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**How far can Gerschenkron's theory of Economic  
Backwardness be applied to non-European nations  
industrialising in the 20<sup>th</sup> Century?**

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**Aske First Prize winner in the Humanities and Social Sciences**

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## **How far can Gerschenkron's theory of Economic Backwardness be applied to non-European nations industrialising in the 20<sup>th</sup> Century?**

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In 1962 Alexander Gerschenkron published *Economic Backwardness in Historical Perspective: A Book of Essays* and in doing so created a framework that modelled the development trends of several European nations. Five years later in a speech to the Economic History Association, he advised that an attempt to generalise the framework and apply his model worldwide would not result in the same success. He made that statement on the grounds that the cumulative effect of differences in society, politics, available technology and resource endowment would be sufficient to prevent the extension of his model. This essay examines whether five non-European nations conform to the same structure of development as those European nations Gerschenkron first examined. This is done with the intention of providing quantitative data to either confirm Gerschenkron's suspicion or evidence the validity of his model with regard to predicting the path that the industrialising nations of the future will follow. The potential importance of this study cannot be understated. If Gerschenkron's model is applicable worldwide, it could establish a methodology through which every nation in the world may be able to industrialise and ultimately lead to a global rise in living standards.

In order to explain the process behind data collection and the conclusions drawn from the results, a summary of Gerschenkron's theory is provided. Gerschenkron argued that the way in which a country industrialises and experiences its 'great spurt' of industrialisation is dependent upon its position of 'backwardness' relative to the most industrialised nation on the planet. To that end, Gerschenkron assumed that a higher degree of backwardness just prior to the beginning of industrialisation resulted in:

- 1) The rate of industrial output having a greater relative velocity and the subsequent period of industrialisation continuing steadily for a longer period of time than that of countries that had already industrialised.
- 2) An increased stress upon the production of capital goods as opposed to consumer goods.
- 3) An increased stress upon production, plant and enterprise being larger in scale;
- 4) A slower and far more gradual increase in levels of consumption within the population.
- 5) The banks, state or other such specialised institutions having to take a far more active role in the attempt to initiate the 'great spurt'.
- 6) Agriculture having a significantly reduced role as both a consumer of industrial goods and as a sector of increasing labour productivity

In order to give the above context and reliability Gerschenkron (1963 p.163) proposed a means of defining the 'great spurt' as the moment at which there was sudden explosion in industry and a swift increase in output, which continued to proceed during a period of international recession. The latter of the two shares a very similar purpose to W.W. Rostow's idea regarding growth 'becoming society's normal condition' and is used as a way of highlighting the difference between the 'great spurt' and a rise in output that might stem from a particularly good harvest or juncture in the trade cycle (1990, p.36).

Key to this argument was Gerschenkron's belief that where necessary, the banks, and later the state, would play a key role in capital formation and investment within a less developed country. State and bank investment would overcome the obstacles that a country might face (for example, little resource endowment and limited trade availability) by acting as a substitute for missing components and thus place each nation in a similar position from which they would follow the same development trends. Gerschenkron's two clearest examples of this phenomenon are the *Crédit Mobilier* in France and the Russian State in the 1890s. Gerschenkron also attributes great importance to these new institutions for the way in which they confront 'old wealth' and in doing so overcome the social "tension" that would otherwise halt industrialisation.

On the aforementioned model, Steven. L. Barsby wrote two articles for *The Journal of Economic History* in which he examined whether Gerschenkron's model was true of reality through empirical testing and analysis. In 1969, in his first article, 'Economic

Backwardness and the Characteristics of Development', Barsby came to the conclusion that European nations conformed to Gerschenkron's theories on manufacturing growth rate and stress on producers' goods but not on the rate of increase in agricultural labour productivity. Barsby then attempted to apply Gerschenkron's thesis to non-European nations in, 'Great Spurts and the Experience of Non-European Countries'. He concluded, "Data presented in this article suggest that Gerschenkron's backwardness hypothesis cannot be extended successfully to non-European countries".

However, given the passage of time since Barsby's evaluation, the change in technology, increase in globalisation and industrialisation of far more nations, this essay re-addresses that second question. It attempts to test whether Gerschenkron's model still holds for non-European nations that industrialised in the 20<sup>th</sup> century through analysis of China, Brazil, Australia, South Africa, India and their respective development trends.

In order to ascertain whether non-European nations that have industrialised within the last 80 years can fit as comfortably within the mould of Gerschenkron's thesis as the European nations that did so prior to the 20<sup>th</sup> century, it is necessary to use the same method to establish relative backwardness as was used originally. As such the method chosen is that of Steven L. Barsby (1969 p. 453), and so too are the "specific definitions of backwardness – per capita income, share of employment in agriculture, and lateness". The reason behind the adoption of these particular definitions is that the data obtained by Barsby, as seen in Table 1, is fairly consistent across the definitions and therefore presents a convincing argument that they generate a sufficiently accurate measure of backwardness.

**Table 1**

COEFFICIENTS OF BACKWARDNESS AND THEIR RANKS  
AS COMPUTED FROM PER CAPITA INCOME,  
SHARE OF LABOR IN AGRICULTURE,  
AND THE DATE OF THE SPURT

Country	$Z_1$	Rank	$Z_2$	Rank	Date	Rank
France	229	3	244	1	1829	1
Germany	182	2	266	2	1850	2
Denmark	167	1	330	3	1870	3
Sweden	255	4	430	4	1880	4
Russia	338	5	739	6	1884	5
Italy	427	6	500	5	1896	6

Source: Appendix Tables II and III.

**Source:** Steven L. Barsby cited in *Economic Backwardness and the characteristics of Development* p. 455

Barsby (p.454) calculated the above by comparing the economic situation within each of those countries at the point at which they were to about to start their individual 'great spurt' with the economic conditions that were present in England at the same time. England was chosen as the standard to which the other European countries would be compared to for three reasons: England was the most advanced nation in nearly all aspects; England experienced its spurt first and thus all other nations might be compared to it; and in the same vein, if any other nation was chosen it would mean that its own relative backwardness could not be calculated.

### Computational Method

Definitions of the symbols	
per capita income	Y
percent of labor force	
employed in agriculture	N
England	E (subscript)
each backward country	A (subscript)
coefficients of backwardness	
based on Y	Z <sub>1</sub>
based on N	Z <sub>2</sub>
date of the computation	B (superscript)

The following computations for both Z<sub>1</sub> and Z<sub>2</sub> are performed for each country:

$$\frac{Y_E^B}{Y_A^B} (100) = Z_{1A}, \text{ and } \frac{N_A^B}{N_E^B} (100) = Z_{2A}$$

**Source:** Steven L. Barsby cited in *Economic Backwardness and the characteristics of Development* p. 454

However, given that England no longer fits the criteria under which it was initially selected, it would serve no purpose to keep it as the standard nation. Therefore, for the purpose of calculating backwardness within the last 100 years, the United States of America will be used as the new standard in the subsequent calculations. Despite the discontinuity, this is unlikely to be an issue given that there is far less importance placed upon the standard remaining as the same country as opposed to the standard remaining as the most advanced nation in the world.

This paper, as was the case with Barsby's, will focus upon the ranking of both relative backwardness and the characteristics of development rather than the numerical value that separated them. This particular methodology is being used because Gerschenkron's thesis focused upon rank and relativity to other nations rather than quantifiable amounts, and in addition to that the ranks should help to counteract the errors that would otherwise be introduced through the margin of error within the data.

**Table 2. Determination of Relative Backwardness as measured by Per Capita Income**

Country	Date	Per Capita Income (USD) (1)	Per Capita Income in America at The Same		Rank
			Date (2)	(2) / (1) X (100)	
China	1980	194	12574	6481	5
Brazil	1935	190	574	302	2
Australia	1935	452	574	127	1
South Africa	1916	136	457	336	3
India	1982	266	14433	5426	4

### Sources:

**China:** EveryCRSReport.com (June 25, 2019) - *China's Economic Rise: History, Trends, Challenges, and Implications for the United States*. World Bank Data on GDP per Capita

<https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=CN>

**Brazil:** Baer, W., & Villela, A. (1973). Industrial Growth and Industrialization: Revisions in the Stages of Brazil's Economic Development. *The Journal of Developing Areas*, 7(2), 217-234. Retrieved March 21, 2021, from <http://www.jstor.org/stable/4189999>. Araújo, Carpena, Cunha (2008). *Brazilian Business Cycles and Growth from 1850 to 2000*. Appendix Table 1A. **Australia:** Steven Barsby citing G. D'A. Chislett, 'Prospects for Growth in Primary Industries,' in John Wilkes, ed., *Economic Growth in Australia* (Sydney: Angus and Robertson, 1962) Table 1, p. 77. **South Africa:** Steven Barsby citing Simon Kuznets, 'Industrial Distribution of National Product and Labour Force,' Appendix, Table 4, p. 91 citing *League of Nations Statistical Yearbook* and International Labour Office *Yearbook of Labour statistics* **India:** Arvind Panagariya (2003). *India in the 1980s and 1990s: A Triumph of Reforms* citing historian J. Bradford. DeLong (2001, pp. 5-6). World Bank Data on GDP per Capita

<https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=IN> **United States:** World Bank Data on GDP per Capital <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=US> US Census Bureau Data <https://www.census.gov/prod/99pubs/99statab/sec31.pdf>

Having established the necessary computational method and definition, the aim of this paragraph is to shed light on how and where the data in Tables 2 and 3 were collected. The nations under examination can be broadly split into two categories; those that underwent their spurt after 1960 and those that did not. This is because the World Bank Databank contains the relevant information regarding GDP per Capita and share of labour in agriculture but only dating back as far as 1960. Thus, the primary source of information for India and China in this project is the World Bank Archives. For the remaining countries, where possible, official census data of population and a nation's net GDP have been used to calculate GDP per Capita. In the event that even census data was unavailable, the information was gathered from previous articles on the area. However, given the nature of the data available, and the intrinsic difficulty of stating exactly when a country experiences its spurt, the results can only be considered estimates, representative of a period of rapid growth rather than a sharp 'kink' and the

data is far from infallible. This point is best considered when reviewing the data regarding share of employment in agriculture, as there was often only one source for the data and an attempt to verify and corroborate the data against other works was very difficult.

**Table 3. Determination of Relative Backwardness as measured by Percentage of Labour Force in Agriculture**

Country	Date	Percentage of labour force employed in agriculture (1)	Percentage of labour force employed in agriculture (America) (2)	(1) / (2) X (100)	Rank
China	1980	69%	3.5	1971	4
Brazil	1935	22.9%	19.6	117	2
Australia	1935	20.2%	19.6	103	1
South Africa	1916	64%	28.4	225	3
India	1982	72%	3.3	2182	5

#### Sources:

**China:** World Bank Data on employment in agriculture via 'TradingEconomics.com'

<https://tradingeconomics.com/china/employment-in-agriculture-percent-of-total-employment-wb-data.html>

**Brazil:** Moore, Clarence A. "Recent Developments in Brazilian Agriculture." *Journal of Political Economy*, vol. 64, no. 4, 1956, pp. 341–346. JSTOR, [www.jstor.org/stable/1826080](http://www.jstor.org/stable/1826080)

**Australia:** Steven Barsby citing Colin Clark, *The Conditions of Economic Progress*, 3d ed. (London: Macmillan & Co., Ltd., 1957), Table IX, p. 90

**South Africa:** Steven Barsby citing Clark, *Conditions*, Table XXXIX, p. 192

**India:** World Bank Data on employment in agriculture via 'TradingEconomics.com'

<https://tradingeconomics.com/india/employment-in-agriculture-percent-of-total-employment-wb-data.html>

#### United States:

US National Bureau of Economic Research

<https://www.nber.org/system/files/chapters/c1567/c1567.pdf>

Carolyn Dimitri, Anne Effland, and Neilson Conklin (2005). *The 20th Century Transformation of U.S. Agriculture and Farm Policy*, United States Department of Agriculture

[https://www.ers.usda.gov/webdocs/publications/44197/13566\\_eib3\\_1\\_.pdf](https://www.ers.usda.gov/webdocs/publications/44197/13566_eib3_1_.pdf)

Aware that there might be some who would argue that India and China began their spurt at an earlier date than that which is transcribed in Tables 2 and 3, it is important to note that the date of a nation's 'great spurt' is typically later than the more well-known concept of Rostow's 'Take-Off' because the spurt depends on a more widespread application of modern technologies whereas a take-off can be far patchier

and confined to individual industries or geographical locations. The above has had particular influence with regard to the date given to the Chinese and Indian great spurts, because while there were certainly pockets within the countries that began industrialising in the 1960's, they were too isolated and few in number to constitute sufficiently widespread industrialisation so as to be classed as the 'great spurt'. Specifically, while India began industrialising in the 1960s, the 1970s was a period of very low growth and it wasn't until there was significant reform and liberalisation in the early 1980s that noticeably larger and sustainable growth occurred. I believe the above decision is justified due to the general consistency across the three measures of backwardness, with only South Africa having a difference across measurements of more than one (as seen in Table 4).

**Table 4. Ranks of Relative Backwardness**

	<b>Per Capita Income</b>	<b>Share of employment in agriculture</b>	<b>Lateness</b>
<b>China</b>	<b>5</b>	<b>4</b>	<b>4</b>
<b>Brazil</b>	<b>2</b>	<b>2</b>	<b>3</b>
<b>Australia</b>	<b>1</b>	<b>1</b>	<b>2</b>
<b>South Africa</b>	<b>3</b>	<b>3</b>	<b>1</b>
<b>India</b>	<b>4</b>	<b>5</b>	<b>5</b>

Of Gerschenkron's six hypothesis stated at the beginning of this essay, tests will be made of three of those, in order to maintain consistency with that of Steven Barsby's testing (1973, p.459). The hypothesis examined; 'the relative backwardness of a country is positively related to the rate of manufacturing growth and to the stress on producers' goods industries but is negatively related to the rate in increase of agricultural labour productivity.'

The data showed in Table 5 is a comparison across countries of the above measurements; the examination is created by making the indexes of each nation at the outset of each of their respective 'spurts' equal to 100, before comparing them to the ten-year indexes made of the same nations. The stress on producers' goods is measured by establishing what percentage of total output is constituted by durable goods production ten years after the 'spurt'. If it is the case that Gerschenkron's hypothesis could also be applied to these non-European nations, it would be expected that a greater degree of backwardness was associated with: greater rates of manufacturing growth, shallower growth rates in agricultural labour productivity and producers' goods representing a larger percentage of total manufacturing output.



**Table 5. Indexes of Manufacturing Output and Agricultural Labour Productivity, and Producers' Goods as a Percentage of Manufacturing Output**

Country	Spurt	Manufacturing Output	Agricultural Labour Productivity	Producers Goods
China	1980	463 (1980 = 100)	311 (1980 = 100)	63
Brazil	1935	189 (1935 = 100)	120 (1935 = 100)	32
Australia	1935	195 (1935 = 100)	123 (1935 = 100)	29
South Africa	1916	200 (1916 = 100)	134 (1916 = 100)	13
India	1982	139 (1982 = 100)	124 (1982 = 100)	24

**Sources:**

**China:** Holz, C. A., 2014. Monthly industrial output in china 1980-2012. *China Economic Review*., Volume 28, pp1-16. Colby, W. Hunter & Crook, Frederick W. & Webb, Shwu-Eng H., 1992. "Agricultural Statistics of the Peoples' Republic of China, 1949-90," Statistical Bulletin 154783, United States Department of Agriculture, Economic Research Service. McMillan, John, et al. "The Impact of China's Economic Reforms on Agricultural Productivity Growth." *Journal of Political Economy*, vol. 97, no. 4, 1989, pp. 781–807.

**Brazil:** Baer, Werner, and Villela. "Industrial Growth and Industrialization: Revisions in the Stages of Brazil's Economic Development." *The Journal of Developing Areas*, vol. 7, no. 2, 1973, pp. 217–234. Moore, C. (1956). Recent Developments in Brazilian Agriculture. *Journal of Political Economy*, 64(4), 341-346.

**Australia:** Barsby, S. (1973). Great Spurts and the Experience of Non-European Countries. *Journal of Economic Issues*, 7(3), 459-474.

**South Africa:** Barsby, S. (1973). Great Spurts and the Experience of Non-European Countries. *Journal of Economic Issues*, 7(3), 459-474.

**India:** Panagariya, A. (2004). India in the 1980s and 1990s: A Triumph of Reforms. International Monetary Fund Working Papers 4(43). Jha, B., 2006. Employment, Wages and Productivity in Indian Agriculture

[https://www.researchgate.net/publication/254213024\\_Employment\\_wages\\_and\\_productivity\\_in\\_India\\_n\\_agriculture](https://www.researchgate.net/publication/254213024_Employment_wages_and_productivity_in_India_n_agriculture) . World Bank Data via MacroTrends

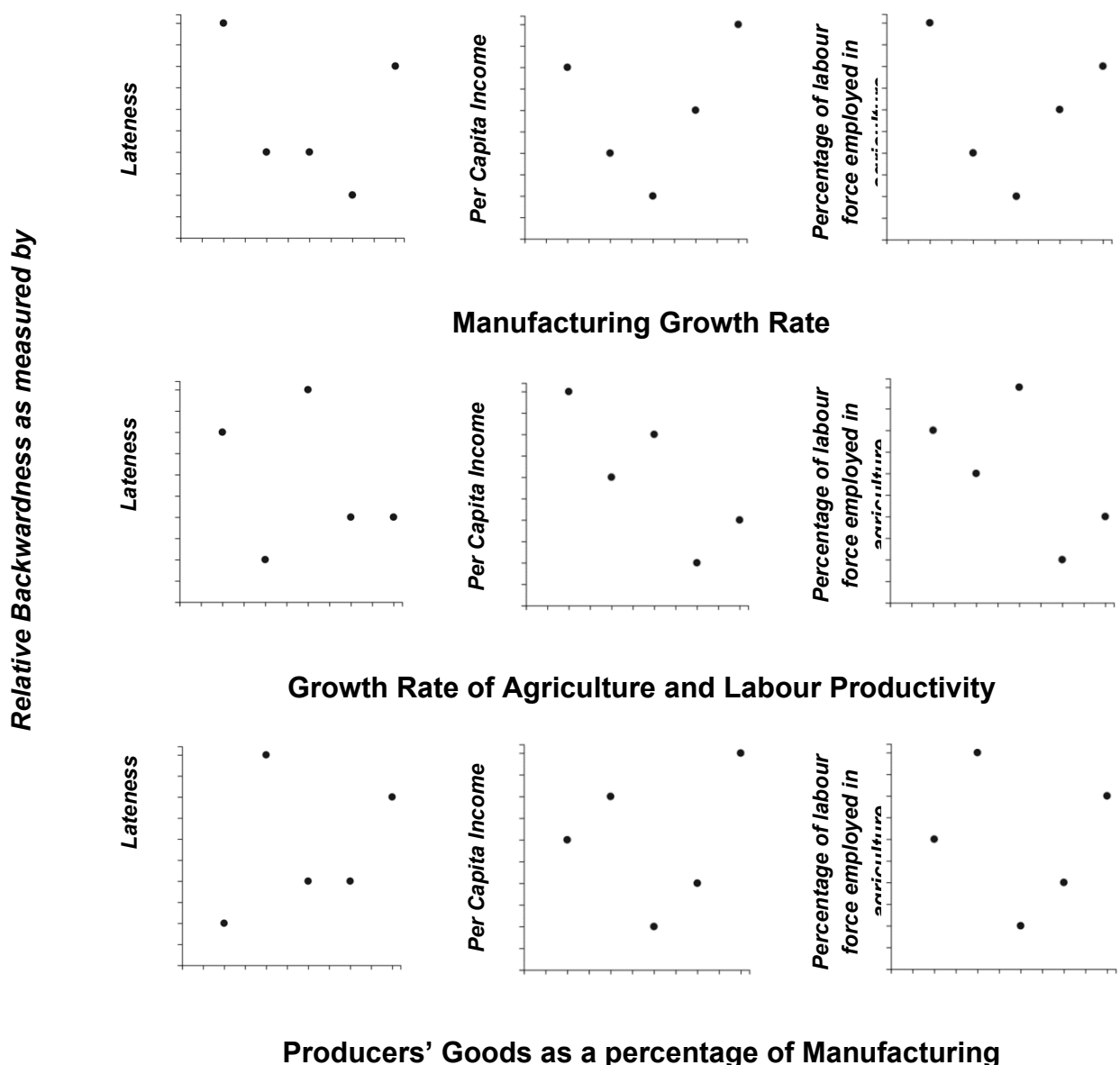
<https://www.macrotrends.net/countries/IND/india/manufacturing-output>

The relations that Gerschenkron envisaged were tested through the use of scatter diagram. If the ranks formed a positive gradient, this would indicate that they did indeed conform with Gerschenkron's hypothesis and would lend themselves to suggest that his theory of economic backwardness could be applied to non-European nations that industrialised in the 20<sup>th</sup> century.

However, as can be seen in Figure 1, no single diagram appears to have a positive gradient and thus not one of the three definitions of relative backwardness can be said to accurately predict the way all of the non-European nations developed with regard

to manufacturing growth, growth rate of labour productivity in agriculture, and the stress placed on producers' goods. It seems that Gerschenkron was right to caution against the application of his model worldwide and was correct in his prediction that some non-European nations would not conform to the same pattern as was observed in Europe.

**Figure 1. Scatter Diagrams of Ranks of Three Alternative Measures of Relative Backwardness and Three Characteristics of Development**



**Source: Tables 2-5**

In order to explain why this is the case, it is necessary to examine in greater depth which aspects these countries failed to conform to in Gerschenkron's hypothesis, paying close attention to which predictions of development characteristics were inaccurate. That said, Barsby already addresses the South African case in his previous work so this essay does not focus on South Africa (1973, p467). India's manufacturing growth rate rose slower than expected by all measures of relative backwardness. The explanation for this lies in the fact that India's great spurt occurred in the 1980s because government finally introduced a large number of economic reforms; reducing tariffs on a large number of goods and somewhat deregulating, which encouraged foreign investment and made expansion easier. However, conventional industry was somewhat left behind in terms of reform, and services instead constituted a larger percentage of Indian GDP. A failure to reform industry resulted in, 'a virtual ban on exit and retrenchment and reassignment of workers, continuing reservation of most of the labour-intensive industries for small-scale firms, the absence of effective bankruptcy laws, and continuing high protection', all of which stifled India's manufacturing output. (Panagariya 2004, p.30). At a period in time when direct foreign investment played such a pivotal role in transforming a nation's industry attention must also be drawn to the fact that India was in competition with China. As a result of India's tighter regulation and underperformance, it is likely that investment instead went into China, which further compounded India's problems with its manufacturing growth rate. This competition with China and other Asian nations such as Taiwan, South Korea and Japan also likely influenced India's decision to enter into the service sector, where as a result of speaking English, it had a comparative advantage.

Furthermore, India's output of producers' goods relative to its total manufacturing output was smaller than Gerschenkron theorised because as mentioned above the country made the shift to working predominantly in the service sector. However, it follows that producing a smaller amount of capital goods would ultimately reduce the manufacturing productive potential of an economy and this offers a further explanation as to why India's growth rate in manufacturing output was far smaller than hypothesised. Thus, India's rate of manufacturing growth was slower than expected because; conventional industry was in need of reform, it lost out on funding in competition with China, and its deference to services as opposed to goods production meant that its stress on producers' goods and subsequent productive potential was limited. India's rate of growth in agricultural productivity was far higher than predicted as well and this centred around the fact that India had a comparative advantage with regard to production in labour-intensive industries because of the size of their population and therefore the abundance of labour they possessed.

China had an infinitely larger rise in labour productivity than any other nation, and a far higher rise than hypothesised in Gerschenkron's theory, and as is the case with

any such meteoric rise this was due to a plethora of reasons. China had a similar comparative advantage to India regarding labour-intensive industries and production in agriculture as explained above. Only 10% of China's landmass is arable which meant that an increase in total production could not come from the cultivation of new lands. Instead it must be the result of increased productivity on lands already being cultivated and an increase in labour productivity. Another method of improving labour productivity was to give greater incentive to those working the land and the Chinese government adoption of household production over the previous commune system achieved just that. The freedom of farmers to grow what they wanted and to keep a portion of their own work increased productivity massively. The combination of improved productivity, increased freedoms and limited arable land meant that half of China's agricultural force was no longer needed and over the next ten years 50 million people would move out of agriculture and into the manufacturing sector. The result was an enormous increase in production with a workforce half the size that it was previously.

In the cases of both Brazil and Australia, whose developments were measured between the years 1935-45, there is no doubt that World War Two had a significant impact. It is likely that the adverse effects of WW2 almost certainly stunted growth in a number of sectors and was the primary reason behind the rate of labour productivity in agriculture rising so slowly in Brazil. Clarence Moore (1956, p341-346) believed there to be an 20% increase in agricultural labour productivity between the years 1935-40 but that there was no subsequent growth in the remaining five years of the war. Thus, it would not be too farfetched to suggest that had WW2 not occurred, Brazil and Australia would have likely had a higher rate of agricultural labour productivity growth. It is more difficult to establish the impact that the war had on total manufacturing output because it stimulated the steel and cement industries but the reduction in international trade punitively damaged others. (Baer & Villela 1973, p. 217-234).

The above explanations allow a number of inferences to be made with regard to the failure of the non-European nations to conform to Gerschenkron's hypothesis. First, it is assumed that if a nation was in the position to begin its great spurt, it would already have made significant reforms, particularly within economics but also within society as a whole, and as a result, legislation would not hold back its process of industrialisation. It fails to appreciate the possibility that a nation might begin its great spurt in a different political climate with a different attitude to economic reform, than that which was present in those initial European nations. India is the starkest example of this, having spurred in 1982 when the process of liberalisation in government had just begun and only to such a limited extent that even as of 2004 Indian industry was still in need of additional reform. Panagariya (2004).

Second, Gerschenkron also assumed that a nation with a higher degree of backwardness would focus in even greater depth on the production of capital goods, in an attempt to industrialise in as rapid a manner as possible. Thus, the hypothesis also overlooks any situation where government might pursue other commercial policies. And so, whether due to different cultures, comparative advantages, political climates or circumstances not examined in this essay, some non-European countries did not stress production of capital goods to the same extent as their European counterparts. One such example of this was India's decision to make their service sector the largest sector within their economy as opposed to conventional industry. Another example highlighted by Barsby (1973, 468) was the South African decision to promote the production of consumers' goods.

While not explicitly stated, the model also seems to suggest that labour productivity in agriculture progresses more slowly because there is significant drain on labour and capital in the agricultural sector towards the manufacturing sector. However, once again the sheer size of the Chinese and Indian populations undermines the impact of this assumption because it means that even after resources have shifted towards manufacturing there are still sufficient labourers in agriculture that progress may continue at a steady or increasing pace. This is demonstrated most clearly in China when despite half the agricultural workforce relocating, those remaining farmers managed to continue to increase the year on year output. By extension, the same assumption that makes a transfer of capital or labour resources responsible for increased/reduced growth, also tends to undervalue the importance of better organisation, incentivisation or other such method which can occur independently of additional funding. This is also the case in China where the adoption of 'household production' resulted in far larger returns than the previous commune system.

## **Conclusion**

On the face of it, the data that has been collated and presented within this essay suggests that Gerschenkron was correct to advise against attempts to generalise his framework. It suggests that Gerschenkron's theory about economic backwardness does not apply to non-European nations that began industrialisation in the 20<sup>th</sup> century. The degree to which a country was 'relatively backward' did not appear to influence its relative manufacturing growth rate, emphasis on production of producers' goods, or rate of increase of its agricultural labour productivity. This non-conformance was because a number of assumptions made by the hypothesis were an inaccurate representation of the reality that the non-European nations faced.

However, upon closer inspection the picture presented by the data is far more complicated. Some countries behaved in a way that Gerschenkron's model would have anticipated; China's rate of manufacturing growth and stress on producers' goods was exactly in line with the model, and China's inability to conform to the predictions regarding agricultural labour productivity are of limited importance given Barsby's earlier findings that even the initial European nations failed to conform to that particular prediction. This alone suggests that there is some practical application of Gerschenkron's hypothesis to some non-European nations, even if not to all of them. In addition, the fact that Australia and Brazil, who were so similar by all measures of backwardness, then proceeded to develop in a near identical fashion would suggest that they are to some extent following Gerschenkron's model, even if perhaps not relative to the other nations examined. Thus, while Gerschenkron's hypothesis might not apply to all nations simultaneously, it might be applied with reasonable success to groups of countries that are similarly 'backward' and begin their 'great spurts' at similar times.

Another issue with making such a pronounced conclusion from the limited amount of data in this essay, is that if a country does not conform it will distort the graph more than it ought to. It is hard to identify when a country is an anomaly with little other data to compare it to, and this was a big issue when analysing Indian development, which bucked the trend at almost every opportunity. While unable to do so in this essay given the word count and difficulty obtaining data, an examination of more nations would add more weight to any conclusion that was reached. The same can be said with regard to testing other aspects of Gerschenkron's hypothesis. In the future, an ability to compare the size of plant, capital labour ratio and level of state investment within a country, would help generate a more complete verdict on Gerschenkron's hypothesis, given that they analyse core parts of his thesis not examined in this essay.

Overall, data in this essay showed that Gerschenkron's hypothesis modelled European development better than it modelled non-European development. Yet, while some non-European nations did not conform to Gerschenkron's hypothesis because of a number of incorrect assumptions, an inability to take into account globalisation and differences in politics and culture, other non-European nations did conform to the model. For that reason, it must be said that although limited, there is some value in using relative backwardness to predict the way in which a country might develop, and relative backwardness can, to a reduced extent, be applied to non-European nations.

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Sources used solely to collect data points for the tables in this essay are listed below their respective table.