The comparative influence of geographical features on development in Russia and China

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Abstract

This essay will examine the different socio-environmental factors that have given shape to the development of Russia and China. I provide three analytical arguments centred around topography, geopolitics, as well as trade and natural resources, to explain the differences in development trajectories. Simultaneously, it identifies what underpins the functioning of the two nations, and how a nation's geography can be advantageous, or inversely unfavourable for development. Examining the impact of geographical features within the two countries, it is concluded that the development of Russia has been impacted to a greater degree than that of China. This is due to Russia's reliance on natural resources, and the potential limitations to their sustained development. The commonplace perception of Russia and China acknowledges their immense global influence, and this essay ratifies that their geographical features are indicative of their development path.

1. Introduction

Development can be defined as a culmination of economic, social, and political progress that gives rise to higher standards of living, in balance, across the population. This is synonymous to Hodder's perception of development as 'growth with equity' (Hodder, 2000, p. 4), highlighting a distinction from western capitalist ideas of development by purely economic criteria. 'Geographical features' refers to the landscape of a region, which encompasses the continual interaction between culture and the natural environment over an extended period (Wylie, 2007, p. 9). In this article, the study of the comparative influence of geographical features on development in Russia and China has been chosen to provide an additional contribution to an evaluation of the factors underpinning the rise of two global superpowers. Moreover, a focus on Russia and China provides an insight into the development path of nations aside from Western Europe, and illustrates the impact of alternative political climates. The orientation towards physical geographical features has been inspired by the work of Tim Marshall (Marshall, 2015), however this article goes on to challenge the perspective that geographical features have influenced development in isolation. This is addressed across a combination of topics: topography, geopolitics, as well as trade and natural resources. These aim to illustrate the significant influence that geographical features have had, and will continue to have in the future, across a multitude of aspects.

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an extended period (Wylie, 2007, p. 9). In this article, the study of the comparative influence of geographical features on development in Russia and China has been chosen to provide an additional contribution to an evaluation of the factors underpinning the rise of two global superpowers. Moreover, a focus on Russia and China provides an insight into the development path of nations aside from Western Europe, and illustrates the impact of alternative political climates. The orientation towards physical geographical features has been inspired by the work of Tim Marshall (Marshall, 2015), however this article goes on to challenge the perspective that geographical features have influenced development in isolation. This is addressed across a combination of topics: topography, geopolitics, as well as trade and natural resources. These aim to illustrate the significant influence that geographical features have had, and will continue to have in the future, across a multitude of aspects.

2. Topography

By definition 'topography' is the configuration of the physical features of an area (McLeod, 1981). Topography is significant in the context of development as the physical features, in combination with the human interaction, are foundational for the sustenance of life. Russia is the largest country in the world with a vast 6.3+ million square miles within its borders (Worldometer, 2020), comprising of a wide range of physical features. Where situated between nations, such as the Himalayas between China and India, mountain ranges can offer the key benefit of protection from a militaristic perspective, but within Russia the Ural Mountains bisect the nation into East and West. Marshall argues that 'Russia, up to the Urals, is a European power in so far as it borders the European land mass, but it is not an Asian power despite bordering Kazakhstan Mongolia, China and North Korea.' (Marshall, 2015, p. 9). However, it should be highlighted that Marshall's perspective of environmental determinism, the idea that the physical environment entirely dictates Russia's development, can be challenged. Primarily, it neglects the significance of human choices, and thus assumes that the influence of physical features on development overrides the social factors, such as culture and population structure.

In contrast, Robert Platt observed 'the distinctions which we make between different areas of the natural environment are governed by our ideas of what differences in natural environment are significant for one or another sort of occupancy with which we happen to be familiar.' (Platt, 1948). Significantly, this conveys the idea that Russia's prioritisation of familiar western economic development was less compatible with the eastern side of the Ural Mountains. Nonetheless, the economic pull factors of the large cities, like Moscow and Saint Petersburg, contribute to the disparity of population distribution, with 77% of Russia's total population living west of the Ural Mountains (Nations Online, 2020). However, rising global temperatures, leading to thawing permafrost, could encourage migration to an increasingly accommodating Eastern side, especially if driven by state investment. At present, Siberia is key to the nation in terms of political development and economic revenue, containing over 30% of the world's natural resources -oil, natural gas, and precious metals- with an estimated worth of $75.7 trillion (Korabik, 1997); such statistics highlight the advantageous scale and geology of Russia.

The 160,000 square miles of low-lying tract, known as the North China Plain, is pivotal in supporting China's 1.4 billion inhabitants, nearly ten times Russia's population (Worldometer, 2020). As described by Liu et al, 'the North China Plain is contributing more than 60% of China's total [wheat] harvest and is critical not only for the Chinese but also for international wheat trade.' (Liu, et al., 2020). The temperate monsoon climate, in combination with efficient agricultural methods, allows for double cropping of wheat and maize. In turn, this greater output increases potential profits, provides greater food security, and a surplus for trade. Also, the Yellow River was fundamental in allowing for early social progress and successful harvest, encouraging rapid population growth of the Han people, now accounting for 92% of the population (Yang & Zhu, 1993).

However, there are significant questions over China's 'growth with equity', as there are stark accentuated regional differences. In part, this is due to geographical location. With access to the South and East China Sea essential for global trading, key coastal areas like Shanghai prosper with new infrastructure and employment opportunity. Meanwhile, inland areas are largely less affluent; 'of all the regions with a population at least 1% of the total, the poorest – Guizhou (landlocked) has an average income per capita only 25% of the richest – Tianjin (coastal)' (King, 2016). This unusually large divergence in one nation is as a result not only of topography, but of political decision-making, such as the creation of special economic zones and the Hukou household registration system. Overall, although both Russia's and China's development have partly revolved around their topography, it is plausible to suggest that China has been influenced to a greater degree as the arable landscape provided a platform for widespread development. The extensive level of influence of physical features in both nations lends some support to Marshall's theory of environmental determinism. However it remains an incomplete analysis; it cannot justify the argument that it has dictated development in isolation.

3. Geopolitics

Geopolitics is the use of geographical framework to understand world affairs, especially concerning the basis of influence, and power of space and territory (Dodds, 2019). Historically, Russia's western front has been a check on development from a militaristic perspective. The North European Plain, due to its lack of 'natural' borders, in combination with the vast 2,000-mile-wide Russian border, left opportunity for invasion, such as the French in 1812 and the Nazis in 1941. However, it must be conceded that this implies that human nature gives rise to a perpetual cycle of invasion, whereas the formation of nation state borders through a composite of cultural compromise and 'natural' borders breaks down this cycle. Nonetheless, in the modern era, Russia's geographical features in the west continue to govern their attitude to development and foreign policy, striving for influence over foreign nations, by means such as energy reliance, as a safety net against future assault.

Domestically it has been expressed that Russia 'because of fear of creative destruction, not only neglected to encourage economic progress, but also took explicit steps to block the spread of industry.' (Acemoglu & Robinson, 2013, p. 237). This notion could imply that the Russian powers acted contrary to potential economic development in order to protect their political hierarchy. However, with regards to 'growth with equity', in the Inequality-adjusted

Human Development Index (IHDI), Russia in 42nd (0.740) is ranked above China in 67th(0.639) (UNDP, 2020). The IHDI credits the level of human development of a nation, in regard to health, education and income, while simultaneously discounting the value according to the level of inequality. It should be acknowledged that it may be unjustified to extrapolate a conclusive verdict from this data alone, as it has the potential consequence of over crediting the significance of inclusivity in development. Nonetheless, when approached relative to their HDI, China records a 45% greater decline when inequality is considered, indicating there is more balanced level of development in Russia.

China is, like Russia, bordered by 14 countries. An array of significant natural features overlay the land borders, such as the Gobi Desert in the north, and the Himalayas in the south-west. At present day, China's modern borders are assured by geographical features, which Marshall argues 'lend themselves to effective defence and trade' (Marshall, 2015, p. 42). However, it must be emphasised that in the present-day, modern borders are less about archaic practises of protecting territory, and more for the establishment of regulation and agreement. Acemoglu and Robinson have argued that 'growth in authoritarian, extractive political institutions in China… will not translate into sustained growth, supported by truly inclusive economic institutions' (Acemoglu & Robinson, 2013, p. 439). This correlates to the concept that China has not experienced equitable and sustainable development, instead focusing on development through western capitalist models, perhaps leading to the under-representation of social development. For example, the one child policy was introduced by Deng Xiao-ping under the premise that without a sharp decline in the birth rate they 'will not be able to develop their economy' (Potts, 2006). Policies such as these place the importance of collective society above individual rights, and while this alone is controversial from a western perspective, there were undeniable consequences that did not increase the quality of life for the people of China. For instance, there were cases of forced late abortions, undue fines, and seized children, as well as the long-term impact of gender imbalances. Therefore, it is sensible to infer that China's political decisions are less influenced by their geographical features, because to a large extent their decisions have been driven by economic factors. Such motivation, unaccompanied by social and political progress, may not constitute 'development' as defined by Hodder. With regards to Marshall, his emphasis on the paramount influence of the nation state is somewhat overstated and antiquated. It is argued in contrast that modern globalisation has meant that alternative agents of development, such as migration and communications, supersede the impact of the nation state on development paths.

4. Trade and natural resources

When looked at in isolation, Russia's economic development has been restricted by their lack of a warm-water port with access into open sea lanes. Their ports on the Arctic and Pacific, such as Murmansk and Vladivostok, freeze for a few months annually. This has a detrimental effect of stemming the flow of imports and exports, which reduces potential revenue, and poses a dependence on the sale of fossil fuels for income. Ahrend offers the question of 'whether Russia's economic development will suffer from the resource curse' but concludes that 'with the right institutions and policies it is possible to develop a successful modern economy based on exports of natural resources.' (Ahrend, 2005). Nonetheless, this does not address the attention needed to support development, such as

international co-operation and education. Moreover it is especially critical, through education, that Russia ensures labour mobility by anticipating the transition to renewable energy sources, in order to maintain economic growth and avoid structural unemployment, which would lead to reduced standards of living. In the future, the demand for their fossil resources will decline, and their main revenue stream will begin to dissipate; then the challenges of its geographical features will be felt more significantly.

China's geographical location creates potential ocean trade chokepoints that could threaten their economic development. The Malacca Strait, at its smallest 2 miles wide, has been a cause for concern as it could potentially prevent access to China, effectively strangling their economy that relies heavily on the gas and oil, with 45% and 75% imported (Clemente, 2019). Moreover, this could have severe social consequences, as a breakdown in the chain of production may result in widespread laying off of workers, reducing disposable income and their quality of life. Nevertheless, it must be acknowledged that with international co-operation and agreement of passage, China's geographical location should be less influential. Furthermore, Hodder emphasises the importance of politics in China, stating: 'any analysis of its economic development, either current or future, must be underpinned by political consideration.' (Hodder, 2000, p. 124). For instance, the growing threat to the agricultural land in China, where one seventh suffer from soil erosion (Quan & Liu, 2002), is at least in part due to inadequate farming techniques, or failed political campaigns such as the 'Great Leap Forward' from which famine ensued. On balance, it may be asserted that Russia's geographical features have more influence over their trade, due to the essential role of natural resources in sustaining their development. In this topic, these ideas predominantly align with Marshall's environmental determinism; the abundance of natural resources and geographic location have a direct impact on the nation's ability to trade. Although, it must be acknowledged that with the improved, efficient transport methods such as containerization, and the growing interconnectedness across continents, the constraints of geographical features are subsiding.

5. Conclusions

In conclusion, it is contended that overall Russia's geographical features have a greater influence on their development than those of China. Although with regards to the topography, China's connected regions, with a large, flat coastal plain provided key conditions for accommodating sustained development. In contrast, it can be argued that the topography of Russia is not as influential, due to the Ural Mountains only being a limitation when prioritising the western economic aspect of development, as well as the potential decline of the harsh climate with rising temperatures. Nonetheless, Russia's decisions have been significantly influenced by geographical features, with historical militaristic approaches and at present the establishment of energy connections alongside foreign co-operation. China's decisions however are often driven solely by the prospect of economic growth, which potentially compromises the prospect of higher standards of living, in balance, and this is represented in their lower 'Inequality-adjusted Human Development Index'. With respect to trade, Russia's lack of a warm-water port and reliance on the natural resources market, emphasises the potential limitations to their sustainable development. The prospect of disruption to the flow of ocean trade routes could constrain China's economic development, however the imperative role of maintaining political agreement

subdues the risk substantially. Overall therefore, it is argued that Russia's geographical features have had a greater influence on their development than China. However it must be acknowledged that geographical features cannot be evaluated in isolation; they operate in partnership with political direction to influence all components of development.

When the development of China and Russia are considered against this basis of topography, geopolitics and trade and resources, Marshall's theory of environmental determinism seems an incomplete analysis. While the significance of geographical features supports the critical role of the environment on development, Marshall's oversight of alternative factors leaves the role of human action and decision-making severely underplayed. Used to analyse the development of other countries of interest, this tripartite framework allows for thorough evaluation, addressing both social and environmental factors. However, it must be acknowledged that even this structure is limited in incorporating the growing impact of technological factors in development.

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