

Built for Success: Organizational Structure and the Great Divergence

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I. Introduction

One certainly cannot say that historians lack for ideas on what caused the East and West to diverge economically. These explanations range from the philosophical (Weber and Calvinism), to the practical (Pomeranz's "coal and colonies") and even the mundane (Mokyr's analysis of calorie intakes, for instance).¹ Yet, though the reasons for the divergence may differ greatly, the results have been much nearer to compliments than substitutes. By identifying key economic, political, and geographic differences between the East and West and tracing the resulting effects forward in time, historians have developed a rich understanding of the linkages between various social forces, much to the betterment of the discipline. Ultimately, the result has been less of a cacophony of scholarship, then a sort of un-orchestrated harmony. But, it would be remiss to claim that the value of this scholarship is limited to the narrow question of "East verses West". Indeed, one of the great benefits of this line of research has been the light it has shed on the questions of economic growth more generally. In looking for reasons the West outpaced the East (as of the 20th century, a 21st century scholar must caveat hastily), historians have been able to conceptualize the levers of economic growth much more broadly than our economist counterparts, and in so doing, offered a much richer explanation for development. Though examples abound, one recent example illustrates the point *par excellence*. In the recent completion of her magnum opus, Deidre McCloskey shows not only that the widening of social norms to allow others to "have a go" was important for the Great Divergence, but also that this lever (if you will) continues to be important even in the present.² And, though certainly many

¹ Weber, Max. "The Protestant Ethic and the Spirit of Capitalism." (1930), Pomeranz, Kenneth. *The Great Divergence: China, Europe, and the Making of the Modern World Economy*. Princeton University Press, 2009, And Kelly, Morgan, Joel Mokyr, and Cormac O'Grada. "Roots of the Industrial Revolution." UCD Centre For Economic Research Working Paper Series (2015).

² Though I am referencing her three-volume set "Bourgeois Values", she contextualizes her argument in the field here: McCloskey, Deirdre Nansen. "It was Ideas and Ideologies, not Interests or Institutions, which Changed in Northwestern Europe, 1600–1848." *Journal of Evolutionary Economics* 25, no. 1 (2015): 57-68.

would disagree with her conclusion, it would be difficult to claim that this type of research has been anything less than tremendously beneficial for the field.

Though much less ambitious in scope than McCloskey's three volumes, this small paper seeks to continue in the vein, looking to understand the role of organizational structure in the economic trajectories of the West and East. It is important here to be very clear on what is meant by organizational structure: by "organizational structure", I mean here what the sociologists Hannan and Freeman refer to as being "...[C]omposed of hierarchical layers of structural and strategic features that vary systematically in flexibility and responsiveness."³ In other words, I refer here to how authority was organized within the organization, formally and informally. I do not mean simply the "corporate" structure, or the importance of equity markets. On these points, Rosenberg and Birdzell have written an excellent volume that I seek only to add to here.⁴ The point of this enquiry is to understand what was gained or lost in the managerial structure of commercial firms in the East and West, and not in the capital structure. Additionally, I must unfortunately shrink the scope of this paper further to focus on China and Britain. Not only does this give the poor reader some respite from a smaller size, but in so doing allows me to compare the best of both respective worlds in respect to economic development before the "Great Divergence."⁵

II. History of the Corporation in Britain

³ Hannan, Michael T., and John Freeman. "Structural Inertia and Organizational Change." *American Sociological Review* (1984): 156.

⁴ Rosenberg, Nathan, and Birdzell LE Jr. *How the West Grew Rich: The Economic Transformation of the Industrial World*. Basic Books, 2008.

⁵ See Pomeranz, Kenneth. *The Great Divergence: China, Europe, and the Making of the Modern World Economy*. Princeton University Press, 2009.

For a western audience, it is helpful to begin at the beginning of commercial organization in the West, which for Britain was (as with seemingly all things) the Romans. Contrary to the sentiment in many business schools, the corporation did not begin with Apple, nor even with General Motors; even before even the 5th century, the Romans had anticipated the need for individuals to jointly own property in order to run a commercial enterprise and developed the concept of the “collegium” in their commercial code to do so.⁶ Though much less prominent than in our world today, Britain maintained this concept in its own legal code through the Dark Age and into the Medieval Age. Nonetheless, this is not to suggest the existence of some sort of medieval New York Stock Exchange; there were no equity markets, stock quotes, or *Citizen’s United* Super PACs. Rather, the purpose of the corporation until the 16th century was simply a legal means of individuals uniting for purely commercial purposes. As will be illustrated below, however, one must not attach too much weight to “simply”, however.

Despite the legal existence of the corporation, before the Great Divergence, England was a country of farmers. Though the corporate form existed, it was largely unused with the Limited Partnership the preferred form of commercial organization. The reason for this limited use was in large part due to the agrarian nature of Britain’s economy. Until the 16th century, large businesses were unheard of, and households, typically rural households, performed most of the economic activity. Thus, while the corporation existed, it was something of the medieval version of the unicorn.⁷

The concept of the corporation was greatly expanded in the 16th century, however, leading to a rapid rise in its popularity. With the creation of the chartered trading companies in

⁶See Rosenberg, Nathan, and Birdzell LE Jr. *How the West Grew Rich: The Economic Transformation of the Industrial World*. Basic Books, 2008.

⁷ A unicorn in the contemporary world means a venture-capital backed firm worth more than \$1 billion USD. They are quite rare, but certainly not non-existent, not unlike 13th century corporations.

the 16th century, citizens could become shareholders by buying equity in trading firms. This paved the way for equity markets, which became institutions unto themselves by the 19th century. Buying into trading companies became sound investment advice, as individuals from all walks of life became eligible (socially, though perhaps not financially) to buy-in.⁸ The first of the trading companies was the Muscovy Corporation, created in 1555 to trade with Russia. It would conduct long-distance trade with Russia profitably for nearly 100 years before closing its doors, and was widely considered to have been an extremely profitable investment. The success of this early venture spawned others, including the Eastland Company (1579), the Africa Company (1588), the Levant Company (1592), the East India Company (1600), and the Virginia Company (1606).⁹ The legal form of the corporation would continue to be modified and updated; ultimately, the chartered trading company gave way to the joint-stock company, which later became the corporation with us today.¹⁰

But one must ask why, after a thousand years, were changes to the make-up of the corporation required in the middle of the 16th century? The answer is that the chartered-trading company was the solution to a political puzzle for English (and Dutch) monarchs. While trade was being conducted successfully with New World, it was not terribly profitable and could not be done on a large scale before the chartered-trading company.¹¹ While partnerships were successful, they lacked sufficient capital to expand, requiring greater bureaucracy and buying power. Were the monarchs to simply let them continue, they risked their country being beaten in

⁸ Chaudhuri, Kirti N. *The English East India Company: The Study of an Early Joint-Stock Company 1600-1640*. Frank Cass & Co, 1965, 33.

⁹ Blackford, Mansel G. *The Rise of Modern Business in Great Britain, the United States, and Japan*. Univ of North Carolina Press, 1998, 22.

¹⁰ Note that as I am interested in the organization of authority within the firms, I do not place a great emphasis on the different types of corporations, e.g., the chartered-trading companies as compared to the joint-stock companies.

¹¹ Blackford, Mansel G. *The Rise of Modern Business in Great Britain, the United States, and Japan*. Univ of North Carolina Press, 1998, 53.

the international quest for world-trade domination.¹² England and the Netherlands were determined not to cede control of key trade ports and each feared that without further commercial capital, the other country might take the lead in trade and lock them out. The obvious solution was to grant one partnership a monopoly so that they could be guaranteed a profit and thereby garner the capital to grow quite large. Not surprisingly, English people were not keen on the idea of paying higher prices in the market to preserve the crown's image abroad, and therefore resisted calls for a monopoly. The chartered-trade company offered an elegant solution, however, in that it diversified the ownership base, thereby allowing theoretically everyone to be a member.¹³ To this end, the chartered-trading company was quite successful. As Irwin notes, though early voyages had struggle to break even (even assuming they made it back intact), the very first voyage of the East India Trading Company made a 95% profit.¹⁴ Within a short time, the ships would be bringing in over a million pounds of pepper alone into the London market.¹⁵

III. History of the Corporation in China

Across the globe, Chinese economic activity looked very similar to Britain before 1600, surprisingly so given the changes that unfolded shortly thereafter. China too had a vibrant market

¹² Irwin, Douglas A. "Mercantilism as Strategic Trade Policy: the Anglo-Dutch Rivalry for the East India Trade." *Journal of Political Economy* (1991): 1299.

¹³ Chaudhuri notes that there were classes of shares for a variety of groups, even orphans. Nonetheless, looking at the legislated buy-in prices, one can't help but speculate that few orphans were able to invest. Nonetheless, while likely not technically feasible, as a symbol of breaking social class boundaries, this was something of a progressive move forward. See Chaudhuri, Kirti N. *The English East India Company: The study of an early joint-stock company 1600-1640*. Frank Cass & Co, 1965.

¹⁴ Irwin, Douglas A. "Mercantilism as strategic trade policy: the Anglo-Dutch rivalry for the East India trade." *Journal of Political economy* (1991): 1299.

¹⁵ Chaudhuri, Kirti N. *The English East India Company: The Study of an Early Joint-Stock Company 1600-1640*. Frank Cass & Co, 1965, 151.

economy for staples like grain, produce and textiles since the first Common Era,¹⁶ and like Britain, the vast majority of its business was done in small firms.¹⁷ Despite the periodic turmoil of war, Chinese peasants continued to be the backbone of the economy throughout what for Europe was the Dark and Middle Ages. Though data is scarce in these years, it is clear that even as late as 1700 80% of China's farmland produced grain, and that the average size of a farm was only 5 acres.¹⁸ While these figures likely overstate the extent to which China was comprised of small farms during the pre-modern era,¹⁹ China's economic activity, much like Britain's, revolved around small family farms.²⁰ Land was even privatized, as it was the main basis of taxation, accounting for nearly three-quarters of the government's revenue during the period.²¹ Thus, circa 1500 both Britain and China were agrarian based economies comprised primarily of small, family businesses with limited reasons to scale.

In contrast, the political realm looked very different in China during the medieval period. While Europe ricocheted from one war to the next, China remained relatively stable from the onset of the Tang Dynasty in the 7th century.²² Tang emperors were able to achieve nearly absolute control, being largely insulated from internal wars and also from foreign competition.²³ Rather than rest on their laurels, however, the Tang and Song dynasties (circa 900-1200) sought

¹⁶ Brandt, Loren, Debin Ma, and Thomas G. Rawski. "From Divergence to Convergence: Reevaluating the history behind China's Economic Boom." *Journal of Economic Literature* 52, no. 1 (2014): 62.

¹⁷ Pomeranz, Kenneth. *The Great Divergence: China, Europe, and the Making of the Modern World Economy*. Princeton University Press, 2009, 164.

¹⁸ Brandt, Loren, Debin Ma, and Thomas G. Rawski. "From Divergence to Convergence: Reevaluating the history behind China's Economic Boom." *Journal of Economic Literature* 52, no. 1 (2014): 52.

¹⁹ China's population grew relatively rapidly during the time, meaning that the land per person ratio became small as the denominator grew.

²⁰ This is not to say that there weren't significant differences in the crops produced and the methods, only that the overall structure of commercial activity looked quite similar. For more details, see Morris, Ian. *Why the West Rules-for Now: The Patterns of History and what They Reveal about the Future*. Profile Books, 2010.

²¹ Brandt, Loren, Debin Ma, and Thomas G. Rawski. "From Divergence to Convergence: Reevaluating the history behind China's Economic Boom." *Journal of Economic Literature* 52, no. 1 (2014): 73.

²² *Ibid*, 48.

²³ *Ibid*, 48.

to build a strong government bureaucracy.²⁴ They did so by creating a relatively meritocratic class of scholar-administrators who governed each of China's 31 provinces.²⁵ Not only were these administrators selected on the basis of rigorous examinations (which, notably anyone could take regardless of class or birth), but new administrators were moved to a different province than the one in which they were born to prevent nepotism, under a law called "the rule of avoidance".²⁶ The importance of these administrators in China's economic development and organizational structures specifically is hard to overstate. The legacy of provincial rule by scholar-bureaucrats was immense, and its meritocratic image coupled with the tremendous authority bestowed on key individuals meant the bureaucrats became ensconced in virtually every aspect of the economy. While Westerners might be inclined to see economic activity as starting with citizens and only being mediated by government, Ming and Qing China were the reverse; citizens could only take part in economic activity specifically sanctioned by the government, all else was the emperor's domain. This would not change until 1904, when the Company Law was passed in China that effectively granted citizens the right to any economic activity not expressly regulated or prohibited by the emperor.²⁷ Thus, while China did have many market institutions, Chinese law carefully circumscribed them. The net effect was that government and economic activity in China were completely intertwined.

This resulted in significant differences in the legal form of commercial organizations. Unlike the corporate form that Britain inherited from the Romans, the Chinese did not have a means of individuals organizing strictly for commercial reasons. Nonetheless, they were not blind to the advantages of a division of labor and economies of scale, and therefore, began

²⁴ Ibid, 48.

²⁵ Ibid, 47-48.

²⁶ Ibid, 72.

²⁷ Faure, David. *China and Capitalism: A History of Business Enterprise in Modern China*. Vol. 1. Hong Kong University Press, 2006, 46-47.

creating what Faure translates as “trusts” in the 14th century to facilitate larger commercial operations. In a situation somewhat analogous to Britain’s political puzzle regarding the corporation, China’s ubiquitous bureaucracy meant that business and law were never truly distinct, and therefore, creating large-scale businesses meant developing a form that blended the two. This solution (which I also term trusts, to be consistent with Faure) was set up not as a company, but as a charity in the name of an ancient ancestor or god.²⁸ Being something of a forerunner to the stakeholder movement of late, the purpose of these trusts was ostensibly not profit, but rather a social good. To this end, they were formed with the ancient (i.e., deceased or deity) individual as the “owner”, but with a clear chain of command for administration comprised of the heads of local families.²⁹ Rather than keeping the residual of revenues minus costs, “profits” took the form of payments out of the firm based upon inheritance rights, with the residual going to the stated cause.³⁰

As the mission of the organizations were charitable, they were meant to last forever, and therefore, their revenue stream needed to do so as well. For this reason, to exist they would need to be recognized by the provincial bureaucracy and, conditional upon being recognized, would be granted a monopoly on economic activity in a region or industry, or both.³¹ With the bureaucratic blessing, they could be run effectively as one would think of a utility company in the U.S., generating a profit but carefully balancing that with the charter and obligations required by a close connection to government.

The trusts developed correspondingly very different management structures from a Western corporation. While British merchants also had a government charter and were

²⁸ Ibid, 38.

²⁹ Ibid, 38.

³⁰ Ibid, 38.

³¹ Brandt, Loren, Debin Ma, and Thomas G. Rawski. "From Divergence to Convergence: Reevaluating the history behind China's Economic Boom." *Journal of Economic Literature* 52, no. 1 (2014): 87.

responsible to shareholders, they were given a great deal of latitude in running the business.³² In China, however, the charitable charge coupled with the pervasive influence of government meant significantly less leeway. A “head merchant” was put in charge of the organization, and this person would have not just business powers but also legal ones, being able to fine and banish wayward underlings from the firm, and effectively, the industry.³³ Managers and owners were not distinct; families might come in and out of the organization as owners, however, those that owned the trust also worked as managers and overseers. This resulted in a pyramid structure in which the head-merchant was at the top, with managers, sub-managers and workers below him. But, the middle-level managers had significant leeway, being owners themselves. Thus, while great care was taken not to offend the head merchant, there was little effort to centralize and economize administrative procedures. At all nodes, decisions were made not based on expansion or productivity, but rather, based upon the preservation of the trust and respect for the inheritances.

The Chinese were even ahead of the British in developing the concept of shares. Using this quasi-religious and political structure, a share system was developed to parcel the responsibilities. During the Ming Dynasty, shares were developed which allowed families that wished to participate the lineages to purchase a position.³⁴ As Faure argues, however, rather than transforming the existing ownership structure into a more capitalistic framework, the shares effectively codified the existing one, simply demarcating who had been given positions in the lineages.³⁵

³² Guinnane, Timothy W., Ron Harris, and Naomi R. Lamoreaux. Contractual Freedom and the Evolution of Corporate Control in Britain, 1862 to 1929. No. w20481. National Bureau of Economic Research, 2014, 45.

³³ Brandt, Loren, Debin Ma, and Thomas G. Rawski. "From Divergence to Convergence: Reevaluating the history behind China's Economic Boom." *Journal of Economic Literature* 52, no. 1 (2014): 88.

³⁴ Faure, David. *China and Capitalism: A History of Business Enterprise in Modern China*. Vol. 1. Hong Kong University Press, 2006, 40.

³⁵ *Ibid*, 53.

China ultimately did create a commercial code allowing for the joint-stock company, but only in the late 19th century. Though evidence does suggest that trusts became increasingly less sacred over time,³⁶ corporations as defined by Western standards did not truly exist until the 1860s when Western firms began raising capital in China.³⁷ This occurred largely as a result of two forces. First, after the Opium War of 1839-1842, China was forced to accept a number of port treaties with Britain, which effectively weakened Chinese control over the legal system in ports with treaties.³⁸ This allowed British firms in and emboldened them to begin raising capital. Second, China might have been more concerned, but the Taiping Rebellion of 1850-1864 shook China's confidence in government, leading to the "Self-Strengthening Movement" which sought to raise capital for enterprise in order to raise taxes and bolster Chinese defenses.³⁹ As a result, British firms began raising capital in China, and in 1904, the Company Law was passed, giving citizens legal right to whatever commerce was not already regulated, and allowing for the joint-stock form.⁴⁰ This of course was not allowed to last very long, given the descent into communism in 1949.⁴¹ It would only be late in the 1970s before corporations could be formed again within China.

IV. Why did China Adopt the Corporation so Late?

While there does not yet seem to be a consensus on why China was so late to develop the corporate form, but it does seem clear that the political pressures which

³⁶ See Pomeranz, Kenneth. "" Traditional" Chinese Business Forms Revisited: Family, Firm, and Financing in the History of the Yutang Company of Jining, 1779-1956." *Late Imperial China* 18, no. 1 (1997): 1-38.

³⁷ Faure, David. *China and Capitalism: A History of Business Enterprise in Modern China*. Vol. 1. Hong Kong University Press, 2006, 49.

³⁸ Brandt, Loren, Debin Ma, and Thomas G. Rawski. "From Divergence to Convergence: Reevaluating the history behind China's Economic Boom." *Journal of Economic Literature* 52, no. 1 (2014): 96.

³⁹ *Ibid*, 98-99.

⁴⁰ Faure, David. *China and Capitalism: A History of Business Enterprise in Modern China*. Vol. 1. Hong Kong University Press, 2006, 46-47.

⁴¹ *Ibid*, 67.

necessitated the form in Britain did not exist in pre-industrial China. The joint-stock form does not appear to have been something that Western countries developed purely for the sake of innovation, but rather as a solution to the political puzzle of world trade competition. Economists have previously argued that competition between European countries drove innovation faster than it would otherwise have been, and the invention of the corporate form seems to be another domain in which this occurred.⁴² In this perspective, one can see two missing geopolitical forces that might have led China to develop the joint-stock form. First, China lacked an interest in international trading ports, and was therefore not under any pressure to develop a trading company that could outcompete other countries. Not only did this mean that China did not have the incentive to create a trade monopoly as Britain the Netherlands would have, but it also did not need to create a means of raising capital as these firms required. Instead, it relied on a small army of “junk traders” that could procure odd items abroad, which met the political needs of the emperor.⁴³ Second, and on a related point, the absolute control on the emperor on economic life obviated the need for the corporation as a means of pacifying the citizenry. Because the government controlled all economic life, business, law and religion were inextricably intertwined. Thus, the concept of impersonal business that was so critical to Western development did not have an analogue in this context. As a result, the corporation could not have made sense. This is a somewhat ironic point, given that the trust in China did not allow for personal ownership; one might have though that this would have made the salaried manager the de facto basis of the organization. The net effect was to bind

⁴² For additional instances, see: Hoffman, Philip T. "Why was it Europeans who Conquered the World?." *The Journal of Economic History* 72, no. 03 (2012): 601-633.

⁴³ Pomeranz, Kenneth. *The Great Divergence: China, Europe, and the Making of the Modern World Economy*. Princeton University Press, 2009, 171.

individuals to their positions, however, because the legal system meant that their legal and personal identity could not be divorced from the organization itself. As a result of these two factors, it becomes much more clear why the corporation did not appear in China.

V. importance of Organization Structure

As promised above, I now return to the question of the capital structure of Chinese firms. The claim of this paper is not that the capital structure was unimportant, but that it was not the only important aspect of the commercial organization of firms. Lest we attribute everything beneficial about Western organizational structure to equity markets, it is helpful to put capital (broadly) in its respective place. First, it must be noted that China was not without capital markets. In fact, contrary to popular imagination, the country now thought of as the last bastion of communism actually developed capital markets well before Britain.⁴⁴ This occurred in the 14th century when the Ming emperors needed to bring grain to soldiers garrisoned in Northern China but did not have the resources to purchase and transport the grain from the south. Ingeniously, the emperor decided to leverage its monopoly in salt production to resolve the problem. Thus, a policy was developed circa 1300 whereby a merchant willing to bring grain up to the northern border could exchange the amount of grain they brought for the ability to purchase and sell a set amount of salt. This right to buy salt (quite literally an option) could then be sold back in the various locals.⁴⁵ Second, the importance of capital is further bracketed by the limited use of equity capital at the onset of the Industrial Revolution. While certainly, large, well-funded corporations became synonymous with the industrialization toward the end of the

⁴⁴ Though certainly communism does not mean what it used to.

⁴⁵ Faure, David. *China and Capitalism: A History of Business Enterprise in Modern China*. Vol. 1. Hong Kong University Press, 2006, 22.

19th century, at the beginning of the 18th, these were relatively rare. It is worth quoting Pomeranz extensively here, as he makes the argument quite forcefully:⁴⁶

It is even harder to see why Sino-European differences in capital costs or business forms should have been decisive for early mechanized industry. Most technologies of the early Industrial Revolution were cheap. Early textile mills did not require much fixed capital and were easily financed by family firms. The British coal industry, which made possible the most important break with pre-industrial constraints, raised its capital almost entirely from families and local contacts until the mid to late nineteenth century. The corporate form was almost never used in these sectors of the early industrial economy.

Faure too makes a similar case that business in 1750 China would have looked much like businesses in Britain at the time, absent the corporate form.⁴⁷ China did in fact even have some large firms, employing several hundred employees in the fishing and lumber industries.⁴⁸ Thus, if it is to be argued that organizational structure was important, as this paper hopes to do, it cannot be because of the capital it raised, but because of the structure of the firm itself.

Given these conditions, what possible effect could the structure of the large-scale commercial form have had in contributing to the divergence of Britain and China? Here, I

⁴⁶ Pomeranz, Kenneth. *The Great Divergence: China, Europe, and the Making of the Modern World Economy*. Princeton University Press, 2009, 181.

⁴⁷ Faure, David. *China and Capitalism: A History of Business Enterprise in Modern China*. Vol. 1. Hong Kong University Press, 2006.

⁴⁸ Pomeranz, Kenneth. *The Great Divergence: China, Europe, and the Making of the Modern World Economy*. Princeton University Press, 2009, 164.

make a two-step argument. First, I argue that the differences in structure led to a difference in strategy, counter to Chandler's famous maxim. Second, I claim that this difference in strategy, or more generally, management, meant that Chinese firms were ill-equipped to scale once big-business did become required, thereby contributing to the divergence of the two countries.

The structure of Chinese firms dramatically affected their strategy. Chandler of course famously argued that "structure followed strategy", meaning that a firm's goals dictated how authority would be divided in the firm.⁴⁹ In this instance, however, the relationship was symbiotic; having a different organizational structure affected the strategy of the firm by changing the incentive structure. As a result, not only were Chinese firms less efficient (as discussed below), but more specifically, they lacked knowledge of critical business practices that became increasingly important during the 19th century. Thus, by not developing management in the 16th and 17th centuries, China was not equipped to compete in the 18th and 19th centuries.

For this to hold, however, one must of course be convinced that management as a skill and a profession was truly practiced in Britain during the 16th and 17th century. Here again, this paper runs foul of Chandler, who argued that management did not truly exist until 1850.⁵⁰ Yet, there are two strong reasons to suggest that management was truly born out of the chartered trading companies that began in the 16th and 17th centuries. First: the number of transactions completed by these corporations was tremendously large.⁵¹ In order to purchase sufficient amounts of the commodities and then to sell them abroad, the British

⁴⁹ Chandler, Alfred D. "Strategy and Structure: Chapters in the History of the American Industrial Enterprise." *MIT Press Books* (1969), 3.

⁵⁰ Chandler, Alfred. "The Visible Hand Cambridge." Massachusetts: Harvard (1977).

⁵¹ Carlos, Ann M., and Stephen Nicholas. "'Giants of an Earlier Capitalism': The Chartered Trading Companies as Modern Multinationals." *Business history review* 62, no. 03 (1988): 400.

firms were effectively conducting large-scale business in a manner that would not be seen in manufacturing until centuries later. Large-transaction volumes require organization to manage accounts and keep the business running. Without an orderly, well-managed system to keep track of expenditures, ship maintenance, revenue, salary, shareholder stakes, etc., bankruptcy would have been imminent. While one could run a small family business “on the back of an envelope”, this was not true of shipping companies with hundreds of people bringing in over one million pounds of pepper a year.⁵² Secondly, not unlike the railroads centuries later, the trading companies had to deal with significant information lags across long-distances.⁵³ Chandler, of course, famously argued that it was the tremendous expanse of distance that led railroads to truly development management, but, centuries earlier the same logic required the joint-stock trading companies to develop a strong communication network, the likes of which the business world had never seen before.⁵⁴ As ships would be out to sea for almost a year, planning had to be made for their voyage and contingencies developed to resolve problems that came up along the way.⁵⁵ Additionally, the chartered trading companies were required to leave people stationed in ports, but needed to communicate with them to monitor supply and demand across thousands of miles. Thus, communication chains were developed to improve their ability to share information

⁵² Chaudhuri, Kirti N. *The English East India Company: The study of an early joint-stock company 1600-1640*. Frank Cass & Co, 1965, 16.

⁵³ See Rönnbäck, Klas. "Transaction costs of early modern multinational enterprise: measuring the transatlantic information lag of the British Royal African Company and its successor, 1680–1818." *Business History* (2016): 1-17.

⁵⁴ One could argue that militarily this had existed since Genghis Kahn stormed across Asia. To date, however, business had not needed this type of communication. It is worth noting that Napoleon’s communication network was also thought to be innovative, but he would not cross the Alps for almost 250 years after the Muscovy corporation began trading with Russia.

⁵⁵ Chaudhuri, Kirti N. *The English East India Company: The study of an early joint-stock company 1600-1640*. Frank Cass & Co, 1965, 16.

internally. These two components strongly suggest that new managerial techniques were required to run the joint-stock companies.

This does raise the question, however, of how successfully the chartered trading companies “managed” their organizations. The arguments above suggest that management was required, but one could argue that requiring management does not equate to successfully having it, as many of us have experienced at some point in our professional careers.

Critically, however, the argument of this paper is not that Britain began to effectively manage firms immediately, but rather, that it began to build the institutions and skills required to do so at a much earlier stage than China. While undoubtedly the Muscovy Corporation was not a model of Six Sigma management in 1555, the problems it faced led Britain to begin developing managerial strategies and techniques to address the problems that surfaced. While these techniques were not critical in 1555, two hundred years later they would be, and Britain would be in a strong position to capitalize on them.

Specifically, Britain’s experience managing the chartered-trading companies led to the development of two institutions that dramatically improved its ability to manage commercial organizations. First, Britain developed significantly better accounting measures than China. While it would be untrue to say that China lacked any accounting (as noted above), accounting in China was essentially too little too late for the industrial revolution.⁵⁶ Chinese accounts did not provide a clear report on assets and liabilities or profits and losses, rather, they sought to clarify how much the “lineages” or “inheritances” would be each year. Thus, there were no balance sheets, historical figures or transparent

⁵⁶ Faure, David. *China and Capitalism: A History of Business Enterprise in Modern China*. Vol. 1. Hong Kong University Press, 2006, 36.

reports that investors would have required. In Britain, accounting became much more stringent with the creation of chartered-trading firms as investors required records and long-distance trade required organization. As a result, Britain became a world model for accounting standards, thereby allowing for relative ease of investment. As access to capital became more and more paramount, this ability to record transactions became increasingly important. Second, Britain's experience in joint-stock companies led it to develop managerial hierarchies, which formed the later basis for the organizational structure of the industrial giants later on. In order to be able to sustain the significant amount of trade being conducted, the chartered-trading companies were forced to grow massively in size. By the mid-18th century, British trading companies would employ over 350 head officers alone, which Carlos et al note was more than two-thirds of all British firms even as late as the mid-20th century.⁵⁷ One result of this increase in size was the creation of the salaried manager, thereafter a permanent fixture on the Western landscape.⁵⁸ This marked a huge change from previous employment measures as it meant that leadership of the company would no longer be tied to directly to ownership. These individuals were paid for performance, and thus, could be removed if they were not meeting expectations, something that cannot be done to an owner. The success of this position led it to form the basis for the foreman that became so ubiquitous in the factories of the industrial revolution.

Though limited, there is evidence that the productivity gap between China and Britain can be explained by the lack of managerial ability.⁵⁹ As employees have known

⁵⁷ Carlos, Ann M., and Stephen Nicholas. "'Giants of an Earlier Capitalism': The Chartered Trading Companies as Modern Multinationals." *Business History Review* 62, no. 03 (1988): 404.

⁵⁸ *Ibid*, 414.

⁵⁹ Ideally, one would compare the factories of one country with the factories of another and, holding capital and employees constant, compare outcomes. Data does not seem to be available to do this, however, and so one must triangulate the importance of organizational structure, as I attempt to do here. For a more general discussion, see:

since time memorial, and economists have proven recently, management is critical to organizational success.⁶⁰ Proving this in the context of 18th century China is difficult, however, due to the limited data. In agriculture, it is clear that China was much less productive than Britain. Allen, in comparing the grain outputs per acre of land shows that China began with higher productivity than Britain but did not improve while Britain did.⁶¹ Specifically, he finds that in the early 19th century Britain produced 60.9 pence of grain per day per acre of land, while China only produced 51.3. Broadberry and Gupta go further, using a Ricardian model of trade to show that China's productivity was lower for tradable goods generally.⁶² More direct evidence on the productivity of large commercial organizations can be seen, however, in the fact that Chinese textile firms in the late 19th century sought to learn how to be more productive from Japanese corporations. While China was exceptionally late to develop multinational corporations (not until the 20th century), by the late 19th century, Japan had already done so.⁶³ Consistent with the argument above (that the corporate structure led to better management), Japan's managers found their Chinese counterparts woefully inefficient, saying that "confusion reigned" in the Chinese mills.⁶⁴ Thus, while the data prevents as full a discussion on productivity as one would like, previous evidence collected is consistent with a picture of Chinese firms being inefficiently managed compared to their British counterparts.

Wilkins, Mira. "Efficiency and Management: A Comment on Gregory Clark's "Why Isn't the Whole World Developed?"" *The Journal of Economic History* 47, no. 04 (1987): 981-983.

⁶⁰ Bloom, Nicholas, Benn Eifert, Aprajit Mahajan, David McKenzie, and John Roberts. *Does Management Matter? Evidence from India*. No. w16658. National Bureau of Economic Research, 2011.

⁶¹ Allen, Robert C. "Agricultural Productivity and Rural Incomes in England and the Yangtze Delta, c. 1620–c. 1820." *The Economic History Review* 62, no. 3 (2009): 525-550.

⁶² Broadberry, Stephen, and Bishnupriya Gupta. "The Early Modern Great Divergence: Wages, Prices and Economic Development in Europe and Asia, 1500–1800." *The Economic History Review* 59, no. 1 (2006): 2-31.

⁶³ Wilkins, Mira. "Japanese Multinational Enterprise Before 1914." *Business History Review* 60, no. 02 (1986): 199-231.

⁶⁴ Kuwahara, Tetsuya. "The Business Strategy of Japanese Cotton Spinners: Overseas Operations 1890 to 1931." *Kyoto Sangyo University* (1982).

Beyond productivity, there is further evidence that Chinese economic activity was inhibited by the absence of a corporate form. There are two reasons to suggest this. First, accounts of Chinese business suggest that they were managed for stability, not growth. For instance, if one looks at Pomeranz's account of the Yutang Corporation,⁶⁵ one sees clear evidence of a preference for stability over growth. Over the firm's 200 year history, managers tended to manage it for their working lives, and to pursue the same strategy the entire time. Additionally, new managers were wont to pull out cash quickly, starving the firm of investment that would have allowed for growth. Alternatively, British firms under the joint-stock form were given substantial incentive to achieve as high of profits as possible, and, to a significant amount of leeway in doing so. This too fits with Faure's wider account of Chinese firms, which sees them as extremely conservative, looking to fulfill their religious and legal obligations in perpetuity, not necessarily looking to grow.⁶⁶ Secondly, there is evidence of pent up demand for capital by these firms once the market did open in the 1860s. Before 1895, not a single business had been valued at over 100,000 yuan. But, in under 10 years, over 85 would be started with that amount, suggesting that there was significant demand for large scale businesses that had not yet been met.⁶⁷ Additionally, allowing Chinese firms to raise capital mean that railroads could be built, the shortest of which required 2.6 million yuan to be built in 1904.⁶⁸ Thus, there is evidence that there was demand for a form of organizing distinct from the trusts much earlier in China.

⁶⁵ See Pomeranz, Kenneth. "'Traditional' Chinese Business Forms Revisited: Family, Firm, and Financing in the History of the Yutang Company of Jining, 1779-1956." *Late Imperial China* 18, no. 1 (1997): 1-38. Guinnane, Timothy W., Ron Harris, and Naomi R. Lamoreaux. Contractual Freedom and the Evolution of Corporate Control in Britain, 1862 to 1929. No. w20481. National Bureau of Economic Research, 2014, 45.

⁶⁶ Faure, David. *China and Capitalism: A History of Business Enterprise in Modern China*. Vol. 1. Hong Kong University Press, 2006, 38.

⁶⁷ *Ibid*, 60.

⁶⁸ *Ibid*, 60.

VI. Conclusion

While there are undoubtedly many factors that led to the divergence of Britain and China, the managerial capabilities developed from the organizational structure of chartered-trading firms seems to have played a meaningful role. In developing the ability to manage large groups of people across long distances, Britain gained a head start in building the tools of accounting and salaried managers that would become so important to the organization of industrial firms later. And, while data is limited, the evidence available is consistent with a picture of superior management in Britain leading to higher productivity, thereby furthering its economic growth.

References

Allen, Robert C. "Agricultural Productivity and Rural Incomes in England and the Yangtze Delta, c. 1620–c. 18201." *The Economic History Review* 62, no. 3 (2009): 525-550.

Blackford, Mansel G. *The Rise of Modern Business in Great Britain, the United States, and Japan*. Univ of North Carolina Press, 1998.

Bloom, Nicholas, Benn Eifert, Aprajit Mahajan, David McKenzie, and John Roberts. *Does Management Matter? Evidence from India*. No. w16658. National Bureau of Economic Research, 2011.

Brandt, Loren, and Xiaodong Zhu. "Redistribution in a Decentralized Economy: Growth and Inflation in China under Reform." *Journal of Political Economy* 108, no. 2 (2000): 422-439.

Brandt, Loren, Debin Ma, and Thomas G. Rawski. "From Divergence to Convergence: Reevaluating the history behind China's Economic Boom." *Journal of Economic Literature* 52, no. 1 (2014): 45-123.

Broadberry, Stephen, and Bishnupriya Gupta. "The Early Modern Great Divergence: Wages, Prices and Economic Development in Europe and Asia, 1500–18001." *The Economic History Review* 59, no. 1 (2006): 2-31.

Carlos, Ann M., and Stephen Nicholas. "'Giants of an Earlier Capitalism': The Chartered Trading Companies as Modern Multinationals." *Business history review* 62, no. 03 (1988): 398-419.

Chandler, Alfred D. *Strategy and Structure: Chapters in the History of the American Industrial Enterprise*. *MIT Press Books* (1969).

Chandler, Alfred. "The Visible Hand Cambridge." Massachusetts: Harvard (1977).

Chaudhuri, Kirti N. *The English East India Company: The study of an early joint-stock company 1600-1640*. Frank Cass & Co, 1965.

Faure, David. *China and Capitalism: A History of Business Enterprise in Modern China*. Vol. 1. Hong Kong University Press, 2006.

Gelderblom, Oscar, and Joost Jonker. "Completing a Financial Revolution: The Finance of the Dutch East India Trade and the Rise of the Amsterdam Capital Market, 1595–1612." *The Journal of Economic History* 64, no. 03 (2004): 641-672.

Guinnane, Timothy W., Ron Harris, and Naomi R. Lamoreaux. *Contractual Freedom and the Evolution of Corporate Control in Britain, 1862 to 1929*. No. w20481. National Bureau of Economic Research, 2014,

Guinnane, Timothy, Ron Harris, Naomi R. Lamoreaux, and Jean-Laurent Rosenthal. "Putting the Corporation in its Place." *Enterprise and Society* 8, no. 03 (2007): 687-729.

Hannan, Michael T., and John Freeman. "Structural Inertia and Organizational Change." *American Sociological Review* (1984): 149-164.

Hoffman, Philip T. "Why was it Europeans who Conquered the World?" *The Journal of Economic History* 72, no. 03 (2012): 601-633.

Irwin, Douglas A. "Mercantilism as Strategic Trade Policy: the Anglo-Dutch Rivalry for the East India Trade." *Journal of Political Economy* (1991): 1296-1314.

Kelly, Morgan, Joel Mokyr, and Cormac O'Grada. "Roots of the Industrial Revolution." UCD Centre For Economic Research Working Paper Series (2015).

Kuwahara, Tetsuya. "The Business Strategy of Japanese Cotton Spinners: Overseas Operations 1890 to 1931." *Kyoto Sangyo University* (1982).

McCloskey, Deirdre Nansen. "It was Ideas and Ideologies, not Interests or Institutions, which Changed in Northwestern Europe, 1600–1848." *Journal of Evolutionary Economics* 25, no. 1 (2015): 57-68.

Morris, Ian. *Why the West Rules-for Now: The Patterns of History and what They Reveal about the Future*. Profile Books, 2010.

Pomeranz, Kenneth. "'Traditional' Chinese Business Forms Revisited: Family, Firm, and Financing in the History of the Yutang Company of Jining, 1779-1956." *Late Imperial China* 18, no. 1 (1997): 1-38.

Pomeranz, Kenneth. *The Great Divergence: China, Europe, and the Making of the Modern World Economy*. Princeton University Press, 2009.

Pomeranz, Kenneth. *The Making of a Hinterland: State, Society, and Economy in inland North China, 1853-1937*. Univ of California Press, 1993.

Rönnbäck, Klas. "Transaction costs of early modern multinational enterprise: measuring the transatlantic information lag of the British Royal African Company and its successor, 1680–1818." *Business History* (2016): 1-17.

Rosenberg, Nathan, and Birdzell LE Jr. *How the West Grew Rich: The Economic Transformation of the Industrial World*. Basic Books, 2008.

Weber, Max. "The Protestant Ethic and the Spirit of Capitalism." (1930).

Wilkins, Mira. "Efficiency and Management: A Comment on Gregory Clark's "Why Isn't the Whole World Developed?"". *The Journal of Economic History* 47, no. 04 (1987): 981-983.

Wilkins, Mira. "Japanese Multinational Enterprise Before 1914." *Business History Review* 60, no. 02 (1986): 199-231.

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