Financing the Corporate Revolution

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Economists typically describe financial development in terms of the emergence and perfection of institutions that facilitate the flow of savings between surplus and deficit spending units. Deficit spenders are presumed to seek to acquire funds in excess of current revenues in order to finance additions to fixed or working capital. The primary impetus for the development of new financial institutions, instruments and practices, therefore, is presumed to derive from changing deficit financing requirements.

These assumptions play a central role in most historical accounts of the corporate revolution and the proliferation of corporate security issues during the late nineteenth century. That is to say, such developments are presumed to have resulted from an unsatisfied demand for cash to finance the establishment of additional productive capacity on the part of businesses organized as partnership or proprietorships. The innovation of new financial institutions - such as investment banks and the industrial securities market - is described in similar terms by most economists: to establish channels through which cash starved businesses could obtain funds to finance the accumulation of newly produced tangible assets.

The spread of consolidations during the late nineteenth century is also, although somewhat more controversially, perceived as having proceeded from the same set of considerations: an unsatisfied demand for money-capital to finance additional investment within consolidating industries. According to this view, the process of consolidation was identical to that of simple incorporation, although on a larger scale, and was undertaken so that securities could be created, sold for cash in the developing securities market, and the proceeds used to fund the accumulation of additional productive capacity among the consolidated firms.

There are, however, a small number of diverse accounts of the rise of incorporated big business and the development of America's financial structure during the late nineteenth century that are at odds with this conventional wisdom. These accounts suggest that incorporation among late nineteenth century American manufacturers stemmed from a desire on the part of their owners to "free themselves" from fixed investments that had

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[1]This essay is drawn from my dissertation, *The Evolution of Financial Practices and Financial Structures Among American Manufacturers, 1875-1905: Case Studies of the Sugar Refining and Meat Packing Industries*, written at the University of Tennessee, Knoxville under the supervision of Anne Mayhew.

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already been undertaken or to enable the consolidation of smaller, existing business properties within a single incorporated business unit. Such accounts assert that most securities issued during the corporate revolution and the two great merger waves of the late nineteenth century were exchanged, not for cash, but for partners or proprietors equity, for stock or trust certificates, or for tangible assets already in existence. If such presumptions are true then the connection is broken between incorporation, consolidation, the issue and sale of stock, and a desire on the part of businesses to obtain funds in order to finance the establishment of additional productive capacity.

But it still remains unclear precisely how large, incorporated manufacturing concerns financed their activities - and how the financial practices of such firms differed from those used earlier - if incorporation did not play the role in financial development that has typically been attributed to it. It is also uncertain precisely what function corporate securities served to the issuing firm. It is to these two questions that my dissertation is addressed.

My approach has been to describe and interpret the financial development of two industries: meat packing and sugar refining. Each grew rapidly during the last quarter of the nineteenth century, each originally consisted solely of firms organized as partnerships or proprietorships, each soon came to be dominated by one or more very large incorporated businesses, each underwent profound organizational or technological change during the period, and each experienced dramatic increases in the level of invested capital employed in its largest firms. Yet, even after the major meat packing and sugar refining firms had incorporated and/or undergone vertical or horizontal consolidation, they continued to rely heavily on the financial techniques and institutions that were already well established during the earliest period of their development. The new, increasingly sophisticated financial practices that accompanied their incorporation and subsequent growth did not derive from an unsatisfied demand for funds to finance additional real investment. The development and increased use of new types of securities, and the techniques that accompanied their creation and distribution, arose in response to an entirely different set of circumstances and were directed toward an entirely different end than financing the accumulation of additional productive capacity.

The industries that comprise my case studies were chosen in the hope that their financial histories would yield generalizations that would be applicable to a wide range of different manufacturing industries. The dominant firms in sugar refining grew by way of horizontal consolidation, whereas the largest firms in meat packing grew by way of vertical integration. One industry underwent a dramatic technological revolution (the advent of refrigeration) which greatly increased the likelihood that its financial facilities would be stressed by the need to invest "all at once" in new, capital intensive production and distribution facilities. The other underwent more gradual technological change. Furthermore, each made extensive use of the mass production techniques that characterized most large American manufacturers of the period. These shared characteristics suggest that their financial histories may be relevant to a wide range of manufacturing industries that underwent horizontal consolidation or vertical integration during the late nineteenth century.

The technologies that enabled mass production, insofar as they are believed to have been highly fixed-capital intensive, are commonly thought to have greatly increased deficit financing requirements within industries that were able to incorporate them into their manufacturing processes. The importance of such technologies for financial history, however, derives not from the difficulty faced by manufacturers in financing their incorporation into a particular manufacturing facility, but rather from the organizational response - horizontal and vertical integration - induced by such technologies, and the complementary way in which financial practices and structures changed to accommodate this phenomenon.

During the early period of their growth most firms in both industries were highly reliant on various types of short term credit. Firms generally seek short term credits from suppliers, commercial banks and other financial institutions in order to increase their working capital. Therefore it is commonly supposed that the contribution of short term credit to the formation of fixed capital is negligible. Apart from instances in which commercial banks have departed from the rule of restricting themselves to the granting of short term credit, the view that short term credits aid solely in the accumulation of quick assets fails to consider the way in which short term credits are used to indirectly finance fixed investment. In industries with high rates of profit on a rapid turnover of a primarily borrowed working capital this contribution can be considerable.

The records of firms within the sugar refining and meat packing industries suggest that they relied on the personal resources of a small circle of owners to finance their early fixed capital expenditures supplemented by copious amounts of short-term credit. The new mass production, marketing and distribution techniques employed by the major firms within each industry enabled a greatly increased throughput and a quick turnover of working capital. The earnings that were generated on the rapid turnover of a primarily borrowed working capital were of sufficient quantity to finance a high rate of expansion of productive capacity and to supplement bank borrowings and other forms of short term credit in funding a similarly expanding base of working capital. None of the firms which comprise these case studies, with the exception of Swift & Co., relied to any significant extent on the issue or sale of stock and bonds to fund any aspect of their operations prior to 1890, and even they experienced no net infusions of cash from the sale of stock prior to 1890.

The techniques used by the major meat packing and sugar refining firms in actually funding their operations did not change appreciably during 1890-1905, even after the major firms in each industry had grown very large and a market for their long term securities had begun to take shape. Paradoxically, by 1902 nearly all had incorporated, issued stock and undergone either vertical or horizontal integration. If such firms were making extensive use of the new financial techniques enabled by incorporation and the developing investment market, yet had not undergone any significant change in the way in which they financed their operations, then the question remains: what role did incorporation, corporate securities and the securities market play in American industrial and financial development.

The evidence I have accumulated in attempting to answer this question has enabled me to describe the emergence of a completely new "type" of financial behavior among late nineteenth century American manufacturers. This new "type" of finance remained largely separate and distinct, yet coexistent with more traditional financial practices. The traditional financial methods consisted of the use of various types of short term credit for working capital, thus freeing the owners' equity for investment in fixed capital. The higher yield on equity made possible by these practices, coupled with the higher rate of turnover of working capital enabled by new mass production and distribution technologies, generated a sufficient volume of earnings to fund the maintenance and expansion of productive capacity and proportional increases in working capital. These financial techniques, which I call "tactical finance," were directed towards funding day-to-day operations, and appear to have sufficed for such purposes with little change through 1905.

The new financial methods consisted of the use of new business devices - such as the operating corporation, the subsidiary company, and the holding company - and the creation and exchange of various types of long-term securities in order to establish coordination between functionally related units within vertically integrated firms, or between firms in industries undergoing horizontal consolidation. Such techniques, which constitute an entirely different type of financial behavior than the methods of "tactical finance," I call "strategic finance." "Strategic finance" had little, if anything, to do with financing the establishment of new productive capacity, or funding any other aspect of the actual manufacture of physical objects.

One of the more important features of the transformation of the American economy during the "corporate revolution" of the late nineteenth century was the extension of the idea of property to encompass "intangible" assets, such as market power, functional synergy, and the exclusive possession of information. If one accepts this hypothesis, then the methods of "tactical finance" may be thought of as ways of funding the creation of new tangible assets, towards which conventional economic theory supposes all financial activity is directed. Conversely, "strategic finance" may be thought of as a way of funding the creation of intangible assets. Such assets are "created" whenever businesses combine with others to restrict competition, extend their scope into functionally complementary lines like marketing and distribution, or adopt any of the other cost reducing, revenue enhancing organizational innovations enabled by horizontal or vertical combination.

Modern, multi-unit and/or multi-function industrial corporations, with their securities and sophisticated financial practices, came into being when the use of finance to establish coordination and control permitted higher yields on equity than the use of finance to expand and improve capacity. The expansion of uncoordinated productive capacity could have been (and was) financed using the more traditional methods of "tactical finance." The industrial securities market took shape primarily as a result of the emergence and perfection of the techniques of "strategic finance." Moreover, the techniques of "strategic finance" were directed towards "solving" the problems of excess capacity, coordination of multi-function enterprises and the uncertainty of asset values in industries weakened by cutthroat competition, rather than financing the establishment of additional productive capacity. The industrial securities market, therefore, did not play a significant role in real capital accumulation during the late nineteenth century; its major role was in facilitating the coordination and control of already established productive capacity.