China’s special economic zones: an analysis of policy to reduce regional disparities

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ABSTRACT
There is no doubt that major regional disparities exist within China. The gap between its eastern coastal regions compared with the central and western regions has only grown wider over time. China’s special economic zones (SEZs) are defined as small geographical areas that allow the integration of free-market principles to attract additional foreign investment. However, the creation and success of SEZs has led to prosperity in the coastal regions of China, creating additional economic disparity between regions. This paper posits that one solution to reduce regional disparities is to extend the influence of the SEZs, or even set up new ones in different areas of the country, to spur investment and close the economic gaps.

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INTRODUCTION
Regional disparities have existed throughout China’s history (Kanbur & Zhang, 2005). Chinese regions consist of geographically proximate provinces with similar economic, topographical and cultural characteristics (Figure 1). The gap between Chinese regions has translated into a substantial divide in income and, to some extent, the standard of living between primarily agricultural areas compared with urban areas (Qian & Smyth, 2008). These urban areas almost exclusively exist in the nation’s coastal regions, while the agricultural areas have dominated China’s central and western regions (Zhang & Fan, 2004). The disparity that exists between the central and coastal regions can serve as a destabilizing force in the Chinese economy if the gap between these regions becomes too great (Zhao & Tong, 2000).
Historically, during the mid-20th century, China deployed a centrally planned economic structure (Table 1). However, in the late 1970s, it began transitioning towards a market economy. The first, and most important, step taken by the Chinese government in this process was the decentralization of government resources (Lin & Liu, 2000). Consequently, the most important aspect of this decentralization was that it occurred along regional lines (Qian, 2000). As a result, the coastal regions experienced an increase in decentralization compared with the central and western regions of the country. This decentralization eventually led to the privatization of resources that occurred with the creation of the special economic zones (SEZs). An SEZ is a generic term that describes variations from traditional commercial zones (Zeng, 2010). SEZs are characterized by a defined

Table 1. Timeline of open and reform policies.

| Period   | Type of reform                                                                 |
|----------|-------------------------------------------------------------------------------|
| 1949–60s | Centrally planned economic system                                             |
| 1970s    | Beginning of the transition to a socialist market economy                     |
| 1979     | Decentralization of resources along regional lines                           |
| 1979     | Establishment of three special economic zones (SEZs) in Shenzhen, Zhuhai and Shantou |
| 1980     | Establishment of an SEZ in Xiamen                                             |
| 1985     | Fiscal decentralization                                                       |
| 1988     | Establishment of urban-biased policies                                        |
| 1997     | Increased investment in western regions and industrial centres                |
| 1999     | Implementation of the western development strategy                           |
| 2017     | Announcement of the SEZ in Hebei                                              |

Figure 1. China’s gross domestic product by region, 2015. Source: National Bureau of Statistics (2015).
geographical area, local management, unique benefits, and separate customs and administrative procedures. Unique benefits include operating under more liberal laws and economic policies compared with other parts of the country.

Beginning from the country’s founding in 1949 until 1979, the economy was a centrally planned system that encouraged rapid industrialization while keeping the reliance on foreign economic investment relatively low (Fujita & Hu, 2001). However, with the introduction of the SEZs, the country was allowed to transition from a centrally planned system to a socialist market economy. The first SEZs were established in 1979–80 and included Shenzhen, Zhuhai and Shantou in Guangdong, and Xiamen in Fujian province (Figure 2). With the addition of an SEZ in Hainan in 1985, there were five major SEZs (Yitao & Meng, 2016). These geographical areas were selected because they were separated from the political power of Beijing and would experience less interference. These areas of China also had a history of contact with the outside world and were strategically located near Hong Kong. Since introducing the SEZs, China has used a mix of market and centrally planned economic systems (Ge, 1999).

Neoclassical growth models predict an overall pattern of economic convergence where poorer areas tend to catch up with richer areas within a country or region (e.g., Carlino & Mills, 1993; Yang, 2002). While this model has proven valid in regions in Western Europe and the United States (Barro & Sala-i-Martin, 1995), such has not been the case in China. The introduction of SEZs has increased the disparity gap between regions. Between 1978 and 1998, for example, Fujian province (eastern coast) experienced a growth rate of 13.9% in real gross domestic product (GDP), whereas Gansu (inland) grew by only 6.7%. In 2000, the top 10 provinces for GDP per capita were mostly from the eastern coast of China (Zhang & Zou, 2012). In absolute terms, the regional Gini coefficient for income, a widely used measure of inequality that evaluates real consumption expenditures per capita, indicates a widening gap between coastal and inland provinces. In the 1980s, the coefficient was roughly .3, and in 2012 it was .49 (Widau & Mitchell, 2015). In contrast, the Gini coefficient is .3 in Germany and .41 in the United States. The World Bank considers a coefficient above .4 indicative of severe income inequality. Once more, using generalized entropy (GE), a measure of the distribution of income, Kanbur and Zhan (1999) found that the coastal–inland inequality widened by 300% between 1983 and 1995.

Figure 2. China’s special economic zones. Source: Yitao and Meng (2016).
SEZS AND THEIR IMPACT ON REGIONAL DISPARITIES WITHIN CHINA

SEZs were created as a ‘catalyst’ for the Chinese economy to transition from a centrally planned economy to one that incorporated aspects from both a centrally planned and a free-market economy (Wei & Ye, 2004). The SEZs were intended to have a ‘spillover effect’ where the higher volume of economic growth from the coastal regions would trickle down to the central and western regions (Litwack & Qian, 1998).

In addition to spurring the Chinese economy by attracting foreign investment, the SEZs also helped reform the Chinese economy through the processing of imported materials, compensatory trade, cooperative enterprises, joint ventures and enterprises based on foreign capital (Nishitateno, 1983). This in turn enabled China to expand its economy and use foreign investments to develop and construct the SEZs further.

The economic impact of the SEZs has been far reaching. Regions within China that contain multiple SEZs have experienced a greater economic impact compared with regions with only one SEZ. Furthermore, the regions where an SEZ was established previously have resulted in greater positive economic benefits compared with regions where SEZs were created later (Goldstein, 1998). One of the most prominent economic impacts of SEZs on the local economy has been the income level and earning capacity of workers within the region (Wang, 2012). As more foreign businesses invested in the competitive resources and human labour within the region, greater resources tended to flow to the entire country. Unfortunately, however, the ‘spillover effect’ from one region to another never fully materialized (Gross, 1988).

Several factors have contributed to the lack of spillover effects and increased regional disparities among Chinese provinces. Within the first four SEZs, private firms and foreign firms were granted attractive tax incentives and exemptions along with flexibility of employment. These zones were so successful that China became the largest recipient of foreign direct investment (FDI) among developing countries (Zhang & Zou, 2012). This influx of resources contributed to the disproportionate development of infrastructure, technology and human capital in the coastal provinces (Fleisher, Li, & Zhao, 2010; Démurger, 2001). The increase of management skills and opportunities for economies of scale created more attractive social and economic environments for FDI than inland provinces.

The geographical location, state-owned enterprises (SEOs) and natural resources also played a prominent factor in the development of regional disparities (Nee, 1992; Zhang & Zou, 2012). Large SEOs were more concentrated in inland provinces where they had easy access to the natural resources that fuel production. Furthermore, China’s reluctance to privatize these entities limited FDI in non-coastal regions. In 1995, when industrial output fell and large SEOs experienced massive layoffs, policy-makers moved to initial public offerings for some SEOs. However, because inland provinces did not have as much access to FDI and labour markets were less mature than coastal areas and unable to re-employ many of the laid-off workers, the disparity only increased (Zhang & Zou, 2012).

Finally, funding for infrastructure networks also influenced regional inequality (Démurger, 2001). Since decentralization, the primary source of funding for infrastructure development has been local government revenues, creating greater investment in the infrastructure of regions that possessed greater resources. Less investment has been made in developing infrastructure to connect regions and enable ‘trickle down’ effects across non-coastal regions. Rather, infrastructure development in wealthier areas encouraged the development of localized networks that can easily distribute resources and implement them into the local economy (Sahoo, Dash, & Nataraj, 2010; Zhang & Zou, 2012).
THE EFFECT OF CHINA’S POLICIES UPON REGIONAL DISPARITIES

As has been discussed here, China has attempted to address the growing problem of regional disparities within the country by implementing policies and strategies to close the economic gap between the country’s coastal regions and the central and western regions. However, fiscal decentralization and urban-biased policies have contributed to regional inequality. In 1980, for example, China decentralized its fiscal system and separated central and local budgets. This allowed local governments to strengthen their power over local enterprises and keep more of the revenue generated in their region. However, decentralization combined with international trade protection yielded local protection and market fragmentation as regions failed to develop industry structures based on their own, unique, comparative advantage (Qui, Li, & Sun, 2003). In other words, fiscal decentralization encouraged local governments to produce duplicate and inefficient industry structures and limit coordination with other regions, including obstacles for labour mobility and interregional trade (Fleisher & Yang, 2003; Young, 2000). This, of course, had less impact on coastal regions that were able to specialize and scale economies through international trade. Once more, decentralization favoured regions with a stronger economic base because these regions simply produced greater revenues. Additionally, local budgetary control has impeded the development of infrastructure (e.g., highways, telecommunication and power), particularly connecting regions, as some infrastructure was more efficient on a national scale (Zhang & Zou, 2012). For these reasons, evidence suggests that fiscal decentralization has actually exacerbated regional inequality. To wit, Zhou and Zhang (2008) find that the degree of decentralization is negatively related to provincial economic growth.

Urban-biased policies have also contributed to regional inequality. As populations grew rapidly in urban areas, the threat of political and economic instability led the Chinese government to focus on revising urban policy. In 1985, for example, China established a number of economic policies that favoured urban areas. As such, the government began to provide urban price subsidies, including subsidizing large, unprofitable SEOs in urban areas. They also provided favourable credit allocations for urban areas that led to income redistribution. Because provinces with higher GDP tend to have greater urbanization, these policies favoured coastal areas and increased regional inequality (Chen, 2002; Fu, 2004; Zhang & Zou, 2012). The policies implemented by the Chinese government in the past helped largely to shape the inequalities that the interior regions are currently experiencing. The current trends in regional disparities were largely influenced by major economic events that had occurred in the past, such as market reforms and the Cultural Revolution (Ho & Li, 2008). These policies helped to shape the current regional disparities by favouring certain regions over others.

Recognizing growing regional disparity, the Chinese central government has invested in the economies of the non-coastal regions within the country in an effort to close the economic gap between regions. For example, the government began to focus on inland regions after the Asian financial crisis of 1997 (Ahmed & Grewal, 2011). The Chinese government realized that the economy needed to become multifaceted and not rely solely on FDI. As a result, it first began to shift its focus towards revitalizing the industrial centres of the western regions (Fan, 1997). It then created development centres in the north-east, and began to focus on the central regions at the turn of the 21st century.

Unfortunately, government intervention did little to negate the problem. While the development centres in the north-east were supposed to spillover into the surrounding areas, the effectiveness of these centres diminished with distance (Chen & Zheng, 2008). The Chinese government also made large reforms with SOEs, leading to large amounts of unemployment, and furthering the role of the north-east and western regions to support the demands of the prosperous coastal regions (Zheng, 2007).
The most prominent policy that the Chinese government has implemented to address the growing regional disparities is China’s Western Development Strategy. China's initial plan for economic reform was to focus on developing and modernizing the coastal regions before focusing on the interior and western regions. By the 1990s, the government began to shift its focus on developing the western region. The main components of the Western Development Strategy included infrastructure construction to develop transportation networks, telecommunication systems and hydropower plants; policies that provided favourable treatment to industries in energy, mining, agricultural processing and tourism; enhancing education and public health services; and preferential policies to attract FDI (e.g., lower tax rates and greater flexibility in land use). However, the policies were not as substantial as the deregulation granted to SEZs (Sun, 2013), explaining regional disparity in China's economic growth.

The Western Development Strategy as a whole has sought to revitalize the old industrial centres that had been heavily used under Mao Zedong’s leadership. Deng Xiaoping, who succeeded Mao in leading the country, used trickle-down policies, while Mao used counter-pole policies (Harding, 2010). Counter-pole policies themselves help to promote a state-controlled economy that ultimately uses resources in an extremely inefficient way (Golley, 2007; Li & Yang, 2005; Zhang, 1999). This is because counter-pole policies focused on concentrating state resources into a few, less-developed areas, and required the Chinese government to ‘pick winners’. Mao emphasized producing and manufacturing resources within the central and western regions. When Deng came into power, he rejected counter-pole policies and instead used a trickle-down approach that favoured the coast with its geographical and economic advantages over the west (Chen, 1995). Rather than trying to force equality through command planning, Deng encouraged export growth in the already developed and strategically located coastal regions – increasing regional inequality.

The Chinese government made a goal to eradicate completely the regional inequalities being experienced by the west by the turn of the century. This promise failed to materialize, but the inequalities were reduced by investing in additional infrastructure, creating economic partnerships between the coast and the west, and increasing the west’s ability to attract FDI (Sun, 2013; Zheng & Kuroda, 2013). The Chinese government sought to address the economic inequalities being experienced by the west to prevent social instability and improve the standard of living for the vast majority of the country’s poor. The ‘spillover’ effect from the eastern regions had been used somewhat to improve the central regions within China. But this effect failed to influence the western regions because the ‘spillover’ effect decreased with distance.

EXPANSION OF THE SEZS AND THEIR POTENTIAL TO RESOLVE REGIONAL INEQUALITIES WITHIN CHINA

The regional inequalities that exist within China have been studied by others under a variety of different methodological approaches. This has been done in order to understand this issue better through a quantitative rather than a qualitative approach. Using techniques such as the Theil-L inequality index and generalized entropy, certain trends have begun to emerge from the limited data gathered from the regional disparities that have been studied (Kanbur & Zhan, 1999; Wan, 2007). The trends that have emerged from this analysis indicate that a large income gap between rural and urban areas exist, and that the regional inequalities have a direct root in family size, access to government welfare services and the availability of human capital in the workforce of a particular area (Wan, 2007).

Research indicates that certain approaches must be taken in order to reduce the regional disparities within China (Shankar, 2003). These approaches include: investing in the infrastructure of the less-developed regions, developing a greater network of social protection programmes that benefit the poor, and reform within local governments as a means to redistribute and better handle economic resources at the local level (Fan, Kanbur, & Zhang, 2011).
However, ultimately, the most successful strategy that has been used to address these issues has been the implementation of SEZs within China. The benefits gained from the SEZs within the Chinese economy have been profound. They have helped to decentralize resources and aided in the emergence of an open market economy. They helped to attract both FDI and foreign businesses, which have boosted the economy and helped to raise the standard of living (Sharma, 2009). At the same time, these benefits have been experienced largely by the coastal regions where SEZs have been implemented. No SEZs currently exist within the central and western regions.

If SEZs were implemented in the central or western regions, or if the influence and scope of the currently established SEZs were dramatically extended, then this would be the best and most effective solution to reducing the regional disparities that currently exist within China. China has begun to experiment with this by establishing additional SEZs within Africa to stimulate the Chinese economy further. This example can serve as a model for the additional benefits that can be experienced through the implementation of more SEZs (Bräutigam & Xiaoyang, 2011). The Chinese government has also experimented with a variety of zones including free-trade zones, export-processing zones, free ports and enterprise zones, among others. However, these zones do not enjoy the same degree of openness as SEZs. Perhaps recognizing the unique benefits of SEZs, in 2017 China announced the creation of a new SEZ in Habei, about 100 kilometres from Beijing. However, the location of this SEZ in the eastern region is only likely to increase regional inequality.

The regional disparities within China were originally created when the country made a transition from being a centrally planned economy to an open-market economy. The coastal regions were favoured through both policy and the implementation of SEZs, which attracted foreign investment, created more jobs and spurred the economy towards further growth. As a result, the coastal regions experienced an increased standard of living as the economy became more developed. The benefits that the coastal regions have experienced can also be achieved by the central and western regions. These benefits can be achieved by establishing SEZs within these regions, since the redistribution efforts and trickle-down economics currently employed by the Chinese government have ultimately failed to reduce regional disparities within the country.

CONCLUSIONS

This paper contributes to the international literature focused on highlighting and proposing solutions to China’s regional inequality (e.g. Chen, 2010; Fleisher et al., 2010; Démurger, 2001). It has demonstrated that the growing regional disparities within China are a complicated issue with many proposed solutions. The SEZs of China were analyzed as a proposed solution that would help address the growing regional disparities.

The differences among regions were explored by looking briefly at the history of the formation of China’s economy, which began as a centrally planned economy and later was adapted so that it could adopt certain aspects of a free-market economy. The impact the SEZs had on these regional inequalities was then addressed, with certain trends analyzed from other studies.

China’s own policy responses have had a limited effect on the growing regional disparities within the country. The most prominent of these policies was the Western Development Strategy, with its focus on closing the gap between the poorest and wealthiest regions of the country. One way to address this growing issue is to add additional SEZs within China as a means to attract FDI and stimulate the economy so the regions within China began to converge and close the large economic gap.

The fruits of economic development in China are not shared by all people and the gap between rich and poor is widening (Yitao & Meng, 2016). We suggest that the addition of SEZs in the central and western regions can help reduce regional disparities. Furthermore, more work is needed to create harmonious development that encourages collaboration among zones and regions. China
must strike a balance between open reforms that promote free-markets and central planning measures that provide public goods, support nascent industries and develop infrastructure. More work is needed to address this disconcerting trend.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

REFERENCES

Ahmed, A., & Grewal, B. (2011). Is China’s western region development strategy on track? An assessment. *Journal of Contemporary China, 20*, 161–181.

Barro, R. J., & Sala-i-Martin, X. (1995). *Economic growth, 1995*. New York, NY: McGraw-Hill.

Bräutigam, D., & Xiaoyang, T. (2011). African Shenzhen: China’s special economic zones in Africa. *The Journal of Modern African Studies, 49*(1), 27–54. Retrieved from http://www.jstor.org/stable/23018877

Carlino, G. A., & Mills, L. O. (1993). Are US regional incomes converging: A time series analysis. *Journal of Monetary Economics, 32*(2), 335–346.

Chen, C. (1995). The role of foreign direct investment in China’s post-1978 economic development. *World Development, 23*(4), 691–703.

Chen, A. (2002). Urbanization and disparities in China: Challenges of growth and development. *China Economic Review, 13*(4), 407–411.

Chen, A. (2010). Reducing China’s regional disparities: Is there a growth cost? *China Economic Review, 21*(1), 2–13.

Chen, M., & Zheng, Y. (2008). China’s regional disparity and its policy responses. *China and World Economy, 16*(4), 16–32.

Démurger, S. (2001). Infrastructure development and economic growth: An explanation for regional disparities in China? *Journal of Comparative Economics, 29*(1), 95–117.

Fan, C. C. (1997). Uneven development and beyond: Regional development theory in post-Mao China. *International Journal of Urban and Regional Research, 21*(4), 620–639. doi:10.1111/1468-2427.00105

Fan, S., Kanbur, R., & Zhang, X. (2011). China’s regional disparities: Experience and policy. *Review of Development Finance, 1*(1), 47–56.

Fleisher, B., & Yang, D. (2003). *China’s labor market*. Mimeo: Department of Economics, Ohio State University.

Fleisher, B., Li, H., & Zhao, M. Q. (2010). Human capital, economic growth, and regional inequality in China. *Journal of Development Economics, 92*(2), 215–231.

Fu, X. (2004). Limited linkages from growth engines and regional disparities in China. *Journal of Comparative Economics, 32*(1), 148–164.

Fujita, M., & Hu, D. (2001). Regional disparity in China 1985–1994: The effects of globalization and economic liberalization. *The Annals of Regional Science, 35*(1), 3–37.

Ge, W. (1999). *Special economic zones and the economic transition in China*. Danvers, MA: World Scientific.

Goldstein, M. (1998). *The Asian financial crisis: Causes, cures, and systemic implications*. Washington D.C.: Institute for International Economics

Golley, J. (2007). China’s western development strategy and nature vs. nurture. *Journal of Chinese Economic and Business Studies, 5*(2), 115–129.

Gross, H. (1988). China’s special economic zones. *China Law Reporter, 4*, 23–40.

Harding, H. (2010). *China’s second revolution: Reform after Mao*. Washington, D.C: Brookings Institution Press.

Ho, C. Y., & Li, D. (2008). Rising regional inequality in China: Policy regimes and structural changes. *Papers in Regional Science, 87*(2), 245–259.

Kanbur, R., & Zhang, X. (1999). Which regional inequality? The evolution of rural–urban and inland–coastal inequality in China from 1983 to 1995. *Journal of Comparative Economics, 27*(4), 686–701.
Kanbur, R., & Zhang, X. (2005). Fifty years of regional inequality in China: A journey through central planning, reform, and openness. *Review of Development Economics, 9*(1), 87–106. doi:10.1111/j.1467-9361.2005.00265.x

Li, W., & Yang, D. T. (2005). The great leap forward: Anatomy of a central planning disaster. *Journal of Political Economy, 113*(4), 840–877.

Lin, J., & Liu, Z. (2000). Fiscal decentralization and economic growth in China. *Economic Development and Cultural Change, 49*(1), 1–21.

Litwack, J., & Qian, Y. (1998). Balanced or unbalanced development: Special economic zones as catalysts for transition. *Journal of Comparative Economics, 26*(1), 117–141.

National Bureau of Statistics. (2015). Retrieved February 5, 2018 from http://www.stats.gov.cn/tjsj/ndsj/2015/indexeh.htm

Nee, V. (1992). Organizational dynamics of market transition: Hybrid forms, property rights, and mixed economy in China. *Administrative Science Quarterly, 37*(1), 1–27. doi:10.2307/2393531

Nishitateno, S. (1983). China's special economic zones: Experimental units for economic reform. *International and Comparative Law Quarterly, 32*(1), 175–185. Retrieved from http://www.jstor.org/stable/759472

Qian, Y. (2000). The process of China's market transition (1978–1998): The evolutionary, historical, and comparative perspectives. *Journal of Institutional and Theoretical Economics (JITE)/Zeitschrift für die Gesamte Staatswissenschaft, 156*(1), 151–171. Retrieved from http://www.jstor.org/stable/40752194

Qian, X., & Smyth, R. (2008). Measuring regional inequality of education in China: Widening coast–inland gap or widening rural–urban gap? *Journal of International Development, 20*(2), 132–144. doi:10.1002/jid.1396

Qui, L., Li, J., & Sun, Q. (2003). Interregional protection of fiscal decentralization and trade liberalization. *China Economic Review, 14*, 227–245.

Sahoo, P., Dash, R. K., & Nataraj, G. (2010). Infrastructure development and economic growth in China. *Institute of Developing Economics Discussion Paper, 261.*

Shankar, R. (2003). Bridging the economic divide within countries: A scorecard on the performance on regional policies in reducing regional income disparities. *World Development, 31*(8), 1421–1441.

Sharma, N. (2009). Special economic zones: Socio-economic implications. *Economic and Political Weekly, 44*(20), 18–21. Retrieved from http://www.jstor.org/stable/40279007

Sun, Z. (2013). Explaining regional disparities of China's economic growth: Geography, policy and infrastructure. Berkeley, CA: University of California.

Wang, J. (2012). The economic impact of special economic zones: Evidence from Chinese municipalities. *Journal of Development Economics, 101*, 133–147.

Wei, Y., & Ye, X. (2004). Regional inequality in China: A case study of Zhejiang province. *Journal of Economic and Social Geography, 95*, 44–60.

Young, A. (2000). The Razor's edge: Distortions and incremental reform in the People's Republic of China. *The Quarterly Journal of Economics, 115*(4), 1091–1135.

Zeng, D. Z. (Ed.). (2010). *Building engines for growth and competitiveness in China: Experience with special economic zones and industrial clusters.* Washington, D.C: World Bank Publ.

Zhang, W. W. (1999). *Transforming China: Economic reform and its political implications.* Hampshire: Springer.

Zhang, X., & Fan, S. (2004). Public investment and regional inequality in rural China. *Agricultural Economics, 30*, 89–100. doi:10.1111/j.1574-0862.2004.tb00179
Zhang, Q., & Zou, H. F. (2012). Regional inequality in contemporary China. *Annals of Economics & Finance, 13*(1).

Zhao, X. B., & Tong, S. P. (2000). Unequal economic development in China: spatial disparities and regional policy reconsideration, 1985-1995. *Regional Studies, 34*(6), 549–561.

Zhou, Y. A., & Zhang, Q. (2008). Marketization, fiscal decentralization and china economic growth [J]. *Journal of Renmin University of China, 1*, 008.

Zheng, Y. (2007). 10. China’s de facto federalism. *Federalism in Asia*, 213. Hackensack, NJ: World Scientific Publishing Co.

Zheng, D., & Kuroda, T. (2013). The role of public infrastructure in China’s regional inequality and growth: A simultaneous equations approach. *The Developing Economies, 51*(1), 79–109.