Culture and Economic Development in Late Comers: Comparing China and India

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Abstract

China and India are both late comers to industrialization. Both adopted similar economic development strategies after World War II, but the per capita GDP diverged significantly in the last 40 years. While economic growth and development have many components, we explain the difference in economic performance by emphasizing the difference in state capacity in the two economies. A country's state capacity is affected by culture and history. China established a unified language and culture two thousand years ago that enabled it to develop strong state capacity. With a strong state capacity, China made crucial investments in infrastructure and in key heavy industries and developed technological capabilities to help start and sustain growth. India, on the other hand, is a country segmented by religion, caste, and language which has hindered the development of effective state capacity, and thus complementary state investments to spur economic growth. Moreover, India has up to now relied more heavily on expansion of its service sector compared to China, which has hindered its exports, a crucial element that helped China's economy. India's future industrialization crucially depends on national integration and concomitant strengthening of state capacity.

Keywords: Economic development, state capacity, technological capabilities, political economy, economy of China

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1. Introduction

China and India have the largest populations in the world with China's population recently surpassed by India. In the 1950s, India's GDP per capita was higher than that of China. China's per capita GDP surpassed India in the 1990s and the gap widened quickly. Now China's per capita GDP is more than five times that of India: according to International Monetary Fund's 2022 estimate, China's GDP per capita is US$ 12, 970 dollars compared to India's US$ 2, 466 dollars. Scholars frequently compare the two countries' economic performance to understand the causes of a divergence of such a magnitude. Both countries have adopted similar economic development strategies: economic planning (with significant presence of public enterprises) and import-substitution industrialization and, then switched to more open trade regimes. What are the key factors (such as difference in political regimes) that can explain the different performance of the two countries, and why did their GDP per capita gap widen when both countries opened their economies to international trade?

Economic growth and development are complex phenomena that have many components. Still, there is often a major variable that can help explain differences in outcomes. In the case of the different economic performance of China and India a key difference is their state capacity. The impact of state capacity on economic growth and development has received much attention from scholars (Besley and Persson, 2010) in recent years. State capacity initially referred to the state's capacity to raise tax revenues. The term has evolved to include a government's ability to effectively administer its national boundaries, maintain peace and order, enforce laws, provide public services, build the necessary infrastructure to facilitate economic growth and development. Factors that determine state capacity include the quality of its bureaucracy, the integrity of legal systems, and the level of corruption. For economies that are late comers to industrialization, state capacity is particularly critical for a country's political and economic stability, economic development, and the well-being of its people. But the level of state capacity varies widely among developing countries, as the case of China and India clearly demonstrate.

Nations differ in their state capacities. Some nations struggle with pervasive poverty, while others are successful in promoting various policy objectives that facilitate economic growth and development. A country's state capacity is affected by its history and culture. If behavior is determined by customs and culture, which are slow to change, a country's state capacity in implementing growth enhancing policies could be limited, particularly in the short run.

Since economic development is a complicated issue because it is determined by many factors such as culture, leadership, and resource endowments, we need a systematic approach to explain why some countries are more developed than others. In this paper, we compare the economic development of China and India after World War II and make the claim that state capacity was paramount to the success of China when compared to India. We also argue that history and culture affect state capacity and thus indirectly their economic performance.

China was unified by Qin Shihuang two thousand years ago and Chinese is a cultural concept rather than ethnic. China's economic growth in the last forty years has been high and consistent. The Chinese government has played an important role in economic development through coordinating large-scale infrastructure projects. One example is the Three Gorges Dam, which is the largest hydro-project in the world. With the development of technological capabilities, China’s economic growth has been robust and likely will continue for the foreseeable future. The Chinese government has developed high level of state capacity. The central government effectively enforces its authority throughout the country, with a highly organized bureaucracy and strong state institutions. It also has the capacity to implement large-scale infrastructure projects, reforms, and policies with relative ease. Furthermore, China's government has demonstrated its ability to maintain social order and control, partially through censorship and surveillance. However, these measures have led to concerns about individual freedoms. Corruption remains an issue, but the government has undertaken high-profile anti-corruption campaigns.

India on the other hand, is a country segmented by religion, caste, language, and land ownership. India has not developed adequate state capacity to facilitate the growth of manufacturing , particularly heavy and chemical industries, even though its central government tried. India’s economic growth to date has relied primarily on expansion of the service sector. Without enough market integration to adopt increasing returns technologies, India’s large population has not translated into large and expanding domestic market. India, being the world's largest democracy, has a different set of challenges and strengths compared to China. It has a complex bureaucratic system, often seen as less efficient due to regulations, red tape, and corruption. The decentralization of power in India has allowed for diversity and experimentation in policy but has also led to uneven economic development and inconsistencies in policy implementation.

The per capita GDP difference between the two countries became larger when China opened its economy to foreign trade. India also opened its borders to foreign trade, but the impact on economic growth was much less compared to China. The differential impact can probably be partially attributed to the deeper import substitution in China, which required exploiting backward linkages by developing heavy and chemical industries. Those two sectors have significant fixed costs and increasing returns to scale in production. In the initial stages of industrialization one sector can provide synergies to other sectors and coordinated public-private investments are more profitable. Because multiple sectors need very large investments, it would be highly risky for the private sector to invest in heavy and chemical industries. A country’s openness to trade makes key inputs and technologies available for domestic firms and export markets increase market sizes and make technology adoption in those sectors feasible and more profitable. Similar to the path taken by South Korea, China's strong state capacity made concentration of resources and the development of heavy and chemical industries possible.[1] India to date has not had enough state capacity to invest in heavy and chemical industries and relied on the service sector to grow. We argue that a strong state capacity made it possible for China to make full use of the opportunity of openness to the foreign trade to strengthen the manufacturing sector. The service sector development in China followed the development of the manufacturing sector, whereas in India, there was much less development of the manufacturing sector.

The role of culture in economic growth and development has received much attention from scholars. Current research on culture and economic performance focuses primarily on the impact of trust on economic performance. The results of this paper suggest that scholars should explore other channels on how culture affects economic performance, specifically the impact of cultural integration on state capacity and thus industrialization.

Industrialization in China has been studied by numerous scholars. Wen (2016) compares China's industrialization with the British Industrial Revolution. Frankel (2005) analyzed the political economy of India's development, and Panagariya (2008) investigated India's economic development since independence in a systematic way. Bosworth and Collins (2008) have compared sources of economic growth between China and India from 1980 to 2004. They find that China's growth relied more on growth in the manufacturing sector while India's growth has relied more on growth in the service sector. This paper contributes to the exiting literature by pointing out that state capacity is determined by both history and culture and emphasizing the role of state capacity in promoting and sustaining economic growth.

This paper is structured as follows. Section 2 looks at theoretical considerations of long-run economic growth in economies that industrialize late compared to the early industrializers such as Britain. Section 3 discusses China's industrialization from a historical perspective and investigates how China's already relatively strong state capacity was enhanced when it opened to the foreign trade. Section 4 illustrates how India's state capacity has been hindered by culture and history, particularly its caste system. We also present data on India's economic growth. Section 5 compares and contrasts the economic growth of the two countries and the main reason for the

[1] Watanabe (1978) illustrates South Korean government's role in developing heavy and chemical industries, such as establishing financial aid for the purchase of machinery, construction of industrial bases for priority sectors, and providing tax benefits for firms located in those bases.

differing performance of economic growth in China and India. Section 6 summarizes and concludes the main argument of the paper.

2. Economic Growth in Late-Comers

The role of government in countries that came later to industrialization was and is much more active. In his study of industrialization in Europe, Gershenkron (1962) emphasized the “substitutes” in late comers to what had been “prerequisites” for the early industrializers. According to Gerschenkron, late industrializing countries can benefit from what he called "advantages of backwardness." These advantages arise from the ability of these countries to learn from the experiences of more advanced nations and adopt newer technologies and techniques without the costs and risks associated with developing these innovations themselves. In other words, they can take advantage of the progress made by other countries and skip certain stages of development. Gerschenkron argued that these advantages of backwardness can be harnessed through a strong and interventionist state. He believed that a proactive government could play a crucial role in mobilizing resources, coordinating economic activities, and implementing policies to promote industrialization and economic growth. This approach often involved state-led investment, protectionist measures, and targeted policies to support specific industries or sectors. Furthermore, Gerschenkron emphasized the importance of financial institutions in supporting economic development. In countries with limited financial resources, he suggested that the state should step in and provide the necessary capital for investment, as private capital may not be readily available or willing to take on the risks associated with industrialization in a backward economy. Gerschenkron's theory of economic backwardness challenged the prevailing view at the time, which argued that countries starting from a less developed position would face insurmountable obstacles in catching up with more advanced nations. His work emphasized the role of institutions, government intervention, and learning from the experiences of other countries in overcoming the challenges of economic backwardness. Gerschenkron's theory has been subject to debate and criticism over the years. Some argue that his emphasis on state intervention can lead to inefficiencies, distortions, and dependence on the state, including a reduction in democratic institutions. Others highlight the importance of market mechanisms and entrepreneurship in driving economic growth. Nonetheless, Gerschenkron's ideas have made significant contributions to the field of economic development and continue to be influential in understanding the challenges faced by late industrializers.

3. State capacity and China's industrialization

China is the only uninterrupted ancient culture in the world. The main philosophies in China are Confucianism and Legalism, and both have been conducive to economic growth. Here are the reasons why both philosophies are conducive to economic growth. First, Confucianism puts a high value on education and does not emphasize the afterlife. Second, Legalism supports equal treatment of individuals before law. By emphasizing that individuals pursue their self-interest, and that institutions and incentives should be used to elicit desired behavior, Legalism is consistent with the tenets of the modern market economy (Zhou, 2011). Third, the Chinese culture is fluid and open: The case of Zhang Qian (张骞) who attempted to have his mixed blood son to inherit his viceroy position without facing any opposition in the Han dynasty serves as an example. The concept of being "Chinese" is a cultural one rather than an ethical notion: anyone accepting the Chinese culture is viewed as a Chinese (Ge, 2013). Confucianism, Legalism, and the open and fluid Chinese culture minimize what can be termed as "tribalism," that can lead to social divisions.

China has a high degree of internal cohesion. China's strong state capacity has a historical and culture roots (Brandt, Ma, and Rawski, 2014). During the Spring Autumn and Warring States Periods (770 BC- 221 BC), states already registered citizens for taxes and military services. After conquering six competing states, Qin Shihuang's unified China in 221 BC. His unification of language and measures helped to achieve network externalities and reduced and minimized transaction costs. With the establishment of the commandery-county system across the country in the Qin dynasty, China has a long history of effective central government rule (Zhou, 2018a).[2] Since the Sui dynasty, the government used the imperial examination system to select government officials. This system was highly competitive and facilitated social mobility and the social and economic integration of the country (Zhou, 2018a). While there are regional dialects, the writing of Chinese is uniform across the country. Overall, China has a long history of integrating ethnic minorities and promoting a common language and culture. This social integration facilitated and

[2] In Chinese history, the Yuan and Qing dynasties were established by nomadic people. The Yuan dynasty was founded by Mongol, and its political institutions were based on combining Chinese and nomadic traditions. The Qing dynasty was founded by the Manchu people. The Manchus accepted Chinese culture and were integrated with other Chinese.

strengthened state capacity, which in turn made possible government policy implementation. Social and economic integration also helped the formation of a large market required for mass production and mass consumption in a modern society.

China's industrialization started during the Self-Strengthening Movement (洋务运动) in the Qing dynasty (1644-1911). Faced with significant external threats, local officials such as Zeng Guofan established military related industries in China and sent students to study abroad in the 19^{th} century. Treaties with foreign countries set China's tariff rates at about 5 percent. But industrialization during this period was not successful, perhaps because of inability to set tariffs or government subsidies to domestic industries. Adding to these impediments to industrialization was China's defeat in the first Sino-Japan War. The war reparations further damaged Qing government's fiscal health and reduced the possibility to subsidize domestic industries. Political reform increased local autonomies and Qing government collapsed in 1911. China's Self-Strengthening Movement is a typical example of industrialization under external threats and internal rebellions such as the Taiping Heaven Movement. To handle those challenging issues, state capacity is important.

The Nationalist Party was defeated in the civil war and escaped to Taiwan. The Communist Party took over power on China's mainland in 1949. China conducted land reform in the 1950s and large landowners disappeared. Under Chairman Mao Zedong, self-reliance was encouraged and practiced, and a comprehensive industrial base was built under import substitution. Income distribution was relatively equal. Infrastructure improved, with many dams built to help with the electrification of the country. With the spread of universal education, human capital improved (Zhu, 2012). However the civil strife brought about by Mao Zedong's reforms had deleterious impact on economic growth.

China's relation with Soviet Union deteriorated in the 1960s, while relations with the West improved in the 1970s. Highly impressed by the economic success of four Asian tigers (Singapore, Hong Kong, South Korea and Taiwan), China under the leadership of Deng Xiaoping began to economic reform internally, while also opening and promoting trade with the rest of the world in the late 1970s. At that time, United States needed China's cooperation in fighting the Cold War with the Soviet Union and thus China found a relatively welcoming international environment (Vogel, 2011). Domestic market reforms that facilitated and promoted the rise of the private sector increased efficiencies. China privatized many small and medium sized state-owned enterprises in the 1990s and kept mainly the large ones. While maintaining an independent foreign policy, increasing foreign trade facilitated the adoption of foreign technologies (Qian, 2017). Many Chinese were sent abroad to study. Government officials were also sent abroad to be trained. These foreign trained students and government officials welcomed foreign direct investment. These positive developments contributed to China's impressive growth rate in the last four decades.

As one of the four initial Economic Special Zones, Shenzhen is an example showcasing the success of China's internal reform and openness to trade and foreign direct investment. Next to Hong Kong, Shenzhen's success was made possible by these reforms. Before the reform era, it was a fishing village. With strong state capacity, China built infrastructure in Shenzhen quickly. Initially Shenzhen attracted overseas investments in labor-intensive sectors, but soon attracted firms with more advanced technology. Currently the population and GDP of Shenzhen are larger than those of Hong Kong. With many innovative firms such as Tencent, Shenzhen is at the cutting edge of technological innovation.

China's strong state capacity is also demonstrated by the central government's firm control over the military, in contrast to the military overthrow of civilian governments in some Latin American countries. To concentrate resources on economic development, China reduced the size of its military personnel by one million in the early 1980s under the leadership of Deng Xiaoping. To reduce oppositions from the military, its members were allowed to engage in commercial activities even though this strategy increased corruption. While fees and fines are frequently used for government revenue, with mechanisms such as visits of central censor committee of the Communist Party, overall corruption in China has been reduced.

State capacity steadily increased during the reform era. At the beginning of the reform era, provincial governments had fixed fiscal revenue quota that needed to be transferred to the central government. The fiscal revenue quota had the effect of incentivizing the provincial governments because they could keep additional revenues. However, the percentage of tax revenue going to the central government declined. Under Vice Premier Zhu Rongji who was supported by Deng Xiaoping, China established tax sharing between the central government and provincial governments in 1994, which increased the percentage of tax revenue going to the central government. In addition, the central bank system was reformed to reduce provincial governments' influence on money creation. Those measures increased the central government's capacity in conducting monetary and fiscal policies (Yang, 2004). Moreover, government officials could be evaluated by regional economic performance, and they could get promoted if the GDP growth rate was higher than expected. Thus, local officials were incentivized to use expansive policies to promote local economic growth.

China's prodigious state capacity is exemplified by its provision of infrastructure and public services. The central government has taken extraordinary measures to ensure the supply of electricity during the process of industrialization, for example, building various large dams like the Three Gorges Dam. With a capacity of 22,500 megawatt, it is the world's largest power station in terms of installed capacity. By acquiring foreign technologies through this infrastructure project, China has established technological capabilities in building electricity generating facilities. To ensure water supplies for northern cities, the South-North Water Transfer Project was built to transport water from south to north. Those projects rely on strong state capacity because large amounts of investments were needed, and tens of thousands of people had to be relocated when those projects were built. For example, the building the Three Gorges Dam led to relocation of more than one million residents, many of them relocated outside Hubei province. The central government also needed to coordinate the interests of provinces affected by those projects. To fund those projects, surcharges on electricity and water were imposed nationally.

In addition to providing basic services, China's state capacity is shown in coordinating research and development. Recognizing that technological development is the source of sustained growth and industrial development, the Chinese government emphasizes the development of technologies.[3] In terms of policy making on science and technology, the National People's Congress established laws on science and technology. The Chinese People's Political Consultative Conference provides suggestions. Among the ministries below the State Council, the Ministry of Science and Technology is a principal player of science and technology policy. This ministry works together with the National Development and Reform Commission, the Ministries of Education, Agriculture, Health, and Industry and Information Technology. The Chinese Academy of Sciences and the Chinese Academy of Engineering provide advice on science and technology policymaking. Modeled on the National Science Foundation in the United States, the National

[3] China's organization of research was initially heavily influenced by the Soviet Union model. Under the Soviet model, production, innovation, and research were separated and conducted by different organizations. The Central Committee of the Communist Party of China passed the Resolution on the structural reform on the science and technology system in 1985. This started the reform of the Russian system. The reform provided incentives to players and increase the degree of coordination among them.

Natural Science Foundation of China supports research projects through peer review processes. Still, the China Communist Party has final say in innovation policymaking. The establishment of the leading group at the State Council level institutionalized coordination among the ministries (Liu et al., 2011). The government has various policy tools to enhance R&D, such as the direct earmarks schemes, special loans schemes, and the tax credits schemes. Tax Credits are often provided to high-tech enterprises that are newly established in science and technology parks or high-tech zones. After China joined the WTO, one policy recently used is the national procurement policy (OECD, 2008). Initially, policies on science and technology were narrow, primarily dealing with industrial policy. But with time, policies become more comprehensive, and included procurement of goods and services, R&D subsidies, and industry standards (Liu et al., 2011). In short, there was a movement from an uncoordinated, piecemeal style of policy making to a coordinated whole-of-government approach (OECD, 2008). The higher degree of coordination of policies can be seen from some mega projects, such as the high-speed rail project (Zhou, 2018b). Developing new technologies are fixed costs. Like heavy and chemical industries, larger market size helps developing new technologies. The number of patent applications from China has grown very quickly in the past decade (Wei, Xie, and Zhang, 2017) and now China has the largest number of patent applications in the world, which attests to China successful policies thanks to strong state capacity.

State capacity is evident in the government's sectoral policies. The introduction of household responsibility system in the agricultural sector in the late 1970s gave peasants more freedom (Xu, 2011). This allowed peasants to find jobs in the manufacturing and service sectors, with the result that employment in China's agricultural sector decreased over time. Regional specialization in agricultural products is now common in China, such as the production of potato in Gansu province (Zhang and Hu, 2014). The agricultural sector benefited from research and development and growth in the manufacturing sector. Research and development in the agricultural sector were at least partly due to government policy. Agricultural production has benefitted from better seeds and increasing supplies of fertilizers. China built large fertilizers producing factories for agricultural use. Mechanization of the agricultural has also grown rapidly (Zhang, Yang, and Reardon, 2017).

Sate capacity was also crucial for the manufacturing sector, which can draw upon a vast underutilized labor pool in agriculture. Not surprisingly, China exports textile goods which are labor-intensive products. Large investments by the state in heavy and chemical industries provided important inputs for many other industries, creating synergies between them. Some key sectors developed rapidly during China's industrialization. After China opened to its economy to foreign trade in 1978, the construction of Baoshan Steel (now the Bao-Wu Group) started in Shanghai thanks to a large investment by the state. With a lot of controversies, such as location choice (land was sinking and not close to the supply of raw materials), massive usage of foreign exchange (which turned China's reserve surplus to negative), and investment level (to that date the largest investment project in China), this company imported Japanese technology and thus relatively modern. This very large steel production project shows that a strong state capacity combined with openness to trade generated strong performance: a strong state capacity was needed to make the initial large investment possible, and government policy helped concentrate research institutions located at different places in China to better absorb foreign technologies while openness to trade translated into needed bauxite and technologies only available overseas. In 2022, China produced more than 1 billion tons of steel,[4] more than half of world output. During the Great Leap-forward period, the output was much lower even though the country painfully tried to concentrate resources on steel production. With decades of development, China's shipbuilding industry is also the largest in the world. Like the case of South Korea, the development of the shipbuilding industry generated synergies with the steel industry (Amsden, 1989). A lower price for domestic steel increases the competitiveness of the shipbuilding industry.

Not all manufacturing sectors have been equally successful. Faced with huge foreign exchange pressures, China engaged in import substitution through forming joint ventures with leading foreign automobile firms.[5] However, state owned enterprises (SOEs) stopped producing their indigenous brands after forming joint ventures with foreign firms. The automobile industry initially relied on a strategy called "market for technology": exchanging China's large market for foreign technologies. While China produces more than 20 million cars a year, indigenous automobile firms are not strong in research and development.

[4] Data source: National Bureau of Statics, China, http://www.stats.gov.cn/sj/zxfb/202302/t20230228_1919011.html
[5] China's automobile industry started with the building of the First Automobile Company under the help of the former Soviet Union in the 1950s. The Second Automobile Company was built by China's own effort. Before 1978, China's automobile companies focused on modifying foreign products and adopting them to China's local conditions. In the 1980s, China had huge increase in automobile imports. Smuggling was large and reached several times legal imports (Chu, 2011).

As for the development of the service sector, Confucianism puts a high value on education and China has a long tradition of investing in knowledge acquisition and human capital. Starting in the 1990s, higher education in China expanded dramatically, thanks to very large state investments. Post secondary institutions started to charge tuitions in the late 1980s, and the requirement to guarantee jobs for graduates was eliminated. These developments led to much higher number of students admitted to colleges and universities. Currently a majority of high school graduates go to colleges and universities. To capture economies of scale in the education sector, some universities were merged.

For transportation service, highways and railroads were built thanks to central government policy. China's railway system became the longest in Asia, surpassing that of India. Government coordinated the research and development of technologies for high-speed trains. China's high-speed train forms a well-coordinated network and is the longest in the world: China's mileage of high-speed trains is higher than the sum of the rest of the world. While high-speed trains are not profitable, high social benefits and positive externalities are generated, including a more integrated national economy through the reduction of transaction costs. Strong state capacity helped formed a well-developed transportation sector which facilitated the integration of the domestic market. The importance of a strong transportation sector in economic development cannot be exaggerated.

There are various concerns with China's future development. One is that China needs to formalize institutions for selecting national leaders so as to make changing of leaders a smooth process. Another concern is regional income inequalities. Areas in Southern China, such as Guangdong have done a better job than areas in northern China such, as Liaoning, in research and development and economic performance. Adding to regional economic inequalities is the decline in population in the North, especially from the migration of individuals with high levels of human capital to other parts of China.

Despite these concerns, overall China's industrialization in the last 40 years is highly remarkable. After World War II, not many countries were able to industrialize successfully. China's industrialization is a representative case of successful late industrialization. For late comers, with larger scale of production in many industries, governments are usually active in concentrating and investing resources to stimulate industrialization (Chang, 2003). China's successful industrialization can be at least partially attributable to the following reasons which affect China's state capacity. While many Chinese are influenced by Buddhism informally, the impact of organized religion on politics is relatively limited. Buddhism temples do not own much land in China. The amount of resources used in religious activities is not significant in most parts of China.[6] With land reform in the 1950s, there is no large landowner in China. Theoretically, there is no private land ownership in China. Thus, there was no organized opposition to industrialization from the agricultural sector when the state tried to promote industrialization. With a homogenous population, a large market size helps the adoption of increasing returns technologies.

4. Economic development in India

As we will see, state capacity was not nearly as well developed in India compared to China. Hindering the development of state capacity is the much more heterogeneous nature of India's social and religious culture, which make policy consensus difficult.

Hinduism is the religion held by more than 80% of the population in India. Religion can affect an individual's attitude toward current life and after life,[7] and thus impact economic growth indirectly. One aspect of India culture is the existence of the caste system, which is related to the division of labor in society. Berreman (1960) argued that the caste system in India is similar to racial segregation in the American South. The caste system plays an important role in India's economic life, in schools, and into old age (Munshi, 2019), with deleterious effect on economic growth.

Before the East India Company of Britain came to India, the Mughal Empire ruled parts of South Asia and there were many princely states. The Mughal Empire was founded by Muslims, while employing officials of different religions. British rule left mixed results on the Indian economy. Inspired by the imperial examination system, the civil servant system was established in India, which is a positive. For the agricultural sector, irrigation projects were built (Gupta, 2019). Without tariff protection and technological capabilities, India could not develop its textile industry.[8] With the fast improvements in textile industry technologies during the Industrial Revolution in Britain, India changed from an exporter of high-quality manufactured textile goods

[6] It should be noted that in the past in some areas of China, such as Northern Wei, temples owned significant amounts of land and there were many monks. With lower tax base, government revenue suffered, but government action reduced the amount of resources used for religious activities.
[7] One example of how religion belief can reduce efficiencies is the following: Cows have scared status in Hinduism and there are millions of cows in India. Cows on streets hinder traffic movements.
[8] Britain took various measures to protect British textile industry, such as prohibiting import of manufactured goods made in India.

to an importer of mass produced and lower priced manufactured textiles. Under British colonial rule, railways were built. However, with inputs for constructing the railways mainly imported from Britain, the level of backward linkages generated from them were not large. Under British rule, India was integrated into British trading system. The two largest industrial sectors for colonial India were tea processing, mainly for export, and high quality textile manufacturing. Overall, the objective of British government was to maintain law and order, rather than to promote economic growth in India.

After more than one hundred years of colonial status, through nonviolent resistance under the leadership of M. K. Gandhi, India gained independence from Britain after World War II, Pakistan previously part of India during the colonial period became a separate country based primarily on religious beliefs.[9] Prime Minister Jawaharlal Nehru integrated princely states under British indirect rule into India and promoted English and Hindu as the official language and religion of India. In terms of economic development, he tried to develop basic and heavy industries in India. For foreign policy, Nehru promoted the Non-Aligned Movement.

Like many developing countries, after World War II India followed a policy of import substitution to develop its manufacturing sector by instituting high tariff rates. While Prime Minister Nehru valued foreign capital and technology, Prime Minister Indira Gandhi nationalized the major banks, oil companies, and coal mines (Panagariya, 2008, xvii), which greatly retarded foreign investments, and thus the importation of foreign technologies. India's average tariff rate was high even compared with other developing countries. The policy of import substitution however resulted in inefficient low scale production. To further import substitution, investment in heavy and chemical industries would be needed. However, in a pluralist society with high pressure to create jobs, the government of India did not have the state capacity nor the mandate to concentrate resources on financing and building capital-intensive industries with backward and forward linkages to upstream and downstream sectors. In Gershenkronian terms, India is a latecomer without the prerequisites the early industrializers had, but also lacking government action that would substitute for those prerequisites. Starting in the 1980s, India tried to encourage market forces and open in a piecemeal way. The Soviet Union, a major foreign aid provider of India, collapsed in 1991. The collapse of the Soviet Union led to a fiscal crisis in 1991 forcing

[9] Pakistan initially had an eastern and western part. In 1971, the eastern part gained independence from Pakistan and became Bangladesh.

India to open to the foreign capital and international trade. The fiscal crisis did not help to enhance India's state capacity. Reform measures such as the elimination of licensing on machinery and raw material imports, and lowering industrial tariffs helped to increase India's growth rate (Panagariya, 2008), but with poor state capacity the growth rate pales in comparison to that of the Chinese economy. India has been a member of the World Trade Organization since 1995, earlier than China which joined this organization in 2001, but its relatively slow rate of growth of its manufacturing sector could not translate into expanding exports. We have already noted that India's service sector has had favorable growth rate, but services in general are more difficult to export even though some services are exportable.

It is frequently argued that high income helps to maintain democracy in a nation. India is still a low-income country in 2023. At low levels of income, it is remarkable that India has maintained its democracy based on relatively uninterrupted elections since independence. Empirical research shows that generally economic growth under a democratic form of government is more stable. But the empirical evidence suggests that a democratic form of government is more stable and functions more efficiently in more homogenous societies. Some scholars have argued that India's democracy is precious (Lamba and Subramanian, 2020).[10] But in a democracy, measures taken to win votes by politicians can decrease economic efficiencies, particularly in late comers. For example, Herring (1999) and Frankel (2005) have argued that Indira Gandhi's nationalization of banks was for election purpose, rather than trying to improve economic efficiencies. Frankel (2005) shows that local politicians in India promised free electricity for peasants to win elections. This led to huge waste of scarce resources and the cost of this project was about the same size as the annual education budget of India.

Another drawback for the Indian economy, which has roots in the distant past, is the caste system, which hampers social mobility and social and economic integration. While land reform was frequently proposed in India, India has not enforced land reform successfully. Under India's 1949 constitution, enacting and implementing land reforms was the responsibility of states. States differ in their number and types of land reform. Overall land reform in India after its independence was limited. This is understandable from political economy perspective since land reform would

[10] Some high growth periods in East Asia were not under democracy. For South Korea, the high growth period during President Park was in fact a military dictatorship. Singapore was not a fully democratic country under Premier Lee Kuan Yew, but its economy fared very well.

harm the interests of land owners, and the Congress Party needed the support of land owners to win elections. With differences in languages, religions, and castes, the distribution of political power in India is diverse and fractured (Myrdal, 1968). After the split of the National Congress, India politics became even more fragmented, with hundreds of parties, and many of them are purely local (Frankel, 2005). Such political fragmentation is not conducive to strong and effective state capacity. With religion and customs playing important roles determining behavior in India, the strong role of government in the economy required for late-comers is severely curtailed. Without social integration, market sizes for goods will not be large enough for the adoption of profitable increasing returns technologies.

Economic development may be directed by the private sector under the market-oriented approach or by centralized decision making (the government). Neither of the two functioned well in India. First, while India government implemented various five-year plans, the power of India's central government to successfully carry out those plans was severely limited. Often the central government and state governments were not controlled by the same party, leading to diverse and competing policy objectives.[11] Without strong state capacity, India's economic development has not been able to overcome the negative aspects and influence of its colonial past. Indira Gandhi attempted to use emergency control so that she could have more concentrated power to implement her desired policies was probably driven by the desire and need to increase state capacity. With economic policy often influenced by religion and custom, the role of government has been much less pervasive than in China. One of the results of a lack of state capacity has been systematic corruption [12]and corruption is not conducive to economic growth.[13] A non-negligible percentage of elected government officials in India have been indicted and successfully prosecuted in courts of law.

Second, the private sector in India has its own problems and has been harmed by the existence of a large public sector, labor market rigidities, and government regulations through licenses. India is sometimes referred to as "license Raj". The private sector's success also depends on a large and unified national market. The caste system by definition segments markets. The caste system is related to low status of women, which impedes and diminished the labor market. The

[11] One benefit of diverse fragmented distribution of political power is the absence of military coups in India.
[12] The usage of licenses means more governmental intervention and could lead to opportunities for corruption.
[13] One interesting question is why the USA was successful in reducing corruption in the 19th century while corruption in India appears to have increased after independence.

caste system is also associated with extreme income inequality: Those in high castes own much wealth and members of low caste members have little in the way of income or accumulated wealth. Job market discrimination also translates into lower incentive to acquire human capital by the lower castes.

The labor-intensive sector in India was not strong in exporting because of government regulation (Panagariya, 2008). Tata Group is a top firm in India and can be used as an example. Under the guidance and supervision of its own board of directors and shareholders, each Tata company operates independently. The group has not demonstrated coordination capacity of large scale investment in multiple manufacturing sectors, as is the case in some South Korea conglomerates.

Much of India's relatively weak economic development compared to China can be attributed to overall weak state capacity. Investments in heavy industries have not been sufficient to provide the necessary backward and forward linkages necessary for more rapid economic growth. One example is that while India's agriculture benefited from the Green Revolution and saw significant expansion due to population growth, further growth may be harmed by lack of chemical fertilizers, which depends on development of the manufacturing sector, particularly heavy industries.

India's lack of strong state capacity is evident in the slow development of much need infrastructure. At the end of World War II, the total length of India's railway was larger than that of China, but currently China has surpassed India. India's transportation facility needs to be improved and this is well recognized, but relocating residents when constructing railways may not be easy in a country where there are different political parties in power in states and municipalities. Without an extensive transportation sector, India has developed a strong information technology sector providing services for foreign firms.

What is the growth prospect for India? Unfortunately democracy did not weaken the caste system (Frankel, 2005). Upper income groups benefit from the existence of the caste system. Even with government affirmative actions, castes provide social networks with access to capital and job opportunities and the growth of a market economy has not much weakened the caste system. The caste system is maintained through endogamy, which has persisted in India for thousands of years (Munshi, 2019). Culture and social norms change slower compared with formal institutions, and it is unrealistic to expect endogamy and the caste system to disappear any time soon, unless there is concerted government policy to eliminate it. Democracy has to some extent helped maintain political stability in India, but a combination of a caste system and democracy has led lead to much anemic economic performance in India. India's industrialization in the future depends on whether the government can promote a more integrated nation in terms of culture and social habits.

5. Comparison and implications

There are similarities in the paths of economic growth and development of India and China.[14] First, both countries have independent international relations and have shown the potential to develop technological capabilities. Second, SOEs are significant in both countries. India promoted a "mixed economy" and SOEs occupied "commanding heights" after India's independence (Panagariya, 2008). India nationalized banks and insurance firms and some sectors were reserved for the public sector. SOEs are also important for the Chinese economy, for example in airlines, railways, and in finance. Third, both countries' development strategies were influenced by popular ideology. Both countries engaged in import substitution and relied to a significant extent on central planning after World War II. Both countries moved from a relatively closed economy to a more open economy and moved away from the central planning model to a more market oriented approach to spur on economic development. Still, the adoption of similar approaches to economic development has yielded appreciably different rates of economic growth and development.

What stands out in the comparison of China and India is the difference in their state capacities to overcome the necessary conditions that the early industrializers, such as England and France had but are lacking in late comers China's state capacity developed earlier and was stronger compared to India before the reform era. Difference in state capacity became obvious in border conflicts between the two countries in 1962. The difference of state capacity has only grown larger in the past six decades. The difference in state capacity can be at least partially explained by underlying cultural and historical differences between the two countries. In addition to difference in political regimes, there are other significant differences between the two countries. First, in terms of language and culture, China is much more homogenous when compared with India, which

[14] As demonstrated by their immigrants in the United States, citizens in both China and India emphasize investment in education and human capital. Parents spend much time and resources in educating children. Both China and India have large number of students studying overseas and large number of immigrants.

facilitated the growth of state capacity. In addition to Hindu and English, India has many official languages at the state level which has hindered the growth of state capacity. Second, the two countries differ in the process by which important policy decisions are reached. India's heterogeneous political system makes it difficult to get consensus on important policy decision that impact economic growth. Compared with India, political power in China is more centrally concentrated. Moreover, labor unions are more powerful in India than in China, further making unlikely that important policy decisions concerning economic growth will get consensus. The Chinese government is better able to pursue policies that take the different regional interests into consideration when designing national policies. It should also be noted that China and India both had a large state sector before China's reform from the late 1970s and India's reform from the 1980s, but China moved quicker to a market oriented economy, compared to India.

Difference in state capacity ultimately lead led to a significant divergence in economic performance in the two countries. China's government has been able to better concentrate resources to where they were need in the economy in the initial stage of economic development. Methods used in China to increase national saving before the reform include low wage rates for urban workers, limited expenditure on residential building and low prices of agricultural goods (Lin, Cai, and Zhou, 2003). In India, the ratio of investment to GDP is lower than that of China. China's growth has relied on the manufacturing sector while India's growth has come from the service sector. China's total factor productivity has increased at a higher rate than that of India (Bosworth and Collins, 2008). For 2022, China's GDP is 121.0207 trillion yuan, the agriculture sector is 8. 8345 trillion yuan, or 7.3% of GDP, the manufacturing sector is 48. 3164 trillion yuan, or 39.9% of GDP; and the service sector is 63. 8698 trillion yuan, or 52.8% of GDP.[15] In terms of India nominal gross value added at basic prices by industry of origin, for fiscal year 2021-22, the total is 210. 36541 trillion rupees, the agricultural sector is 44. 20613 trillion rupees, or 21. 01% of GDP, the manufacturing sector is 54. 57973 trillion rupees, or 25. 95% of GDP; while the service sector is 111. 57974 trillion rupees, or 53. 04% of GDP.[16] The difference in the size of the agricultural sectors in the national economy in the two countries, India with 21 percent of GDP compared to China's 7.3 percent is reflective of how much further behind India's economy is compared with China. Second, a country's economic competitiveness can be seen clearly from its

[15] Data source: National Bureau of Statics, China, http://www.stats.gov.cn/sj/zxfb/202302/t20230228_1919011.html
[16] Data source: Economic Survey 2021-22 Statistical Appendix, p. 12

position in international markets. China exports a wide range of manufactured goods, from labor-intensive goods to capital-intensive goods and frequently has large trade surplus. India's share of export of textile goods is much smaller than China. India frequently has a trade deficit. Compared with India, China attracts much more foreign direct investment. Growth in foreign direct investment and growth in trade in China increased together because a significant percent of trade in China is conducted by foreign affiliated firms. For international trade between the two countries, China has a significant trade surplus with India. Finally, foreign direct investment does not always increase a country's technological capabilities, as the case of India shows. With strong state capacity, a remarkable thing about China is that both technological capabilities and foreign investment increased.

How does this comparison relate to development theory? The role of capital accumulation is emphasized in the Lewis model of economic development. To make capital accumulation possible, saving is needed for investment. Saving is endogenous and cannot be used to explain why some countries grow while others do not. The "big push" theory emphasizes demand externalities and interaction among industries (Murphy, Shleifer, and Vishny, 1989). The experiences of China and India indicate that increasing the amount of saving and coordinating industrial development is facilitated e by strong state capacity. This is especially the case in late-comers to industrialization.

Economic development paths of China and India reveal that culture and history matter for economic performance, particularly as they impact the formation of state capacity. Political regime is just one of the many factors affecting the economic performance of a country and the choice of political regime may be viewed as endogenously determined. A long history of central government rule increased population homogeneity and state capacity and helped the adoption of increasing returns technologies. Future studies could explore how culture affects economic performance through affecting market size and the adoption of increasing returns technologies.

What policy recommendations for the two countries arise from the results of this paper? China's extraordinary growth in the last forty years has come about because of market reforms and openness to trade, along with its strong state capacity. One suggestion for China is that the government should take measures to control the level of trade surplus so that it is sustainable over the long term.

Industrialization is associated with the adoption of increasing returns technologies (Murphy, Shleifer, and Vishny, 1989). A larger market size makes the adoption of increasing returns technologies more profitable (Zhou, 2009). Population size is not equal to market size. Market integration is important for the adoption of increasing returns technologies and thus industrialization. One suggestion for India's economic development is to integrate the population ethnically and economically, as envisioned by Prime Minister Nehru. The tax reform conducted by Prime Minister Narendra Modi has helped to some extent to integrate the domestic market in India. As we noted throughout the paper, strengthening its state capacity would enhance India's industrial growth and development.

6. Conclusion

It should be noted that state capacity is not a fixed attribute; it can evolve and improve over time, depending on various factors such as leadership, policy choices, historical legacy, and external influences. In late comers sustained economic growth over time requires the active role of government to substitute the missing prerequisites that the early industrializers such as England and France had evolved over time.

In this paper, we have emphasized the importance of state capacity to economic performance and we compared and contrasted the economic performance of China and India to make the case that not an insignificant part of the divergence in performance was due to state capacity. China and India have different culture and political institutions and the two countries have different state capacities in implementing policies. In terms of culture, Confucianism in China emphasizing benevolence (Zhou, 2011) is different from caste system which has hindered social mobility in India. While officially outlawed, caste is related to the Hindu religion, and thus still highly influential in India today. The caste system has led to a more segmented markets in India, be it labor or financial markets. In terms of institutions, historically different people came to India, contributed to population heterogeneity. Before the arrival of British East India Company, India was already politically fragmented. With federalism, central government and local governments are frequently ruled by different parties. Overall, India's state capacity did not help India's economic growth because it was lacking. With a strong state capacity to implement large-scale projects, China took the opportunity of opening its markets to foreign trade in the 1970s. With the development of technological capabilities, China's growth will sustain. Without land reform, India's development pattern is different from East Asian economies such as South Korea which developed heavy and chemical industries with large levels of capital investment. The lack of appropriate state capacity has resulted India's growth to be primarily led by the service sector. Sustained growth in the service sector needs to be based on development of the manufacturing sector.

By necessity, late comers to industrialization need more government involvement to make up for the lack of prerequisites required in the initial stages of industrialization. We have made the argument that at least part of the explanation for strong state capacity in China has been its more homogeneous culture compared to India. But the different forms of government also played a role in explaining the difference in state capacity between India and China. Even in a more homogenous culture with a democratic form of government it would be difficult to imagine the kinds of unilateral policy decisions made by the Chinese government. Economists are fond of pointing out that there are no solutions, only trade-offs. For current developing nations that lack state capacity, a more centralized form of government might be more conducive to economic growth, but the costs would be a reduction in democratic institutions. This is a trade-off that all developing nations may need to address in the future.

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