stock price thus benefiting the top management. Auditors can, in principle, detect the various kinds of misrepresentations but it must be admitted that the incentives to honest auditing have to be there. One important incentive in relational contracting is reputation, but in auditing it works the other way: the more accomodative an auditor the greater the chance of getting future audit contracts. The other incentive which works in the socially desirable direction, is being penalized by the government regulator for violating standard audit rules and ethics. But there remains the chance of the regulator being kept in dark with refined misrepresentations or of the regulator being captured through bribes. Being aware of these incentives and their potential strengths enables the business historian to discount misrepresentations in data and look for additional indicators which give the true picture.

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**Acknowledgement:** I have benefited from stimulating conversations with Mr Prasanta Kumar Mallick and Mrs Mou Mukherjee. I remain responsible for all remaining errors and omissions.

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