



Global Titans: Early Corporate Development in India's Steel Industry and the Legacy of British Imperialism

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Global Titans: Early Corporate Development in India's Steel Industry
and the Legacy of British Imperialism

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Abstract

There is a surprisingly limited amount of research and information that focuses on the rise of India's indigenous steel industry while under colonial governance. There is even less that focuses on early corporate development. Yet, a clear picture begins to form when putting together pieces of the larger story that exists with the plethora of information available on colonial economic policy and the British railway projects.

India's steel industry is a remarkable feat that emerged from the grip of imperialism and has grown into a global leader in the field. Even more remarkable is the story and journey of Tata Steel and Iron (TISCO)—a private corporation founded during imperial rule that led the industry through two world wars and the end of the colonial era. The early corporate development within TISCO shows how this company—and by extension the steel industry at large—was able to emerge as an independent entity and, eventually, grow into a global titan.

Dedication

to my dad and anil uncle,

thank you.

Acknowledgments

Keep away from people
who try to belittle your ambitions.
Small people always do that,
but the really great make you feel
that you, too, can be great.

—Mark Twain

Thank you to my mother, Nidhi, and Nakul and Sareena for your constant support and for celebrating every small accomplishment on this journey.

Thank you to my friends and family near and far.

And thank you to my friend and business partner, Kim. Thank you for always speaking about me with pride, for celebrating everything along the way, and for quietly prioritizing my schoolwork while giving me creative space. Your unrelenting support has not gone unnoticed. Thank you, my friend.

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Chapter I

Introduction

I first set out to write this paper because I had a genuine interest in the legacy and impact of British imperialism on modern facets of the Indian economy. It is a topic that has always fascinated me, especially because I am of Indian descent but was born and raised in the Western world. Eventually my focus narrowed to railway projects, then the steel industry, and finally settled on early corporate development within the steel industry. My research took me through countless letters, articles, papers, and case studies. But it was not until the very end of this process that I learned of the small, but special, connection to myself. I am the daughter of an engineer—an engineer who was a proud graduate of Roorkee University in India, the same institution founded by and previously named after Sir James Thompson, a British civil engineer.

Thompson worked with Rowland Macdonald Stephenson, the founding member of the East India Railway Company, to establish training and public education to support public engineering projects, specifically railway construction and associated steelwork activities. This training and education preceded the final plans for implementing the railways and led to the formal establishment of Roorkee University. Initially opened as an engineering college for Europeans only, Roorkee was considered a “feeder” school into colonial British public works projects across the subcontinent. Limiting admissions to Roorkee allowed the British to reserve education, training, and highly skilled positions to British and Western individuals. Graduates were granted positions across public engineering projects, and railway projects provided prolific job opportunities.

The steel industry was introduced to India through the establishment of colonial railway projects. Modern ironworks capabilities began emerging as early as 1847 with the introduction of training and education established by Thompson and Stephenson. Indigenous industrial establishment did not occur until the early twentieth century, and was the unintended result of supply chain shifts within the British industrial and government steel complex.

During this time, several firms emerged, but none as comprehensive as Tata Iron and Steel Company (TISCO). As the first indigenous, fully integrated steel producer, TISCO was a prime example of corporate development under colonial rule. Heavy industry in India was born despite a deep history of slanted economic policy favoring the British. The historical weight of colonial influence on economic policy carried through the nineteenth century. A decoupling from these economic principles created an inadvertent opportunity for Indian industry.

Yet the question remains: Did British imperialism have a positive impact on, or did it hinder, early corporate development within the steel industry in India? This thesis examines and explores the legacy of British imperialism on corporate development within the Indian steel industry from 1900 to India's independence in 1947. The primary focus of corporate development rests with the Tata Organization, which then operated under the name of Tata Iron and Steel Company.

In many instances, the emergence of an industrial revolution transitions a country to a modern economy. Within this context, the development of heavy industry, namely the start of ironworks and steel manufacturing, supports industrial transition. The advent of heavy industry builds an economy steadily toward industrial growth through increased

productivity and translates into higher GDP per capita. As can be seen in British economic history and later in the United States and Western Europe, the dawn of the Industrial Revolution spurred economic growth, eventually leading to increased productivity across all sectors. For the United States, much like Britain, railway production presented the emergence of technological evolution, and catapulted each nation into the steady and rapid rise of heavy industry.

India, however, fared quite differently. Unlike other nations, the initiation of railway production did not function as the preamble for heavy industry development in India. Created as an extension of the privately held and operated East India Company, the railway projects remained under the direction of British private enterprise as the governing bodies in India shifted to the British government (also known in India as the British raj). Under colonial rule, the British set forth plans to build railways to support and encourage the trade of items that were in high demand. The initial purpose of railway construction was to aid in facilitating trade to meet British consumer demand for goods such as spices, textiles, and cotton while enriching the British industrial private sector. Its function as passenger transport was an incidental utility that proved to be vital in pushing demand for additional railways and, by extension, for steel and other materials.

The steel industry in India began with onset of the construction of railway projects in 1857, but domestic indigenous corporate institutions did not formally exist until 1907 with the establishment of TISCO. The early twentieth century saw pivotal changes within the steel industry in India, with marked shifts toward indigenous enterprise and production.

This was seen primarily with the founding of TISCO in 1907. Tata brought a unique example of a modern Indian corporation. Its institutional foundation was remarkably conventional in that it embodied Western corporate structure. However, due to the entrepreneurial vision of its founder, J. N. Tata, and corporate development during the interwar years, Tata transformed into a fully integrated steel company—the first in India, and the only one until 1939.

Restructuring within the steel industry created a period of transition to Indian management and entrepreneurial success. Further catalysts for change began with World War I and continued through to the final push toward Indian independence. No singular event or circumstance can be credited for the rise of the industry. Rather, the combination of these created a perfect storm of circumstances that permitted the entrepreneurial leadership of the Tata organization to direct the growth and trajectory of the dawn of heavy industry within India. The nation was, and still is, replete with natural resources of extremely high quality. As of 2019, India ranked as #4 globally in iron ore production, and #3 in pig iron production.¹

In the years since Indian independence, multiple industrial firms have materialized, including other global leaders such as ArcelorMittal. However, Tata was an indigenous corporation that was founded in 1907 and operated under colonial economic policy until 1947. By analyzing the rise of the company, we can gain a clear picture of how the corporation was constructed and assign elements of success to the imperial and indigenous environments.

¹ U.S. Department of the Interior, “Iron and Steel Statistics and Information,” *U.S. Geological Survey Annual Reports*, 2020.

General economic rhetoric was derived from British economic policy laid forth in the nineteenth century. While the focus of corporate development lies within the early twentieth century, a thorough understanding and analysis of historical economic policy is necessary to understand the political economic climate surrounding the firm leading up to and during its early years. Similarly, an understanding of corporate structure and operations on both the Indian and European side is necessary in order to ascertain the components that made TISCO unique and successful.

To construct an effective and comprehensive analysis, this thesis examines the economic history of industry establishment, specifically an analysis of implemented policies and their outcomes. A thorough understanding of the political economic environment will aid in analyzing the birth of TISCO and the emergence of domestic heavy industry in India. Qualitative analysis combined with a more quantitative evaluation will build a thorough study of ascertaining the impact of British imperialism on corporate development in the early years of the Indian steel industry.

Under colonial rule, economic policy was consistently crafted to support the British private sector. These policies supported business practices that were constructed specifically to cater to British consumer demand. The early twentieth century saw shifts in rhetorical fundamentals, including a departure from the colonial-based philosophy supporting a revenue-focused economic structure. Furthermore, the British government supported the private sector push to open manufacturing capabilities in India under the premise of shortening production times and maximizing cheap labor. Inadvertently, this opened the door for corporate and industrial development in India. Tata Steel emerged as the preeminent industrial body within the steel industry at the time of Indian

independence. This was also the only private corporation to incorporate under colonial rule and to emerge as a standing entity once British political presence receded.

Additionally, Tata Steel was the only steel-producing company with modern technology through the mid-1930s.²

The present-day steel industry in India has yielded two of the world's largest steel companies: ArcelorMittal (formerly Mittal Steel) and Tata Steel (formerly TISCO). The success of these companies is a product of a steel industry in India that has grown to dominate the global markets and has been a formidable competitor to the U.S. and China. The British did not intentionally open doorways to an indigenous steel industry. Rather, the advent of heavy industry was the unintended consequence of policy shifts aimed at supporting British private enterprise through crafting a more streamlined production stream. Ironically, this also acted as a seminal event for domestic industry advancement. Observing and analyzing early corporate development within the industry—specifically TISCO—provides insight into the construct of an industry that has grown into a global titan.

² Chikayoshi Nomura, "Selling steel in the 1920s: TISCO in a period of transition," *Indian Economic and Social History Review* (2011): 83.

Chapter II

The East India Railway Company and the Steel Industry in Colonial India

The British Empire maintained an imperial presence in India from 1612 through 1947. British occupation in India began in 1600 through the East India Company, but British public-sector control (known as the British Raj), was not fully implemented until 1857.³ The East India Company operated as an extension of the British government and directly established economic policy objectives and goals. These carried forward through the transition to Crown rule.

The primary economic objective of the British Empire always centered around trade. In the years following the transition to the Raj, the British continued to invest heavily in the construction of physical infrastructure, trade routes, and production activities aimed exclusively at facilitating the trade of goods between the British Empire and the Indian subcontinent. These projects also served to aid British economic growth and employment as the Industrial Revolution crested maturity in Britain.

The most notable of these projects was the construction of an extensive railway system which brought contemporary ironworks infrastructure and human capital into the Indian subcontinent. The railway projects were monumental in several aspects. As of 1880, British direct investment in India totaled £270 million.⁴ The British directed this

³ Dave Donaldson, *Railroads of the Raj: Estimating the Impact of Transportation Infrastructure*. (Cambridge: NBER, 2010), 5.

⁴ Niall Ferguson, *Empire: The Rise and Fall of the British World-System* (New York: Cambridge University Press, 2009).

investment toward building infrastructure such as railroads, roads, irrigation systems, and production development. The railway projects were the quintessential demonstration of “British wealth, power, and skill.”⁵

However, the presence of modern ironworks did not translate into industrialization, or the creation or development of an indigenous economic sector centered on heavy industry. The initial purpose of railway construction was to facilitate the transport of extracted resources such as coal, iron ore, and cotton back to Britain for use in manufacturing.⁶ The British exported manufactured railway components into India but did not foster domestic manufacturing capabilities, instead favoring the proliferation of manufacturing in Britain. Economic policies were crafted explicitly to prefer British firms. Despite the enormity of the railway projects, an indigenous steel industry would not emerge until the early twentieth century.

Early Foundations: East India Railway Company and Steel

The East India Railway Company (EIRC), formally established in 1845,⁷ was founded in London, during the time of British colonial rule in India, through the East India Trading Company. Rowland MacDonal Stephens, first managing director of

⁵ Nalinaksha Sanyal, *Development of Indian Railways* (Calcutta: University of Calcutta, 1930), 12. <https://archive.org/details/DevelopmentOfIndianRailways>.

⁶ Shashi Tharoor, ““But What about the Railways ...?” The Myth of Britain’s Gifts to India,” *Guardian* (8 March 2017). <https://www.theguardian.com/world/2017/mar/08/india-britain-empire-railways-myths-gifts>.

⁷ The East India Railway Company was founded in 1845, but railway construction did not begin until about 1854. Reasons centered primarily around the time needed to survey the land, create construction plans, and raise capital beyond the company’s seed investment. Capital was raised through sales of stock shares in railway projects and through private railway companies. These institutions not only constructed railway lines but also managed and executed the full supply chain, including ironworks.

EIRC, created the company with an active board of directors and initial capital stock of £4 million, divided into 16,000 shares, each valued at £250.⁸ Tasked with isolating the direct benefits, costs, and support for the railway projects, Stephenson corresponded with British and Indian civil engineers, Indian elites and businessmen, and British tradesmen, all with vested interests in a growing railway system. His letters provide insight into the perspective of several interested parties, specifically British private enterprise, the elite mercantile class of Indians, and private British tradesmen. In India, those who benefited most from the railway projects were in a select few in the upper mercantile class where individuals and family-run companies served as local agents in the distribution of British goods, exporting of Indian materials abroad, and general movement of goods in a time-efficient manner.

Stephenson's letters highlighted the reasons for establishing railway projects. Indian families involved in the textile industry favored industrial construction and growth that would support the domestic cotton industry. Furthermore, Stephenson determined that the success of any projects could only be accomplished with the Western precedent of private enterprise and corporate participation. Stephenson stated in a local newspaper in 1844 that successful industrial production should be introduced into India based on:

A new and improved mode of conducting public undertakings upon the basis on which similar measures are carried on in England, can scarcely be highly estimated—the vast field, which is afforded, and which alone requires capital to render the advantages available, is universally admitted—the mean by which to develop these resources with certainty,

⁸ R. R. Bhandari, *Indian Railways: Glorious 150 Years* (Government of India: Ministry of Information and Broadcasting, 2005), 46.

security, and without risk on the part of those who engage in it, is the chief point for consideration.⁹

Modeling railway construction after British practices led to the of mimicking business practices, operations, and transposing human capital into India. Stevenson believed that the construction of railways not only “possessed political advantages of the highest order, but that it would also prove a success as a commercial speculation”¹⁰ Use of the private sector to further the development of public works projects was the cornerstone of British heavy industry development¹¹ within colonial India. Process operations for railway construction were duplicated from successful British railway completions. It can be inferred that process operations were duplicated across the project spectrum: assembly, maintenance protocols, and future domestic manufacturing activities.

The EIRC was an extension of the East India Company and operated in a similar fashion in relation to the British government.¹² Heavy industry was developed only within the parameters of necessity for railway project support and expanded to satisfy trade demand within the British home market. These corporations, however, were domiciled and operated from Britain, with outposts stationed in India for management

⁹ R. M. Stephenson, *Report Upon the Practicability and Advantages of the Introductions of Railways into British India* (Ann Arbor, MI: University of Michigan Library, 1944) [London: Kelly & Co., 1845], 9-10.

¹⁰ George Huddleston, *History of the East India Railway* (Calcutta: Thacker, Spink, 1906), 2.

¹¹ Here the term “heavy industry” refers to the steel trade and ironworks capabilities furnished and developed by the British.

¹² The East India Company was financed through government grants and protected through extensive legislative means. The EIRC enjoyed the same benefits, with the addition of private-sector direct investment. Stock shares in EIRC were available for direct trade, and stockholders received railway profit distributions as returns on investment on an annual basis.

purposes. All skilled labor, including technical and managerial, was contained within and amongst the British. Manufacturing capabilities were retained in Britain where firms utilized existing laborers. All management functions and technical oversight, including engineering, were staffed with British nationals. Unskilled labor was relegated to Indian nationals and had limited exposure to meaningful career advancement. British private enterprise did not create Indian-based subsidiaries, adjunct operations, or partner firms to facilitate corporate management, operations, and general trade. Their outposts were comprised primarily of technical staff to oversee the construction of the railways, and a limited managerial presence for the purpose of fulfilling general management functions.

The British were primarily concerned with their own competitiveness in iron and steel and engaged in practices and measures to preserve and fortify British enterprise. The stark separation between unskilled workers and their British counterparts hindered knowledge transfer and on-site training and development. This resulted in an absence of indigenous industry development, and directly contributed to stunting market-sector development while prohibiting economic evolution. The foundations of industrial production were constructed under the advice of a British-appointed committee that was directed to advise on operations and construction “independent of local interest or connection” and designed under the direction of a staff of carefully selected British engineers.¹³ In 1850, Stephenson submitted a proposal on the initial railway projects in which he asserted:

The prominent feature in the national aspect of the plan consists in the employment which for some years will be afforded to the numerous classes in Great Britain, whose skilled labor, metals, and machinery will be mainly instrumental in the construction and conduct of the foreign

¹³ Huddleston, *History of EIRC*, 5-6.

capital of the traversed states and in the advantages to be secured by special Treaty under which English exports and produce and merchandise from the East imported into England shall be conveyed for a term of years at low fixed rates. The employment of British workmen and materials would be a not unreasonable stipulation, were it not indicated as a measure of self-interest.¹⁴

At the onset of railway projects, the Industrial Revolution was well underway in Britain. In India, the British imported the necessary materials to construct railways, trains, and coaches, since no contemporary iron works technologies were present in India at that time. However, indigenous knowledge and methods did exist as a rudimentary precursor to heavy-industry development. Indigenous knowledge and practices, while still rooted in pre-Industrial Revolution technology and methodologies, still presented necessary contextual understanding of operating ironworks within India. At a minimum, indigenous knowledge encapsulated a thorough understanding of the climate, geographic landscape, and cultural aspects of the local labor force. Incorporating this knowledge became necessary in the 1880s when floods ravaged the landscape, halted railway construction and operations, and limited ironwork activities. At this juncture, it can be inferred that British railway engineers consulted and collaborated with Indians familiar with the local climate and geographic landscape in an effort to modify future business and operational practices.

Construction of railway projects directly impacted demand and resulted in rapid growth and support of British industry. Economic and financial benefits such as stock value and profits increased because every aspect of the production, construction, and technical leadership of the railways was controlled by the British. Private British corporations directed and operated the railway projects under the protection and authority

¹⁴ R. M. Stephenson, Letter to Viscount Palmerston. In: Bhandari, *Indian Railways*, 44-52.

of the colonial Indian government and British raj. The colonial government did “little to aid or stimulate the development of heavy industry” while implementing policies that directly benefitted British industrial and banking institutions.¹⁵ Between 1850 and 1910, about 94% of broad-gauge locomotives were manufactured in Britain, compared to 2.5% in India.¹⁶ By dominating the supply chain, British companies were able to control the manner and location of manufacturing of steel and railway components and maintained production in the British homeland. British industry prefabricated components which were merely assembled in India.¹⁷

In addition to maintaining a firm grasp on revenues and profits, manufacturing knowledge was also withheld. Limited technology was brought to the subcontinent, and machinery was imported into India to perform assembly tasks. Most of the equipment, components, and hardware were imported from Britain¹⁸ as well as skilled labor, financial capital, and management.¹⁹ With the influx of machinery, the British also brought in engineers and laborers while not training any indigenous people. Indian workers were relegated to unskilled labor functions and manual labor, effectively concentrating technical and management knowledge capital among the British.²⁰ Limiting

¹⁵ Laxman D. Satya, “British Imperial Railways in Nineteenth Century South Asia,” *Economic and Political Weekly* 43, no. 47 (2008): 69–77. www.jstor.org/stable/40278213. 71.

¹⁶ Sanyal, *Development of Indian Railways*, 35.

¹⁷ Ian J. Kerr, *Building the Railways of the Raj, 1850–1900* (UK: Oxford University Press, 1995), 135.

¹⁸ Sugata Bose, and Ayesha Jalal, *Modern South Asia: History, Culture, Political Economy* (New Delhi: Oxford University Press, 1998), 101-103.

¹⁹ B. R. Tomlinson, *The New Cambridge History of India: The Economy of Modern India, 1860-1970* (UK: Cambridge University Press, 1993), 749-750.

²⁰ Kerr, *Building the Railways*, 47-49.

and concentrating skilled tasks to British personnel was a key feature in the establishment of projects.

British companies operated through grants of government contracts, which were awarded only to British companies. Through this process, India provided land but was not compensated for use of that land. Additionally, companies had unfettered access to cheap and abundant labor.²¹ Unskilled labor tasks included the assembly of railway materials and transport of construction materials, and positions were generally easy to fill. Cheap labor was a cornerstone asset in the supply chain of steel and railway production for British firms. Ironically, cheap labor was the founding reason for shifting manufacturing capabilities to India in the early 1900s.

All construction was contracted to British companies, solidifying the colonial stronghold on any benefits stemming from the success of the railway projects. Preferential treatment was afforded to British enterprise in order to maintain global competitiveness.²² The colonial grip extended to sharing and exchange of knowledge and ideas that would naturally result from co-working. It has been posited that it was the “policy of the railroad companies, the East India Company, and the British Government to hire contractors and discourage Indian enterprise.”²³ Pre-fabricating ironworks and then merely assembling them on-site in India hindered any technological development

²¹ Daniel Headrick, *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century* (New York: Oxford University Press, 1981), 184–185.

²² Vinay Bahl, “The Emergence of Large-Scale Steel Industry in India Under British Colonial Rule, 1880–1907,” *Indian Economic and Social History Review* 31, no. 4 (October 1994): 437.

²³ Barbara Metcalf, and Thomas Metcalf, *A Concise History of Modern India*. 2nd ed. (UK: Cambridge University Press, 2006), 96.

and shuttered the economic benefits of industry.²⁴ It can be inferred that the reluctance to export skill and knowledge played into the reasoning for manufacturing in Britain. This was undoubtedly coupled with a general and pervasive belief that Indians lacked the competence and ability to undertake skilled positions and tasks.

Another reason was to support British employment and maximize utilization of existing machinery. Following this practice reinforced demand for low-skill labor and eschewed the need to seek or train high-skill indigenous workers. Assembly required workers that were unskilled, which amplified the demand for unskilled labor already existing in an economy that primarily generated activity through agrarian practices and production. This resulted in a limited transfer of knowledge between the British and indigenous laborers, and stunted opportunities for compounded skill development.

British citizens often socialized in social club settings that engaged in discriminatory and segregating admission practices. Cultural and social mixing between the British and Indians was rare. The cultural separation of the British and Indian locals impeded the ability to transfer knowledge, collaborate, or build fundamental relationships within the business sphere.

Guarantee System and Capital Financing

The railroad projects effectively came to publicly subsidize English steel producers and were not used as a means of developing heavy industry or management skills within the indigenous population.²⁵ The British government guaranteed interest

²⁴ Kerr, *Building the Railways*, 133–135.

²⁵ Satya, *British Imperial Railways*, 71.

rates on financing, as well as direct subsidies to railway developers in the form of high purchasing prices. This “guarantee system” with the British private sector was used to finance massive construction projects. The public guarantee encompassed returned investment interest to companies that constructed railways. By 1870 the outflow of interest “exceeded the inflow of fresh capital into India.”²⁶ The systems also included a guaranteed profit of 5% on the actual railway investment in addition to the right to acquire land for railway construction.²⁷ Furthermore, companies were permitted to pull out of their projects and still retain full compensation. The system was effectively a fully funded subsidization of the projects. If the projects did not perform as expected, then the loss would be shifted to the Indian taxpayer. If the projects performed well, then the profits would be distributed to company shareholders—all of whom were British.²⁸ This encouraged unnecessary construction, wasteful production, and disincentivized the need for profitable routes.

The Government of India directly engaged in construction projects between 1869 and 1880. From these taxpayer-funded projects, they set aside £50 million of generated revenue to meet the guarantee granted to British companies.²⁹ It is estimated that between 1849 and 1900, approximately Rs.568 million was paid out by the Government of India in guarantees. The crux of the guarantee system can be described as “private investment

²⁶ Bose and Jalal, *Modern South Asia*, 103.

²⁷ Huddleston, *History of the East India Railway*, 20.

²⁸ Headrick, *Tools of Empire*, 183–186.

²⁹ Satyal, “British Imperial Railways,” 13.

at public risk.”³⁰ Indian participation in investment opportunities was effectively shut out or excluded entirely. All capital raised for investment in railway projects was raised in Britain. About “99% of all capital of the East India Railway Company” was acquired in London.³¹ Furthermore, stock shares of Indian railways were traded on the London stock markets.

All capital financing was secured in Britain and was supplied by private finance to British private companies. As a result, all capital gains from the project flowed back to British shareholders, including dividends paid by the profit generated by railway construction and operation. The production of steel and construction of railways became an economic windfall to British investors, while the cost of these undertakings was pinned on the population of India through the public guarantee of returned interest.

Unlike the rest of the world, railway construction India did not stimulate the development of industry, especially heavy and machine-building industry.³² An excellent example is the United States, where railroad development as a part of the Industrial Revolution stimulated the emergence of heavy industry and subsequently built a foundation for a modern economy.

Early Railway Growth

The railway projects progressed rapidly, and British corporations that supported the efforts grew in both size and quantity. George Huddleston, one of the founders of the

³⁰ Satyal, “British Imperial Railways,” 69

³¹ Huddleston, 46

³² Satya, 71

EIRC, recorded direct observations throughout his tenure at the EIRC. Huddleston observed in 1859, just five years into the railway projects, a drastic increase in both passenger traffic and weight (tons) of goods transported.

Table 1. Transport Growth 1855–1859.

	<u>1855</u>	<u>1859</u>
Number of Passengers	790,281	1,388,714
Weight (tons) of Goods Transported	27,213	299,424

Figures are from records noted in 1855 & 1859

Source: Huddleston, 27.

These figures signaled a rapid escalation of railway construction and the growing need for iron-works capabilities in India. The first five years of railway operations saw a dramatic five-fold increase in passenger travel.³³ By 1864, traffic volume outpaced existing railway capacity, and the British were having trouble constructing adequate quantities to meet demand, despite sending “large [quantities] of materials, including ironworks” back home for manufacturing purposes.³⁴ Between 1864 and 1869, passenger travel rose from 11.75 million to 16 million.³⁵ There were events that created temporary reductions in growth. In 1867 severe flooding occurred on several occasions, creating a

³³ Sanyal, *Development of Indian Railways*, 43.

³⁴ Huddleston, *History of the EIRC*, 37.

³⁵ Sanyal, *Development of Indian Railways*, 43.

downturn in economic activity and limiting the ability to proceed with construction. A widespread famine in 1878 created horrific conditions for natives while simultaneously exposing the need to increase railway infrastructure to facilitate agricultural resource distribution. The 1880 Famine Commission recommended the addition of 20,000 miles of railroad, with a prescription to add 5,000 immediately.³⁶

Despite rapid growth and prescriptive construction recommendations, the British did not establish steel manufacturing capabilities in India, instead choosing to isolate manufacturing operations in Britain. Railways quickly reached maximum capacity and construction struggled to maintain pace. Through the end of the nineteenth century about 1,405 miles of railway were added every year.³⁷ Rapid growth continued, and in order to meet construction demand, British companies established outposts in India to accelerate production and minimize lag time due to the transport of materials. This was the inflection point where early components of production began to emerge in India. However, comprehensive manufacturing abilities would not be established until after World War I.

The encouragement of railway projects coalesced with British intentions and economic objectives. Government support of these projects opened the gateway for ironworks capabilities to enter the Indian subcontinent. Passenger travel, an incidental result, became the driving force behind rapid construction, which in turn brought

³⁶ The 1880 Famine Commission was created after the Famine of 1878 and was tasked with developing the Famine Code with the intent of determining the cause of food shortages, and to prescribe solutions to prevent famine in the future. One recommendation was to build additional railways across the country. It cannot be determined if these construction recommendations were specific to geographic regions that were particularly susceptible to food shortages or if they were generalized in nature. Kerr, *Building the Railways of the Raj*, 43.

³⁷ Kerr, *Building the Railways of the Raj*, 187.

manufacturing capabilities to the subcontinent. An ironic and unintended consequence was the subsequent emergence of an indigenous steel industry.

Chapter III

Colonial Economic Policy in the Steel Industry

To better understand any corporate development in early twentieth-century colonial India, we must first examine industry development through applied economic policy rhetoric and intent, and the actual impact and result. Through the East India Railway Company, economic policies were directly aimed at India-British trade, with the benefit slanting toward Britain.

Economic Policy Development in the Nineteenth Century

Popular historical opinion asserts that India suffered economically under British rule, and that any infrastructure development crumbled in the years leading to Independence. Irfan Habib, an Indian historian, maintains that British imperialistic presence in India stunted and categorically hindered economic growth.³⁸ During this time, trade routes were developed between the India and Britain, largely to support consumer demands in Britain and Europe. Trade focused on spices, tea, and textiles, thus supporting a strong demand for a productive, agriculture-based economy in India. As a result, the Indian economy was centered on agriculture, and could not compete adequately with industrial based markets.

³⁸ Irfan Habib, *A People's History of India 28: Indian Economy 1854–1914* (New Delhi: Tulika Press, 2006).

Colonial Economic History

General economic rhetoric was derived from British economic policy laid forth in the first half of the nineteenth century. Developed under the direction of James Mill and the EITC in 1819, these policies and their derivatives largely remained in place through the first World War. During that time, applied economic policy regarding India was developed under a philosophy of classical colonialism, and attempted to utilize structural economic tactics to facilitate the export of raw materials from India and the import of British goods. Policies and practices were designed to support EITC and its objectives, primarily centered around profit generation and maximizing shareholder value.

At its core, these economic practices were designed to extract resources, maintain an agriculturally centered Indian economy, and promote and support the sale of British goods. Once the British Raj took over, these policies and practices naturally extended support to British private enterprise. The governance of India was based on the centralization of political power to attain efficient political economic performance, with an astute focus on capital formation.³⁹ Financial gains, achieved through preferential policies toward the British, were the driving objective behind centralizing governance. An extension of this rationale suggests that the opportunity for profit existed in production disparities resulting from access to technology between Britain and India.

Colonial economic policy was guided by a focus on revenue growth and accumulation, not economic development. Policy was structured to maximize immediate financial gain, not economic growth for development of the broader economy. The rationale for this approach was reinforced by a Malthusian-style political economic view

³⁹ Bahl, "Emergence of Large-Scale Steel Industry," 440.

of progress—that the people of India were incapable of governance, which in turn resulted in poverty, and this could only be remedied by British progress. ‘Progress’ in this context was believed to be “the result of knowledge and reason was the indicator of advanced civilization” and progress could be “effected anywhere” if the right economic policies were installed.⁴⁰ The cure, therefore, to India’s problems, was British governance and the application of the Empire’s economic policies. Economic policy operated on the premise of India’s inferiority as politically incapable of governing. This notion extended to justifying the absence of manufacturing and heavy-industry development and was a primary cause and reason for employment practices within heavy industry.

The colonial government of India generally employed a style of governance and economic policy that led with a lack of support for Indian industry, which included low tariff rates, stabilizing exchange rates, and promoting public-sector-led railway construction and operation.⁴¹ Maintaining low tariff rates supported the import of British materials and construction components for railway development. Steel and steel products could continue to be manufactured in Britain, which in turn supported British industrial sectors, companies, and labor.

The absence of government involvement and regulation provided fertile ground for the expansion of private British enterprise. It also provided little to no protection to the domestic market or Indian people. A prime example can be found when analyzing the coal industry of the late 1890s. The British coal industry was thriving, so to prolong

⁴⁰ Ralph Price, “The ‘New Political Economy’ and British Economic Policy for India,” *American Journal of Economics and Sociology* 35, no. 4 (1976): 402.

⁴¹ Chikayoshi Nomura, *The House of Tata Meets the Second Industrial Revolution: An Institutional Analysis of Tata Iron and Steel Co. in Colonial India*. Studies in Economic History (Singapore: Springer, 2018), 23.

production and development, companies shifted their focus to increasing their ability to export product into foreign markets. In order to provide an additional stream of economic demand, British steel and railway companies imported coal from Britain. Tariff policy toward coal resulted in major price discrepancies where imported coal was far cheaper than domestic product. These economic practices created barriers to entry through manipulating the prices of necessary inputs such as coal.

Colonial economic policy was specifically crafted to support British economic interests and private enterprise. The extraction of raw materials from India and import of manufactured goods from Britain was classically mercantilist and underpinned British involvement across industries, including steel and iron. This model transferred to local operations where labor was consolidated to secure British hegemony over industrial knowledge.

Shifts in economic policy began to occur in the late nineteenth century, creating an opening for the development of indigenous industry, but the intent was never to develop independent industry. Steel and railway components were strictly manufactured in Britain, and transport times created production lags that stunted the ability to meet railway construction demand. It was not until after World War I that the manufacturing component transitioned to India to facilitate increased production needs to meet demand.

Industrial Economic History

At the time of its completion in the early 1900s, the British railway project was the fourth largest in the world.⁴² Economic policy implemented for railway development

⁴² John Hurd, cited in: Ian J. Kerr, *Railways in Modern India* (New Delhi: Oxford University Press, 2005), 161.

informed the manipulation of raw materials, capital labor practices and objectives, and industry development. Policy practices also unintentionally aided in establishing the presence of modern heavy industry in the subcontinent.

Raw Material Manipulation

The demand for raw materials continued to grow as the railway projects continued. Economic dominance resulted in price manipulation of specific materials, especially coal. Prices of raw materials were manipulated to favor British products, which was most evident in the coal sector. The railway projects birthed a sharp demand for coal to facilitate transport by using it as fuel source for railway operations. Increased steel production resulted in the need for more coal as input demand increased proportionally with market demand for steel. The EIRC held a monopoly over the access to major coalfields which led to price surges in the domestic market.⁴³ Prices were driven so high that it became prohibitive for any Indian company to utilize domestic materials, ironically resulting in the fact that imported British coal became a more cost-effective input option.

The general economic consequence of monopolized coal pricing also hindered growth and stymied industrialization. High demand levels resulted in an extremely elevated price of coal, which quelled any possibility of growth of other industrial sectors, namely steel and ironworks. The high cost presented a barrier to entry that was difficult to overcome. The function of any coal mining in India was purely extractive and was developed only so far as the needs of British industrial firms were satisfied. As railway use increased, steel production in the British market and the need for coal rose in tandem.

⁴³ Satya, "British Imperial Railways," 71.

The coal industry in Britain grew out of a need for a vital input as technology advanced in other sectors.

The opposite effect occurred in Britain, where railway construction led to further industrialization of the economy through fostering demand for steel and iron. British-directed railways were constructed to facilitate the extraction of goods from India, including raw materials, rather than stimulating industrialization of the economy.⁴⁴ Furthermore, the financial structure supporting railway investment—the guarantee system—was constructed to maximize economic and financial benefits directed toward Britain’s benefit. This is an example where economic and business practices were actively implemented to manipulate a subsidiary industry.

Production Standards

The railway projects not only caused a sharp spike in demand for steel, but they were also accompanied by a pointed set of material standards set forth by the railway administration. Imperial policy set forth quality specifications and standards for steel production and export.

The steel market in colonial India was segmented into two classifications: (1) high quality British Standard Specification Steel (BSSS), and (2) low quality Non-British Standard Specification Steel (NBSSS). These standards pointed to supporting British products in an international market, resulting in importing all contemporary ironworks capabilities into India, including human capital and financing. While India was replete with natural resources, the infrastructure of industrial advancement and technology did

⁴⁴ Satya, “British Imperial Railways,” 71.

not meet British standards designed to predicate economic preference for British industrial goods. The EIRC imported all necessary materials for railway projects, and by the early 1900s railways were fourth-largest globally.⁴⁵ Diverting purchasing policies away from India impeded economic growth in steel and other heavy industries.⁴⁶ Secondary heavy industry did not develop in India as a result of these policies, further compounding the delay of economic industrialization and corporate establishment.

Technology and Industrial Investment

Maritime technology and transportation, specifically shipbuilding capability, allowed the British to maintain a dominant position in international industrial production. Advances in maritime technology provided a competitive advantage in the ability to execute international shipping more efficiently and faster. These advances aided industrial growth by compressing travel times between Britain and the Indian subcontinent. Product was easily and quickly transported between the two regions, allowing a faster influx of necessary materials and components for railway construction. Thus, technological advances in transport permitted the continued support and expansion of cheap labor employment within India. Given the combination of cheap labor and compressed transit times, there was no reason to transfer manufacturing to India. As a result, the British were able to maintain hegemony over manufacturing skills and technology and subsequent shielding of the economic benefits that resulted. Economic policy regarding railway construction not only supported British steel product but was

⁴⁵ Hurd, in Kerr, *Building the Railways of the Raj*, 161.

⁴⁶ Habib, *A People's History of India*, 363–365.

also constructed to support the trade of Indian goods that were in high demand in Britain. This facilitated the growth of a purely agrarian economy, with exports consisting of raw materials and unprocessed agrarian goods such as cotton/textiles, spices, and sugar cane.⁴⁷

Railways enabled transportation costs to be greatly reduced, and transfer times diminished as more railways were built across the country. Rapid railway expansion became a cyclical driver to the economy: while railway construction itself spurred growth, that growth was predicated on the volume of goods trafficked. Extensive expansion sustained an active and robust revenue stream. Companies and their shareholders expected the distribution of corporate profits. As was predicted in the years leading up to the inaugural construction, undertaking railway projects would prove to be a “great blessing to the Empire, [and] will afford the means of a safe and profitable investment to individuals.”⁴⁸

In 1867, a depression in trade volumes occurred, along with extreme weather events, which compromised not only railway construction but also operational abilities to transport goods. British institutions faced contractions in revenues and profits, which meant dividends paid to shareholders were compromised after years of upward growth. As is often the case, a negative economic circumstance provides an opportunity to evaluate business practices. In this case, it was discovered that the “great growth of

⁴⁷ Satya, “British Imperial Railways,” 70–71.

⁴⁸ Huddleston, *History of the EIRC*, 5.

expenditure in the preceding two years [1865–1867] had been in advance of the natural development of the traffic, many [planned] works . . . were indefinitely postponed.”⁴⁹

Britain enjoyed the economic transformation of the Industrial Revolution well before other Western countries. In an effort to fully exploit the financial rewards of industrial investment, the British spread their technological advancements across their Empire, establishing projects in various occupied territories. The Indian railway projects followed the Industrial Revolution in Britain, where the country had enjoyed the rapid economic growth brought on by major technological. British policy included a prohibition on the exporting of machinery, skilled labor, and manufacturing techniques and practices as a way to preserve their relative monopoly.

Prohibitions loosened as the British economy advanced through different phases of industrial development. British companies were eventually able to set up auxiliary outposts in other regions, but were required to use British labor, intellectual capital, and industrial capabilities. These policies were initially driven by a desire to maintain economic hegemony, but private interests quickly saw the benefits to accessing cheap labor in other regions. This policy provided an economic advantage to private enterprise and created highly lucrative and profitable opportunities overseas. Often this was coupled with colonial practices of stifling and suppressing Indian production, amplifying British profits. After a British company successfully established a cotton and textile machinery outpost in Belgium in 1807,⁵⁰ the precedent and business model were set for others to follow.

⁴⁹ Huddleston, *History of the EIRC*, 57–58.

⁵⁰ *Encyclopedia Britannica*, “British Raj: Imperialism, Impact, History, and Facts,” 2021. <http://www.britannica.com/event/British-raj>.

Colonial Britain imposed strict economic policies on India across the broad market, and took actions targeted toward specific industries. Without question, these policies impacted the development of the indigenous steel industry. The early twentieth century saw shifts in rhetorical fundamentals, including a departure from the colonial philosophy supporting a revenue-focused economic structure. The pivot in economic objectives was not birthed from intention to support an indigenous industry, but the impact expanded opportunity, as an unintended consequence, for corporate development in India.

Chapter IV

Tata Iron and Steel Company: Corporate Development

The later part of the nineteenth century saw a shift toward consumption of domestically produced steel in India. Between 1869 and the early 1880s, the government of India built railways on behalf of British companies.⁵¹ Huddleston noted:

The native had to be trained to accomplish tasks entirely foreign to anything he had seen or heard of before, and the wonderful adaptability which enabled him to carry out, under European guidance, the construction of a railroad, was in itself an indication that he would afterwards be able to take charge of its stations and goods sheds, maintain its permanent way and buildings, [and] construct its engines and rolling stock.⁵²

As a senior railway official, Huddleston believed that the management and construction of the railways could be transferred to domestic purview under the guidance and direction of the British.

The shift within the railways began in the late 1800s, but the production of steel lagged until the early 1900s. From 1882 to 1890, institutions successfully carried out iron smelting in India. Iron production was directed toward a local private institution called the Bengal Iron Works Company, founded by James Erskine, a British national. The company was successful with its production of pig iron, but after attempting to produce steel it quickly shuttered due to poor product quality that resulted in heavy losses.

⁵¹ Satya, "British Imperial Railways," 70–71.

⁵² Huddleston, *History of the EIRC*, 36-37.

The closure of Bengal Iron Works Company caused a vacancy which presented Jamsetji Tata with a unique opportunity to fill a market void. Coupled with plentiful iron ore deposits, he saw an opportunity to undertake a massive industrial experiment: establishing a company that not only engaged in pig iron production, but also manufactured steel and steel product. The combination of both aspects of the steel production chain resulted in Tata Iron and Steel Company (TISCO), the first integrated steel plant owned and operated under indigenous control.

Early Corporate Development of TISCO

Economist Joseph Schumpeter definition of an entrepreneur is widely accepted: a person who upsets conventional practices by opening a new market, developing a new method of production, discovering a new supply, or reorganizing an industry. Jamsetji Tata embodied the definition of “high entrepreneurial ability” in the context of Schumpeter’s definition.⁵³ Tata reorganized a flailing domestic industry by modernizing steel production, condensing the supply chain, and establishing an indigenous company. This was not easy, as obstacles existed in financing, production and engineering knowledge and expertise, and labor sourcing. Through deft navigation of existing British infrastructure, and the careful integration of European and Indian business practices, Tata established the first indigenous integrated steel company. He leveraged the expertise of American and European engineers and experts to facilitate the early operations of TISCO. In turn, TISCO continued to mesh Western and Indian business practices as the company matured, including the retention of foreign nationals in key managerial and

⁵³ Amiya Kumar Bagchi, *Private Investment in India, 1900–1939* (UK: Routledge, 2000), 292.

engineering positions in order to maintain capabilities with modern technology and equipment. Retention of key staff reinforced confidence in the company's potential while simultaneously providing a forum in which to train indigenous staff. TISCO's success opened the door to the growth of the broader industry, and to economic industrialization at large.

The corporate development of TISCO can be observed by analyzing development of corporate structure, capital sourcing, and labor management and staffing. The early corporate development is unique in that it exemplifies a hybrid between European and Indian style firms. The founder and early leaders of the company implemented specific features that were strikingly different from the British example.

Turkish economist Osman Eroglu asserts that an entrepreneur reflects the dominant values of his or her national culture.⁵⁴ Eroglu categorized the association between culture and entrepreneurship based on three of social psychologist Geert Hofstede's cultural dimensions: individualism, uncertainty avoidance, and power distance.⁵⁵ *Colonial culture* can be defined as the mores and behaviors of the British nationals and includes practices centered around and supportive of the advancement of British standards of living. *Indigenous culture* can be classified as driven by the indigenous religions, customs, practices, and values found across India. While the two

⁵⁴ Osman Eroglu, "Entrepreneurship, National Culture and Turkey," *International Journal of Business and Social Science* 2, no. 16 (2011): 1–6.

⁵⁵ Geert Hofstede, "6 Dimensions of Culture." Available from: <https://www.geerthofstede.com/landing-page>. Hofstede's cultural framework is constructed of six key focal points known as "cultural dimensions," and collectively known as the 6D Model of National Culture. The six dimensions are: individualism vs. collectivism, power distance, masculinity vs. femininity, uncertainty avoidance, long-term vs. short-term orientation, and indulgence vs. restraint.

intersected in daily life, they each informed economic practices and corporate development differently.

Cultural framework provides an interesting perspective on the Tata organization and the formative development in its early years. When viewed through this lens, the emergence of TISCO as the first privately owned entity in an industrial sector is quite remarkable. Broadly speaking, the most striking difference between British and Indian culture is evident in the respective individualist and collectivist frames within each society.

While collectivism is a characteristic often not associated with entrepreneurship, it is quite evident in the development of TISCO as a corporation and a social entity. Elements of collectivism can be observed in the corporation's social engagement and labor practices. The company was founded with the belief that "in a free enterprise, the community is not just another stakeholder in business, but, is in fact, the very purpose of its existence" as a core component of their corporate values.⁵⁶

TISCO built the town of Jamshedpur in conjunction with and alongside the construction of its steel plant. What we would today call "socially responsible" investing was a core tenet in TISCO's creation and development. The intersection of community and corporation distinguishes this firm from its European counterparts. While this is not unique to TISCO specifically, it is unique when comparing TISCO to its contemporary European and British peers. It also set forth the tone and industrial structure for the steel industry at large. As was later seen in post-Independence India, steel towns were created in conjunction with the development of steel mills across the country.

⁵⁶ Tata Group, "Blazing a Trail," 2021. <https://www.tata.com/newsroom/titan-diversity-blazing-a-trail>.

Colonial culture drove the ascent into industrial competition through the installation of the railways and the subsequent development of ironworks capabilities. Colonial culture also set forth standards and metrics for production criteria and quality through the innate belief that British steel was inherently superior. This notion drove economic policy, direction, and action. This was observed through implemented business practices that consolidated and maintained hegemony over skilled labor segments within the industrial economy. The nucleus of the steel industry under British direction was narrow in focus and often ignored the needs of indigenous labor, society, and the overall community. Growth through revenue generation and profit was maximized in the context of the demand for other goods; industry was created to support extractive economic practices as opposed to the development of a new industry.

Western cultural ideals were the dominant driving force within the macroeconomic strata of industrial markets. TISCO adapted aspects of corporate development from J.N. Tata's background in the textile industry, and blended facets of European corporate structures with conventional Indian enterprise. Tata's family members were successful textile merchants. As a young businessman, Tata spent time in Japan and East Asia on behalf of his family's business. It can be inferred that Tata encountered business practices in these regions that influenced his business acumen. The addition of unique cultural components set the corporate development of TISCO apart from its British counterparts. However, intersections with British practices have coincided in capital financing practices and labor management. The inclusion and integration of Western practices were necessary to build a successful company and industry.

Fortunately, the public sentiment in India was beginning to shift as a new political movement began to blossom in the early 1900s. Tata was also a devout believer in Swadeshi,⁵⁷ an emerging social and political movement that was also later touted by Mahatma Gandhi. The Swadeshi movement gained momentum in the early twentieth century in India. Tata capitalized on the growing nationalist fervor and emerging support for indigenous industry and subsequently formed TISCO. The firm's management also had existing close relationships with high-ranking governing officials, both Indian and British. These existing relationships proved to be a pathway to building a corporate alliance that would later develop and become valuable as the corporation matured.

Capital Financing

Broadly speaking, capital financing by Indian and British companies was conducted using different mechanisms. Indian firms depended on their own money to run their business operations, and sourced capital from family and the immediate community. Because financing was not conducted on a broad market scale, the level of funding acquired was substantially lower than European counterparts. Family wealth and access to resources played a significant role in the ability to fund a new venture.

British steel producers held a competitive advantage over Indian counterparts owing to their ability to actively participate on international capital exchanges. British firms were able to invest in heavy machinery because they were successful in raising

⁵⁷ *Swadeshi* was a political and social movement that emerged at the turn of the twentieth century. A growing sentiment for "Made in India" goods over those imported from Britain and other countries began to rapidly expand in popularity. This was accompanied by a rise in nationalism and an identification of statehood outside of a British entity. The movement gained momentum after WWI and continued to gain traction through WWII. The notion was popularized by Mahatma Gandhi who focused efforts to shift public backing to an economic stance that would support the independence movement.

large sums of capital. The only feasible way to accomplish this was to participate in international financial markets and raise capital through the participation of external investors. Despite the apparent opportunity of a market without the barrier of competition, Tata was unable to secure British investment capital to finance a new venture. Most financiers believed that India would not be able to produce steel of commensurate quality to the British. This belief was at the core of resistance and hesitancy, not only from British investors but also from technical engineering experts. One academic body of work asserted that this position was based on a “contemptuous belief” that India would never make steel of saleable quality.⁵⁸ Such a justification stood in opposition to market evidence—that every country that had “usable iron ore and coal resources and had a home market for steel, had developed steel production” and most technical issues regarding iron ore of varying quality had already been resolved on the global market.⁵⁹

Tata encountered specific hurdles that had to be overcome in order to succeed as an enterprise. Prior to World War I, the general market environment was inimical toward Indian manufacturing under Indian management.⁶⁰ Scholar Chikayoshi Nomura asserts that TISCO exports were “fundamentally impeded by the British imperial policy of imposing strict quality specifications in the production of steel.”⁶¹ British railway experts

⁵⁸ Bagchi, *Private Investment in India*, 292.

⁵⁹ Bagchi, *Private Investment in India*, 292.

⁶⁰ Bagchi, *Private Investment in India*, 293.

⁶¹ Chikayoshi Nomura, “Why was Indian Steel not Exported in the Colonial Period? The Influence of the British Standard Specification in Limiting the Potential Export of Indian Steel in the 1930s.” *Modern Asian Studies* 46, no. 5 (2012): 1239. www.jstor.org/stable/41683026.

met the prospect of Indian steel production with skepticism and hesitancy.⁶² The management of steel production in India was consolidated amongst British nationals. Indians were employed in manual labor positions which were structured to have no progress toward higher positions.

British and European firms regularly engaged in the London money markets as a source of investment capital. Doing so provided access to capital at a scale where the degree of operations could profitably function internationally. Europeans employed a joint-stock corporate structure designed to operate with other people's money.⁶³ The creation of trading firms as joint-stock companies allowed for high levels of capital financing, which in turn positioned firms to participate in capital intensive investments into machinery and technology. Joint-stock ventures were uncommon forms of indigenous enterprise, but they were beginning to emerge as a corporate structure in the years leading up to TISCO's inception.

Additionally, domestic banking institutions were beginning to emerge within India. In 1895, Punjab National Bank (PNB) was founded. As the first joint-stock bank, PNB was created by Indian nationals who were disturbed that Indian capital was being used to operate British institutions. The bank also had strong ties to the Swadeshi movement. It is unclear if Tata approached or secured financing from PNB, as the bank was relatively small. What can be inferred, however, is that domestic joint-stock institutions existed in colonial India, and there was a modest level of precedent and example for corporate structure within the indigenous market. Additionally, limited forms

⁶² Bagchi, *Private Investment in India*, 293.

⁶³ Thirthankar Roy, *A Business History of India: Enterprise and the Emergence of Capitalism from 1700* (UK: Cambridge University Press, 2018), 260.

of domestic and indigenous financing were beginning to emerge as well, eventually growing to be viable investment sources as the corporate and banking landscape grew within India.

In the case of TISCO, a combination of investor and family capital was used at different points in the early years of the company. The inception of the firm required significant capital investment. Tata understood that capital needs could only be met through European money markets, and that he needed to effectively emulate the financing structure employed by the British and Europeans. Tata's experience in the textile industry gave him some familiarity with the British business world. However, London markets and investors shunned all requests for investment capital, leading Tata to invest personal funds.

Undeterred, Tata convinced leading engineers in America to accept employment in his new venture. Seeing his ability to secure world-class experts prompted some British institutions and individuals to invest in TISCO. During the interwar period, the Tata family again invested capital not only as a show of faith, but also out of necessity. The act encouraged investment in a vital capital accrual campaign that was integral to the sustenance of the company.

By the end of the nineteenth century, India was home to multiple "world standard modern business corporations" in terms of both capital and labor.⁶⁴ This is important to consider because the Indian market already had established precedent for the makings of modern corporate infrastructure. Companies included Britannia Industries, a producer of baked goods; Bombay Burmah Trading Corp, focusing on consumer goods such as tea;

⁶⁴ Nomura, *The House of Tata*, 23.

and Century Limited Textiles, founded as a public limited company. TISCO developed an indigenous corporation within the newly established domestic heavy industry. However, the precedent of modern corporate structural elements existed within other industries in India.

Although established in 1907, TISCO did not start producing pig iron until 1912 and steel was successfully produced in 1913. During this time, the experts that Tata employed consulted on the construction and operations of the steel plants. Purely from a standpoint of opportunity for growth, the timing was perfect. While still under colonial governance, India was directed to support the British effort in World War I, and the participation of Indian support necessitated the involvement of TISCO. The firm grew rapidly during World War I as supply requirements for the war effort continued to escalate.

The company's growth at this juncture was attributed to an intimate relationship between the Government of India and TISCO. TISCO focused on producing and distributing British Standard Specification Steel (BSSS). All product that passed government quality testing standards were purchased for wartime use, and everything that was rejected (Non-British Standard Specification Steel—NBSSS) was sold on the Indian market.⁶⁵

Labor Management

As a major input factor, capital labor policy was crafted and implemented to support profitability and maximize productivity. British engineers were tasked with

⁶⁵ Gilbert Slater, "The Steel Industry of India," *Economica*, no. 13 (1925): 64. www.jstor.org/stable/2548010.

overseeing, planning, and executing construction. The British also provided extraordinary benefits—higher pay rates, stipends, travel, and medical—to expatriate engineers, foreman, and skilled laborers who were brought to India to work on the railway projects.⁶⁶ Not only did employment opportunities go to the British, management at every level was also staffed by British citizens. Progression up the ranks was purposefully stunted to maintain profitability. Often, technological advancements present opportunities for companies to engage in investments that will enhance downstream productivity. As workers become more skilled, labor cost naturally increases. Productivity increases offset increases in labor cost.

Colonial practice categorized labor as either mental or manual, with manual work being relegated to Indians, while all mental tasks were reserved for British personnel. Indians were considered inferior and therefore assigned all manual labor and unskilled positions. All management, engineering, or operational roles were reserved and assigned to British personnel. Technology was not employed or implemented to increase productivity. Instead, exploiting cheap labor was facilitated through the absence of technological investment, and resulted in increased productivity without the need for mechanization or automation.⁶⁷

In its early years, TISCO brought in engineers from the United States and Europe to leverage their expertise in modern steel production. Unlike their British counterparts, TISCO simultaneously trained indigenous individuals for these positions. The company was able to replace foreign with indigenous labor during the interwar period. The

⁶⁶ Headrick, *Tools of Empire*, 188-190.

⁶⁷ Satya, "British Imperial Railways," 74.

railways did not serve as a foundation for training labor for other sectors. Skills were limited to basic manual tasks, often labor intensive and assigned low wages or compensation. Limited technology, like dump trucks and vehicles equipped to break land and stone, were brought in to assist labor productivity.⁶⁸ Additional technological investments were not made or imported. British labor practices caused stunted labor skills across the broad market. TISCO capitalized on this by utilizing indigenous labor in the same manner—for menial tasks and unskilled positions. But as the company progressed indigenous labor was trained for higher positions throughout the company. By keeping the labor market structure intact, Tata was able to absorb practices and operational knowledge that was applied as the company replaced foreign labor with indigenous staff.

Labor and management organization are critical factors in the success of a company. European and Indian companies sourced management from different pools. European firms actively sought management and engineering talent from other European or American companies with the intention of expanding knowledge of foreign markets, whereas Indian firms historically relied on family and relatives. Technical expertise was often easily found on the international market. Engineers from the United States, for example, often held expertise in current technologies and practices.⁶⁹

This aspect is evident in the early structure within TISCO, where members of the Tata family continued in corporate leadership roles after the death of its founder. However, the family took a decidedly different approach to aspects of labor management. Like their British counterparts, TISCO diverted from conventional management

⁶⁸ Kerr, *Building the Railways of the Raj*, 185-187.

⁶⁹ Headrick, *Tools of Empire*, 192.

structures within Indian companies through seeking and employing foreign nationals for management positions at every level, including engineering.

The development and expansion of British firms were centered on practices that focused on supporting trade, and ultimately the consumption demands of British citizens. Labor was seen purely as a cost center, and it was an input cost that was actively managed to remain as low as possible. It was common practice to find entire families working at the same company at British firms. Often, families were represented through a multi-generation presence, from youth to elderly members. Children as young as 10 years old were employed and tasked with heavy manual labor responsibilities.⁷⁰ Child labor was common in railway construction.

Indigenous firms, however, centered on supporting the community, which was seen as an extension of their labor force. While this is a socially responsible corporate practice, it is also an astute business practice that results in a continuous return on labor investment. Indigenous firms, including TISCO, transitioned out of the use of child labor through the construction and financial support of schools. While the community gained from these corporate social investments, TISCO also benefitted by investing in an increasingly skilled labor force incentivized to maintain tenure and minimize employee turnover.

Cheap and replete labor was one of the driving metrics behind British investment in manufacturing capabilities within India. The well-being of laborers was not a responsibility assumed by British companies or the government. Most laborers were from marginalized communities, often with impoverished backgrounds. The colonial

⁷⁰ Satya, "British Imperial Railways," 74-75.

government prioritized the success of British enterprise and placed a higher importance on profitability than worker care. Many laborers “died or were gravely injured during such hard construction work” and “diseases swept through the tent-cities of the huddled masses.”⁷¹ It has been documented that over 2,000 workers died from cholera during the construction of railways in 1885.⁷² Labor was regarded as an abundant resource and as low cost because companies had access to a large population, and the jobs required no training or skill. In its early years, TISCO and the broader industry were able to capitalize on the utilization of cheap labor. Mimicking British compensation practices, TISCO initially paid Indian workers low wages while pushing for high productivity. Unlike their British and European counterparts, TISCO developed plans to invest in their labor force and the surrounding community.

TISCO’s approach to the building and management of their labor force elicited opposing views and opinions. On one side, it has been asserted that TISCO was revolutionary in its labor practices, pointing to specific practices such as labor retention, community support and philanthropy.

It has been suggested that the Parsi religion and culture fosters a strong connection to community and influenced the family’s approach to labor development and was carried into how TISCO was developed as a company. Deepak Lal points to the

⁷¹ Sanyal, *Development of Indian Railways*, 43.

⁷² Ian J. Kerr, *Engines of Change: The Railroads That Made India* (New York: Praeger, 2006), 55.

interwar years, where he claims TISCO did not relieve labor as a means to support cost reduction efforts.⁷³

On the other end, it has been argued that TISCO was an inefficient manager of labor, and that this was one of the biggest flaws in corporate management during its early years. Inefficient labor management was claimed to be a likely contributor to financial stressors during the interwar period.⁷⁴ Slowly, TISCO replaced British laborers for Indian ones, and while they were paid less than their British counterpart, they produced a larger output.⁷⁵ The discrepancy in wages began to show cracks when Indian workers started to mobilize and demand higher pay. However, TISCO management responded positively to wage increases. Management practice and adaptation regarding labor contributed to corporate development.

In conjunction with opening a steel plant, Tata founded the establishment of a town planned in proximity to discovered ore mines in the Orissa region of India. Tata intentionally selected this region so that a fully integrated plant—both iron smelting and steel producing—would be constructed. It can be inferred that the development of Jamshedpur provided support to workers' families which in turn resulted in increased worker productivity. Economics professor Gilbert Slater visited the town site of TISCO steel plants and ore mines in 1917. There he noticed

straight, broad roads were laid out, metalled in the middle for motor cars, left unmetalled for ox-wagons, bordered in places by bungalows, and in places by vacant spots waiting for utilization. The office staff was mainly Parsi; they talked

⁷³ Deepak Lal, *The Hindu Equilibrium: Cultural Stability and Economic Stagnation. India, C. 1500 BC—1980 AD. The Hindu Equilibrium: Vol. 1* (Oxford: Clarendon Press, 1989).

⁷⁴ Roy, *Business History of India*, 261.

⁷⁵ Slater, "Steel Industry of India," 64.

enthusiastically of the great extension scheme . . . and of all the subsidiary companies that were going to take up neighboring sites and work up the Tata steel into a variety of commercial products.⁷⁶

For about 30 years since production began, TISCO operated the only integrated steel and iron-smelting plant in the country. Proximity to mines and the integration of iron smelting and steel production in the same plant, positioned TISCO to capitalize on reduced input costs due to substantially lower transportation costs incurred during the production process. A fully integrated steel plant operates with a superior level of efficiency because of heightened supply chain control and oversight that can be exercised by management. Pig iron is the most import input in the production of steel. TISCO's fully integrated steel mill was constructed to achieve continuous production, a feature that provided several competitive advantages. These included lower labor hours per unit produced, higher levels of efficiency in actual production, and the opportunity for fewer production issues and delays.⁷⁷

The British did not create any fully integrated plants, choosing instead to rely on focused management at each point in the production and supply chain—a practice that contributed to inconsistency and inefficiency. General oversight was relegated to administrative officials as opposed to plant and operations managers. Government bureaucracy stymied efficiency and slowed overall production time. Transportation costs were significantly higher and accrued during production. Prefabricated components also fragmented consistency and quality control. Observing these management inefficiencies in British firms, TISCO saw an opportunity to develop holistic and dynamic management

⁷⁶ Slater, "Steel Industry of India," 64-65.

⁷⁷ Nomura, "Why Was Indian Steel Not Exported?", 1246.

practices that could focus on multiple production points and therefore support multiple business components.

In addition to an efficient production process that favored the construct of a competitive market price and time-to-market efficiency, the quality of iron and steel produced by TISCO was extremely high. Slater also noted:

Favored by the abundance of forests and extraordinary abundance throughout peninsular India of surface outcrops of very high-grade ores, the native industry succeeded in producing both iron and steel of extraordinarily high quality by methods which scorned economy equally in ore, fuel and human labor.⁷⁸

It was also asserted that the iron ore “deposits are the largest and best in Asia” and would favor the development of robust heavy industry.⁷⁹

The creation and success of TISCO was no accident. The development of TISCO as a corporation led to the creation of a company that continues to enmesh with the cultural and structural differences between Indian and European societies. The application of unique labor practices helped the early corporate development within the broader industry and provided a corporate model for successful industrial production. The coalescence of these factors produced a globally successful company that redefined industrial corporation for the culture and country in which it is domiciled.

⁷⁸ Slater, “Steel Industry of India,” 65.

⁷⁹ John E. Brush, and Meera Kosambi, “Three Colonial Port Cities in India,” *Geographical Review* 78, no.1 (1988): 38-39.

Chapter V

Economic and Political Changes in Interwar India

World War I was a monumental event for the British Empire, and in many ways, that era was also a seminal event for the modern Indian steel industry with the development and growth of TISCO. Full participation in and support of the war effort caused a realignment of economic and political objectives across the Empire, but most notably in India. TISCO's support of the war effort did not go unnoticed, and it benefitted from the political changes and economic adjustments that followed.

The realization and acknowledgement of India's contribution to the war effort led to the development of commissions that immediately impacted and changed policy.⁸⁰ Two major shifts regarding heavy industry development emerged: (1) the British government purchased goods from Indian sources for its own use, and (2) selected indigenous industry received protection in the form of tariff policies.

British Government Policy Changes

Through the end of World War I, government procurement was a highly bureaucratic, lengthy, and inefficient process. Transactions were long and extremely costly, as purchasing agents were based in India and manufacturers based in Britain. Transaction costs compounded input costs for any manufactured product, not only in actual shipping but also in lost time. Administrative delays resulting from a layered

⁸⁰ Roy, *A Business History of India*, 127.

bureaucratic system caused supply inefficiencies that were preventable. In 1900, government expenditures totaled about 3–5% of GDP, and the import value of heavy industry accounted for 10% of total imports but only 2% of GDP.⁸¹ At the surface, the shift in procurement policy appears thin and relatively immaterial. However, the change in the government's procurement process and objectives significantly impacted heavy industry development in India, and TISCO undoubtedly stood to benefit. This shift presented an enormous opportunity and a market vacancy with the establishment of indigenous heavy industry.

It is important to note that the change had little impact on the large British firms in the space. For this reason, British firms were largely in favor of the change. British firms saw the change as an opportunity to divert manufacturing capabilities to India where they expected to capitalize on cheap labor. In the end, they predicted they would be more profitable because labor costs would decrease, and transportation times would condense and become more efficient.

The government was the majority purchaser of metals, railway material, and construction material. Any change in procurement policy would have “significant implications” for India.⁸² The intent of shifting manufacturing capabilities was not to establish an independent industry, but rather to support British firms and their quest to maintain high revenue and profit streams. However, a shift in manufacturing presented Indian firms with an opportunity to sell directly to the government and participate in government procurement.

⁸¹ Roy, *A Business History of India*, 127–128.

⁸² Roy, *A Business History of India*, 128.

In an unlikely alliance, British firms joined with Indian trading firms and collectively pushed for procurement changes. British firms were losing market share to American and German competitors and determined that reducing production costs through “inexpensive iron ore and cheap labor from India” was an effective solution.⁸³ For indigenous trade institutions, this was a push to secure domestic manufacturing capabilities, and these changes gave the British firms an opportunity to expand within India. As a result, a limited number of British firms were permitted to shift manufacturing to India. United through a common goal, they lobbied for a “decentralized purchase policy . . . through] a relaxed stores policy” which would equip them with a strengthened ability to engage with the growing number of indigenous private sector institutions.⁸⁴ Among these was TISCO, which stood to greatly benefit from the political shifts within industrial economic policy.

World War I provoked a significant shift in British presence throughout India. Military troops were redirected to support the war effort, and government officials and representatives were recalled as the British government redirected funds. Steel and other heavy industry in Britain shifted focus and produced items to support the war, leaving a vacancy in the Indian market as supply shifted. The railway projects continued to receive British funding, and the demand remained for materials needed to maintain and continue construction. The British war effort was dependent on the seamless performance of the railways. The vacancy in supply created a market opening where a demand shock emerged due to the war effort and resulted in an increased demand for Indian production.

⁸³ Vinay Bahl, “The Emergence of Large-Scale Steel Industry in India Under British Colonial Rule, 1880–1907,” *Indian Economic and Social History Review* 31, no. 4 (October 1994): 440.

⁸⁴ Roy, *A Business History of India*, 128.

Industrial Tariff Policy in Interwar India

The colonial government of India began a shift in governance and economic policy that started at the conclusion of World War I. In a break with historical practice, the colonial government began a consistent and marked pivot toward an increasingly protectionist stance. Changes in governance included the British Parliament passing the Government of India Act in 1919, which established elected legislature on the provincial level in India. A departure from established trade practices, this aimed to quell rising nationalist sentiment and serve as a path toward “duality” where both the British and Indians would rule together. The inclusion of indigenous representation in government was one of the most significant political shifts in colonial India. Changes in governance provided opportunities for politicians and agents to intervene in the interest of indigenous capitalists.⁸⁵ The Act restructured the government of India into a bicameral legislative and expanded Indian participation in government and state administration.

By 1923 the Indian Legislative Assembly had formed and adopted a resolution which outlined definitive economic changes:

- a) The fiscal policy of the Government of India may legitimately be directed towards fostering the development of industries in India;
- b) That in the application of the above principle of protection, regards must be had to the financial needs of the country and the present dependence of the Government of India on import, export, and excise duties for a large part of its revenue . . .⁸⁶

The pivot away from mercantilism meant that the fiscal power of the Indian government could be directed towards indigenous targets, such as heavy industrial

⁸⁵ Roy, 126-127

⁸⁶ David T. Chadwick, “The Work of the Indian Tariff Board,” *Journal of the Royal Society of Arts* 76, no. 3921 (1928): 205-207.

development. With a prescribed focus on trade, the Act paved the way for the creation of economic groups within government with the authority and power to recommend policy. The resolution went on to state that the principles were to be applied with discrimination, and introduced the creation of the Tariff Board as an advisory entity to the Government of India. The Tariff Board served to strictly assess requests for protective measures submitted by corporations or industry associates. Interestingly, there was no direct model or precedent upon which this Tariff Board was modeled. The government embarked on an economic policy centered on protectionist tariffs for heavy industry and coupled this with legislative actions that facilitated support.

General demand for steel fell dramatically once the war ended and consumption patterns changed. Contractions in global demand led to a steep decline in exports. Globally, these economic shifts compromised the capacity and ability to conduct business overseas. This was especially true in the indigenous steel industry, where Tata was dependent on hiring specialized labor and buying machinery abroad.

The conclusion of World War I sparked a global increase in protective tariffs which inherently thwarted industrial growth opportunities.⁸⁷ In India, protective tariffs were implemented to support and shield industrialization from global economic challenges. Furthermore, British politicians had an extremely favorable view of Indian heavy industry due to its contribution and performance during World War I. Industry was deemed “sufficiently valuable” and protectionist policies could be implemented without

⁸⁷ Lal, *Hindu Equilibrium*.

compromising British trade interests.⁸⁸ Protective tariffs had a significant impact and resulted in a stabilization in domestic manufacturing, with levels increasing from 1919 onward.

⁸⁸ Roy, *Business History of India*, 126. Roy goes on to explain that the implementation of protectionism “would not hurt British interests too much. . . . Imperial goods would still enter India at low tariffs whereas goods from other emerging economies, especially Japan, would face barriers.”

Chapter VI

TISCO and the Interwar Years in India

By the end of World War I, four indigenous steel companies existed in India: Indian Iron and Steel Company, Mysore Iron and Steel Works, Bengal Iron and Steel, and Tata Iron and Steel Company. Of these, only TISCO was a fully integrated steel plant which produced finished steel and operated on a large scale. The other three firms operated only in select portions of the steel supply chain. During the war, TISCO supplied 1,500 miles of steel railways and 300,000 tonnes of steel materials to the British war effort.⁸⁹ In comparison, Indian Iron and Steel had a production capacity of 500 tonnes per day of pig iron; Mysore was constructed to supply 20,000 tonnes per year of pig iron.⁹⁰

Because of its unique position, Tata benefited from a largely sheltered wartime market due to global disruptions of supplies.⁹¹ The government was a consistent consumer of steel and steel products. Iron reserves within India were plentiful and of very high quality. Coupled with a general global decline in demand for foreign products, these exogenous factors further negatively impacted industrial growth and production in India.

⁸⁹ Tata Steel, 102nd Annual Report, 2008–2009. https://www.tatasteel.com/investors/annual-report-2008-09/html/world_war_I_1914_1918.html.

⁹⁰ K.N.P. Rao, “A Brief History of the Indian Iron and Steel Industry,” (Internet Archive, 2021): 1-7. eprints.nmlindia.org/5558/1/1-7.pdf.

⁹¹ Roy, *Business History of India*, 131.

The greatest changes, however, stemmed from a pivot in focus in the economic actions and practices of the British government. Historically, the British focused all their actions and practices on supporting trade. The central purpose and reason for any project was always to support trade within the Empire. The railways are an excellent example of this notion put into action. Now, the British government's economic focus shifted away from trade and on to industry. With this change, the stature and influence of large companies, like TISCO, began to grow into a robust economic presence that was now coupled with a significant political voice. The "voice of the big industrialist" would dominate any "negotiations . . . over the future shape of economic policy in interwar India."⁹²

These externalities and demand shifts compromised the viability of the company. TISCO was able to navigate this period through a newly formed business strategy that focused on building its sales network to cultivate and capitalize on an emerging demand in domestic outlets.⁹³ Several factors played into TISCO's favor despite the economic difficulties faced in the post-war global economy. First, the potential productive capacity for steel far exceeded global demand; disruptions in global trade were exacerbated by "catastrophic changes" in foreign exchange markets.⁹⁴ Full productive capacity presented the opportunity for enormous levels of economic activity once demand levels returned to pre-war levels. The global shift toward free trade helped the prospects of increased participation in international markets. During the war, TISCO invested heavily in

⁹² Roy, *Business History of India*, 127.

⁹³ Nomura, "Selling Steel in the 1920s," 115.

⁹⁴ Chadwick, "Work of the Indian Tariff Board," 199.

upgrading machinery, building Jamshedpur and reorganizing facilities to increase efficiency and productivity. Machinery was purchased from British companies before and during the war. These investments were costly, and the incurred costs coincided with the conclusion of World War I. Furthermore, the implementation of these changes was not yet realized and were completed in 1923.⁹⁵

Estimates for production in 1923 were about 334% higher than actual production levels from 1921.⁹⁶ This increase was directly attributed to the completion of TISCO's expansion projects that were started during the war. Rapidly expanding production capacity proved to be an enticing aspect for new companies to enter the market, creating the potential for a robust industry. By 1924 actual production exceeded capacity, and TISCO became "the largest integrated iron and steel plant east of the Suez."⁹⁷

As a well-established and respected corporation, Tata was positioned to be a strong and formidable industry leader. Company executives were able to create a coalition of business leaders and local merchants who collectively opposed the government's *laissez-faire* stance and fought to maintain control over domestic outlets. This coalition operated as a lobbying entity and actively opposed the government's absence of regulations or presence and fought to implement policies and actions that would benefit heavy industry.⁹⁸ TISCO focused efforts on a newly created Tariff Board,

⁹⁵ Chadwick, "Work of the Indian Tariff Board," 199.

⁹⁶ Production levels in 1921 was 125,871 tons with projected production to reach 422,000 tons in 1923 once expansion projects were completed. Chadwick, "Work of the Indian Tariff Board," 199.

⁹⁷ Rao, "A Brief History of the Indian Iron and Steel Industry," 5.

⁹⁸ Here I employ the concept of the modern American lobbying firm: a single or group of corporations utilizing their market capitalization to influence economic policy set forth by the government. While this coalition was not a formal entity, and it did not have a clear set of operating objectives, their union served their purpose in a similar manner.

an influential group that recommended the adoption of specific economic actions to the government. In this case, TISCO sought to implement protective tariffs on imported steel, and steel products such as those used to construct the railways.⁹⁹

The conclusion of World War I created circumstances that opened a path of industrial growth and development. Historians and academics have accepted that India entered the economic phase of 'import substitution' during this time.¹⁰⁰ Import substitution is a common economic practice prevalent in developing economies. During this phase, economic policies and practices are crafted to support and foster domestic industrial growth.

Protective tariffs helped shield the steel industry from economic shifts during the interwar years, by encouraging domestic consumption over imported materials. The average import tariff rate increased continuously in the years leading up to, during, and after World War I. In 1905, the average rate was about 5%; this grew to 16% by 1913, 20% by 1929, and 23% in 1937.¹⁰¹ The effect was substantive, and the added real value of industrial economic enterprise grew rapidly, as shown in Table 2.

⁹⁹ Slater, 62-63

¹⁰⁰ Nomura, *The House of Tata Meets the Second Industrial Revolution*, 1240

¹⁰¹ Nomura, *The House of Tata Meets the Second Industrial Revolution*, 1240

Table 2. Real Value of Industrial Economic Enterprise, 1901–1942.

<u>Year</u>	<u>Real Value</u>
1901/1902	Rs 459 million
1911/1912	Rs 573 million
1921/1922	Rs 747 million
1931/1932	Rs. 1,026 million
1941/1942	Rs. 2,129 million

Figures are reported relative to prices in 1938/1939.

Source: Nomura, *House of Tata*, 1240.

The escalation of real value of industrial economic enterprise reflects the beneficial impact of the tariff policy on TISCO and the industry at large. Equally as important, the maintenance of protectionist economic policy is reflective of TISCO's growing political influence within the subcontinent.

TISCO was widely respected, and was credited with the ability to provide essential and necessary materials to support the war effort. Chadwick described Tata's

actions during the war as being of “great courage and enterprise.”¹⁰² This goodwill and strong reputation helped TISCO to navigate the tenuous and precarious interwar years. Uncertainty surrounding corporate viability was quelled through political relationships and economic influence on policy, specifically protective tariffs.

¹⁰² Chadwick, “Work of the Indian Tariff Board,” 200.

Chapter VII

Conclusion

With economic policy specifically crafted to limit the growth and success of a whole industry, how could TISCO rise to succeed, and last, during and after colonial rule? Within the scope of this thesis, the analysis of TISCO's development as a corporation illustrates why not only this company but also the industry at large was successful. India possessed a natural competitive advantage when it came to raw materials. Iron "deposits are the largest and best in Asia . . . in this rich iron supply lies India's greatest natural advantage for the development of heavy industry."¹⁰³

Modern ironworks capabilities entered India with the British railway projects. Ironically, iron and steel production are of "extreme antiquity" and India was believed to be the "original home" of both.¹⁰⁴ A deep-rooted history of pre-modern industry provided methods of production that would be "more efficacious" under Indian conditions than the more modern tools touted and used by the British.¹⁰⁵

TISCO, as an entity, combined indigenous practices with modern industrial technology. This melding reflected economic modernization that grew from and within the indigenous market. TISCO strategically positioned its mills to be in proximity to mines, taking advantage of naturally abundant resources. But industry could only develop

¹⁰³ Brush, "Three Colonial Port Cities," 39.

¹⁰⁴ Slater, "The Steel Industry of India," 63.

¹⁰⁵ Kerr, *Building the Railways of the Raj*, 11.

with the application of modern technology. While the British did bring some manufacturing capabilities into the subcontinent, TISCO also invested heavily in modern machinery.

There was undoubtedly a transfer of technical knowledge and modern technology as a result of the British presence in India. It is also a fact that British imperialism brought heavy machinery to the Indian subcontinent. However, all aspects of innovation and adaptation cannot be attributed to colonial rule. Once TISCO increased its financing capabilities, the company was able to compete at the same level as its British counterparts.

Early modern corporate development in heavy industry cannot be discussed without including a broader economic discussion. The question of the overall economic benefit to India of imperialism has been a hotly debated topic, often leading to polarizing views. In the context of the EIRC, Indian historian Bhandari argues that due to the support demanded by the British during World War I through World War II, the combination of overuse of the railways, diminishing monetary investment, and restricted labor commitments for maintenance led directly to a crumbling and nearly inoperable rail system, thereby eroding any plausible benefit for India.¹⁰⁶ This time period is important because India gained independence in 1947, shortly after the end of World War II.

Steel production in India did not cease during the wars. However, the purpose of steel production shifted, and therefore the overall economy suffered. This is an interesting point, and one that needs to be examined under a broader horizon that includes economic analysis of the years following independence. Bhandari's position, while relevant to the

¹⁰⁶ Bhandari, *Indian Railways*, 45.

broader economy, does not necessarily apply to the early corporate development within India's emerging indigenous industry.

As an entity, TISCO benefited from economic shifts during the wars, largely because it was able to align production to meet demand requirements. As a growing corporation, it was sufficiently nimble to swiftly shift to support market demand. Furthermore, by 1939, TISCO was operating the largest steel plant in the British Empire.¹⁰⁷ This fact alone is a strong counter-argument to Bhandari's claims, but it cannot be analyzed in a vacuum.

At the opposite end, historian Niall Ferguson has taken a pro-British stance, arguing that the high levels of British investment in infrastructure created a platform that allowed India to capitalize on the existing institutions to achieve economic success after gaining independence. In his book, *Empire*, Ferguson states that the British directed £270 million toward infrastructure development for railroads, roads, irrigation systems, and production development.¹⁰⁸ In the 1880s, this figure was equal to 20% of Britain's global investment portfolio. Ferguson argues that this investment in India helped to "modernize" the region and created a platform for India to achieve economic success.

Ferguson also asserts that his argument is not limited to physical infrastructure development, but applies as well to conceptual practices and economic functions. I find his argument to be flawed. Technology and machinery were provided by the British through economic practices that were specifically designed to support and nurture British industrial growth. The intent was never to share this with any Indians, a decision that

¹⁰⁷ Bahl, *Making of the Indian Working Class*.

¹⁰⁸ Ferguson, *Empire*.

grew out of necessity stemming from shifts in the global market and within the British political arena. I disagree that Ferguson's argument can extend past physical infrastructure because one could also assert this if the birth of industry is analyzed in a vacuum and within a very tight timeframe.

Mercantilism through a classically colonial economic structure was the principal factor in economic policy directed toward India. Changes in the early twentieth century were not drafted with the intent of liberalizing trade policy. Policy shifts were constructed so the British could maintain control while attempting to subvert independence and benefit the British private sector by allowing a route to continue capitalizing cheap labor.

From an economic perspective, ample evidence exists to prove that the British took active positions and roles to tilt preference toward British industry. It is important to note that promoting an environment for modern corporate development did not necessarily translate into a successful economic environment. The absence of government regulation caused catastrophic circumstances when faced with natural disasters and instability within the finance and banking sectors. Therefore, it is important to distinguish that the government's role was not one that provided stability; rather, it served as a literal functional extension of British private enterprise. It is entirely plausible that the absence of a regulating government created an environment for corporate development in early twentieth century India.

The impact of imperial legacy on early corporate development, however, is indelible. Corporate development was shaped by the Tata family and senior management within the company; it was also constructed in accordance with the economic, political, and operational circumstances. British imperialism cannot be attributed with the success

and rise of the Tata Corporation or the Indian steel industry. The established economic policies at the turn of the twentieth century were prescriptive in their mercantile intent.

Roy posits:

The British Empire that ruled India between 1858 and 1947 did not play a direct role in either making modern enterprise grow in India or obstructing such growth. But it did provide a giant integrated marketplace, kept capital and labour markets open, and provided basic institutional support such as codification of commercial law.¹⁰⁹

While this is a diplomatic and relatively neutral stance, it is accurate. Bahl takes a similar stance, asserting that the large-scale steel industry emerged “neither due to any ‘benevolent’ policies of British colonial rule nor as a natural culmination of Indian economic development.”¹¹⁰

British enterprise was an existing model of business in terms of structure and operational practices. The modern global economy consisted of joint-stock venture firms that actively engaged with capital markets, sourced international labor and talent, and prioritized the return on investment for shareholders. TISCO’s ability to model this structure supported its ability to participate on a global scale.

TISCO actively recruited and hired foreign engineering experts and maintained British and foreign nationals in management positions. Doing so served two extremely important functions: (1) TISCO was able to retain and train from people specialized in the latest technology and industrial practices, and (2) TISCO created an industrial apparatus that was recognizable and relatable to potential investors. The company was able to raise capital on a large scale, and in quantities necessary to sustain investment in

¹⁰⁹ Roy, *Business History of India*, 261.

¹¹⁰ Bahl, “The Emergence of Large-Scale Steel Industry in India,” 415.

modern technology and machinery. Heavy machinery to facilitate industrial production and development was available for purchase on the international market. The difference, Roy believes, was a disparity in money. India and Indian companies simply did not have it.¹¹¹

While TISCO mirrored specific areas such as corporate structure and capital sourcing, the founder and eventual leaders had a remarkably different approach toward labor capital. Perhaps not in a formally designated sense, TISCO built the company with labor as an investment, not a strict cost center. Productivity and wages came under harsh scrutiny during the interwar years. However, the socially responsible approach to community investment was, and continues to be, a stark contrast to conventional industrial corporations.

The contrast is most striking when comparing TISCO to the British industrial corporations operating in India at that time. At the behest of Tata's direction, the town of Jamshedpur was built specifically for TISCO employees and their families. While the aspect of social responsibility is apparent, the investment was also a good business practice. Jamsetji Tata was an ardent supporter of education and healthcare, and he invested heavily in philanthropic efforts that began as endowments in 1892. The reinvestment of corporate profits into the development of Jamshedpur shows a distinct collectivist approach toward the social corporate development of TISCO. The inflation-adjusted value of corporate philanthropic efforts can be calculated at \$102.4 billion in

¹¹¹ Roy, *Business History of India*, 262.

present-day dollars.¹¹² Economic evidence and established policy suggest direct benefit to British industry at the expense of India.

While that debate is robust and vigorous, this thesis cannot make assertions or take a position on the matter. It can be determined, however, that the British did provide an avenue into international capital markets through their presence in India. The creation of the present-day industry can trace its roots back to the exogenous influence of an imperialist presence. As the first fully integrated steel producer, TISCO blended the corporate infrastructure championed by the British with the cultural values shared among the Indian people. The success of the domestic-based industry is a factor of the existing infrastructure and endogenous practices and mores rooted in culture indigenous to India.

¹¹² News18.com. “Jamsetji Tata Becomes World’s Biggest Philanthropist in Last Century.” 23 June 2021. <https://www.news18.com/news/buzz/jamsetji-tata-becomes-worlds-biggest-philanthropist-in-last-century-3882074.html>.

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