Can China Link the Belt and Road Initiative by Rail?

https://www.e-ir.info/2019/03/29/can-china-link-the-belt-and-road-initiative-by-rail/

SHU LIANG (KARL) YAN, MAR 29 2019

This is an excerpt from *New Perspectives on China's Relations with the World: National, Transnational and International*. Get your free copy here.

A senior official from the Guangzhou Railway Group enthusiastically introduced the concept of *yilu yidai* to me in an interview. Apparently, he had just learned the concept from an internal study session with his counterparts in the China Railway Corporation (CRC) and was eager to share it (16121I).[1] I was quite confused at the time and thought he must be wrong. Since 2013, the Silk Road Economic Belt has been referred to as the *dai* (belt) whereas the Maritime Silk Road has been referred to as the *lu* (road) – thus, the Belt and Road Initiative (OBOR) (*yidai yilu*). After I had returned to Toronto and started my research on the effects of China's international strategies on the regulation of its railway sectors, I ran into the term Railroad Economic Belt (REB, *yilu yidai*) (Yin-nor 2016, 207). I immediately contacted the cadre whom I had interviewed and confirmed the definition of the concept. In his words, 'you need to have a road before you can connect'. The CRC indeed regards the railway sector as the locomotive that leads China's efforts in constructing the OBOR, as the REB is a strategy that enhances connectivity and deepens OBOR infiltration through the building and exporting of Chinese rails (1721I).

Behind the formulation of the REB stands a ubiquitous Party-state that has the ability to forge a national consensus in pushing through broad-sweeping economic and political reforms. Indeed, the 2013 reform of the Ministry of Railways (MOR) and the creation of the REB show the Chinese central government's commitment to maintaining a steady control on the railway sector in support of its international interests. A state's international ambition has direct effects on its domestic policy making. As a single sector study on the Chinese railways, this chapter builds on the theoretical framework of economic statecraft and addresses two empirical issues. First, domestically, this chapter addresses the question of control – how the Chinese state has turned its railway sector, one that has been less studied by China scholars, into one that is internationally competitive. To be specific, what kind of relationship has been cultivated by the Chinese state in using its commercial actors to achieve technological and industrial advancement. Second, internationally, this chapter addresses the question of connectivity. Namely, how the export of Chinese rails (transportation and infrastructure) could strengthen regional integration and deepen China's geopolitical interests.

However, it is also important to highlight the complex nature of China's behaviour towards the international order. For example, in the realm of financial governance and developmental foreign aid, socialisation (inclusive of two-way socialisation) of international norms has been one of the key characteristics found in China's international behaviours (Johnston 2007; Chin and Yan 2013). Even in China's new multilateral development bank initiatives, namely, the New Development Bank and the Asian Infrastructure Investment Bank, the goals are to complement the existing multilateral developmental bank system[2] and help make the extant system more efficient. These are evidently found in the rhetoric used by both official documents published by the Chinese state as well as official Chinese media. Much of the reason behind such rhetoric is that China is still in the process of 'learning', through which it needs to localise norms and rules of the said system (Wang 2015). China has been actively pushing for the export of its high speed and regular rails and railway infrastructure in the railway sector. The rhetoric is no longer about 'learning' or 'complementing existing norms'. Instead, 'China's Railway High Speed (CRH) could be considered as the *only* strategic industry since the Reform and Opening that is developed by China and could change the basic international and domestic political-economic landscape of the 21st century' (Xu 2016, emphasis added). China's high-speed rail (HSR) could thus become an important leverage for China in becoming a new land power, starting with improving

connectivity and gaining road rights.

Economic Statecraft

Economic statecraft is a practice through which noneconomic means are achieved through economic means – 'influence attempts relying primarily on resources which have a reasonable resemblance of a market price in terms of money' (Baldwin 1985, 13–14). Norris (2016) narrows economic statecraft by linking it with a state's international grand strategy and does so by operationalising how a state mobilises commercial actors to pursue its international interests. Thus, instead of looking at macroeconomic policies that a state sets (such as tariffs) like Baldwin had done, Norris looks at microeconomic actors and their relationship with the state and examines the helpfulness of such relationship.

Previous studies on China have also focused on how China achieves its strategic goals through economic statecraft. Such goals can either be economic in nature (Alves 2013) (Gallagher and Irwin 2015) or political (Brautigam and Tang 2012) (Reeves 2015). Scholars have also investigated the effects of China's economic statecraft on other countries' domestic structures (Reeves 2015), and the increase of China's geopolitical influence (Urdinez et al. 2016).

This chapter thus takes a state-centric point of view and looks at the state's control of the railway sector in the pursuit of its international interest. The continuous push for greater centralisation in the railway sector lies in the state's active effort in utilising its infrastructural power to support the REB. This chapter makes a theoretical contribution to the economic statecraft literature by unpacking the very type of government-business relationship cultivated by the state and explaining the mechanisms through which a state can successfully control a sector with a concentrated market structure.[3]

The Quest for Standard: Recentralisation of the Railway Sector

On 28 May 2009, US Congresswoman Nancy Pelosi was deeply impressed by the HSR while visiting the Beijing-Tianjin Intercity Railway. Indeed, the railway sector has become a powerhouse for innovation and a platform for internationalisation. Multiple government units' concerted efforts culminated in a great leap forward in technological and industrial advancement. In a conversation with the former head of MOR Liu Zhijun, she asked him how it was all possible. Liu answered succinctly and proudly that this was because of 'the political advantage of the wise leadership of the Chinese Communist Party (CCP), and the institutional advantage of concentrating powers to accomplish big things [*jizhong liliang ban dashi*]' (Li 2010, 7). Indeed, since 2010, the Chinese government has given priority to the development of the HSR as a new strategic industry.

The MOR/CRC is indeed proud of its technological and industrial accomplishments, and the establishment of the 'China Standard'.[4] By the end of 2009, the MOR successfully applied 946 patents for the CRH. These patents range from railway engineering, high speed rail technology, and station engineering, all of which would later become parts of a full system of HSR technology with China's own independent intellectual property rights in 2016. The CRC proudly announces that China's world leading HSR industry is the only strategic industry in China that has surpassed its international competitors (The CRC 2016[5]).

A view found in existing scholarship on regulatory regimes in China asserts that controlled competition is the preferred organising principle for champion industries. Indeed, the grand strategy, or 'metavision', shaping China's industrial structure and regulatory regime has been a preference for marketisation and more importantly, controlled competition[6] (Pearson 2005, 313; Pei 2006; Yeo 2012) with the goal of preserving and advancing the role of the state (Eaton 2016). However, from the beginning of state-owned enterprise (SOE) reform, the MOR has been an outlier, as it deviated from the pattern of controlled competition. This was particularly noticeable in the 2013 reform, which resulted in recentralisation (Yin-nor 2016). In 2013, the MOR was broken into an SOE (the CRC) and a regulatory body, the State Railway Bureau (SRB), without introducing controlled competition or any further reforms at the provincial and sub-provincial level (1373l).

The newly created CRC and SRB have overlapping responsibilities in railway regulation – rendering the SRB practically obsolete (Yu 2015). For example, in the drafting of the 2016 edition of the*Med-and Long-term Railway Network Program*, the National Development and Reform Commission (NDRC) requested the CRC to research and propose amendments to the 2008 edition of the Program, *not* the SRB – who is, in principle, responsible for railway development and planning (The State Council Information Office of the PRC 2016). Thus, the CRC remains as a monopoly in the 1) planning and provision of railway and related services, and 2) the coordination of sub-sectors – transportation and rolling stocks (16121l; Zhen et al. 2012).

Whether the 2013 reform was prompted by domestic factors or China's international ambitions remains debatable. One undeniable fact is the highly-concentrated market structure found in the railway sector and its sub-sectors after the 2013 reform. The CRC operates under the 'construction-operation model' (*jianyun heyi*), which means the CRC is responsible for railway development, pricing, and infrastructure building, and then coordinates relevant firms in the railway sector in meeting predetermined developmental goals (Zhen et al. 2012, 57). In rolling stocks, the CRC coordinates the China Railway Rolling Stock Corporation (CRRC). The CRRC was created in 2015 after the State Council (SC) had directed the merging of China South Locomotive & Rolling Stock Corporation Limited (CSR) and China North Locomotive and Rolling Stock Industry Corporation (CNR). The purpose is to coordinate domestic market and reduce destructive competition (Zhao 2016). The CRC supervises production and technological innovation by having firms work together with the CRC's engineering and research branches – the China Railway Design Corporation (CRDC) and the China Academy of Railway Sciences (CARS) (16121l). Overall, the railway sector could be described as a concentrated market structure under the de facto leadership of the CRC. Such market structure is the direct descendant of 'concentrating power to accomplish big things'. Indeed, in the 2000s, under the leadership of Liu Zhijun, the MOR and the State Council (SC) converged on the idea and pushed for the strategy of Great Leap Forward (*kuayueshi fazhan*) in railway development (Luger 2008; Ma and Zhang 2015; Yin-nor 2016).

The institutional advantage of 'concentrating power to accomplish big things' has helped greatly in pushing through technological advancement in achieving the 'China Standard' and the development of HSR. The Chinese state can effectively control the entire railway sector by sending administrative orders to only one firm – the CRC (Zhen et al. 2012). In 2004, the SC approved the MOR's *Med-and Long-term Railway Network Program.* In the Program, an HSR network that was known as the 'Four Vertical and Four Horizontal Passenger Networks' (*sizong siheng keyun zhuanxian*) was proposed. These passenger networks would allow multiple unit (MU) trains to reach a minimum speed of 200km/h.[7] Such goals in technological advancement and railway industrial upgrade were reiterated in the 2008 edition of the Program. In 2016, the NDRC requested and approved the CRC's amendments to the 2008 Program. In it, the CRC proposed an 'Eight Vertical and Eight Horizontal Highspeed Rail Network' (*bazong baheng gaosu tielu wang*), which would expand China's existing high-speed mileage from 19,000 km to 38,000 km in 2025, and improve existing railway infrastructure to allow MU trains to reach the speed of 350km/h. Within the CRC, the period from 2016 to 2025 is known as the 'Golden Ten Years in Railway Development' (*tielu fazhan de huangjin shinian*) (16121l).

On top of railway infrastructure planning, the MOR/CRC also outlines the general principles of railway technology development through the implementation of the *Policies on Major Railway Technologies* (*tielu zhuyao jishu zhengce*). Both the 2004 and the 2012 versions of the Policies contained specific technological goals for the HSR. For example, in both documents, the minimum headway for MU trains is three minutes.

The MOR/CRC does not, however, simply lay out the foundations and policy goals of HSR development in China. It has been actively leading and coordinating the research, design, innovation, and testing of the CRH (The CRC 2016). For example, the Signal & Communication Research Institute of CARS has been working closely with relevant domestic firms and research centres in the development of the Chinese Train Control Systems (CTCS) (Huawei 2012). Such multi-pronged government-business efforts culminated in the eventual success of the China-standard Electric Multiple Units (CEMU).

In 2004, Liu Zhijun appointed Zhang Shuguang as the Chief Architect of the CRH. By 2010, Zhang made several technological advancements in the CRH, elevating the CRH's operating speed from 200km/h to 380km/h (with a tested top speed of 486.1km/h) and increasing the CRH's safety and comfort levels (Jiao, Liu and Liu 2011, 1 and 3).

Liu Zhijun threw his unconditioned support behind the development of CRH by making the MOR the main point of contact for all relevant domestic actors. In 2008, Zhang Shuguang and his team started working with CSR Qingdao Sifang Co., Ltd and CNR Tangshan Railway Vehicle Co., Ltd on a new model of CRH that would adapt to China's different climatic environments and geological conditions. In the process, Zhang was able to bring 25 research universities, 11 research institutes, 51 national engineer and research centres and more than 10,000 academicians, professors and engineers to bear on completing the project (Jiao, Liu and Liu 2011, 1 and 3).

The state had always been behind the MOR in the development of CRH. The SC forcefully coordinated and centralised relevant industries through administrative orders in support of the effort. The SC also established special project teams that are dedicated to pooling different human, material, and monetary resources in support of the MOR (Zhen et al. 2012). One of the special project teams (*jishu cheliang zhuanye weiyuan hui*) specifically defined the role of the MOR as the coordinator and leader in negotiating with foreign ventures who want to enter the Chinese railway sector (Zhen et al. 2012; Caixin 2012). Indeed, all foreign ventures must interface with the MOR before engaging with specific firms in the entire sector. And Zhang was one of the key decision makers in the process. For example, in the purchase of original MU train models and technology transfers from Siemens, Zhang was able to lower nine billion CNY in cost by setting strict market entry barriers (Zhen et al. 2012). The CNR benefited from the MOR's dealing with Siemens as it subsequently used Siemens' parts in assembling the traction system for the CRH380 series (Zhen et al. 2012).

While the CRH380 was still in its research phase, the MOR and the Ministry of Science and Technology signed the *Independent Innovation of Chinese High-speed Train Cooperation Agreement and Joint Action Plan* on 26 February 2008. The MOR and CRC played key roles in coordinating relevant firms and research centres in the pursuit of CEMU (Xinhua 2016). Both CSR Qingdao Sifang and CNR Changchun, under the guidance and leadership of the MOR/CRC, formed an 'industry-education-research-application' network in which relevant firms, universities, and research centres were integrated to research and build the CEMU *(*Jilin-China 2015; Sohu 2016). Throughout the process, the CARS acted as the key broker and leader. From 2013 to 2014, CARS published a master plan with clear standards in nine MU technological areas including power components, traction system, braking system, and train control system (Lu 2015). With these technological goals, the CNR and CSR then worked with different agencies to complete the manufacturing process. The first CEMU was put into passenger operation on 15 August 2016 when G8041 left Dalian North Station. At the 39th International Organization for Standardization (ISO) General Assembly in Beijing, the CRC Chief Engineer proudly announced that 'the CEMU is gradually surpassing "the European Standard" and "the Japanese Standard"' (Lu 2016).

Enhanced Connectivity: Expanding Geopolitical Interest

China Railway Signal & Communication Corporation Ltd. believes that an internationally competitive industry must be well supported by a complete supply chain, and all parts must also be internationally competitive (NDRC 2016). This is a defining characteristic of the CEMU, which has become a leading feature of the 'going out' strategy of the Chinese railway sector and the Chinese state. In the process of, the CRC has played an instrumental role in leading and directing railway related firms to seek railway cooperation abroad in Belt and Road countries. According to Zhu Pengfei (Chief Engineer of China Railway International Co., Ltd. or CRIC), the CRC 'accelerated railway construction along the Silk Road Economic Belt, comprehensively pushed for the construction of railway construction abroad and fully promoted the export of CEMU' (Zhu 2015, 26). In December 2014, the CRIC was created to facilitate the 'going out' process of the railway sector. The Chairman simultaneously holds the position of Deputy Chief Engineer of the CRC. The signing of the Moscow-Kazan High-speed Railway project in 2014 signals the international debut of CEMU.

However, it is important to highlight that the 'going out' process has been largely treated as an extension of Chinese foreign aid projects, and the Chinese state has always been behind the establishment of these projects. It is noticeable that the state has been controlling the CRC in fulfilling the state's international objectives (Zhao 2016, 415). The CRC has fully utilised its monopolistic market position in the domestic economy to facilitate the 'going out' process for other railway related firms. Its capacity to coordinate and plan railway design, construction, and equipment manufacturing can help mix and match domestic firms with suitable overseas projects. According to the

CRC, this method is a new and innovative bank-to-business and business-to-business cooperation models that have effectively raised the competitiveness of the Chinese railway sector (The CRC 2017). For example, in 2015, in the building of an HSR in Indonesia, the CRC formed a consortium with other firms in railway design, construction, equipment, and operation, and led the negotiation with the Indonesians (The CRC 2015). The CRC's role as a leader in the railway sector has been further strengthened by the NDRC in January 2017 as the NDRC and the CRC, along with 12 other ministries, agreed to establish a 'Belt and Road Working Public-Private-Partnership Model'. Such a model will help Chinese firms accelerate the implementation of infrastructure projects in Belt and Road countries (NDRC 2017). In May 2017, the Postal Savings Bank of China announced that it would provide the CRC with more than 200 billion CNY in support of the CRC's efforts in railway and infrastructure building in Belt and Road countries (The Beijing News 2017).

The CRC has also played a leadership role in enhancing connectivity through the REB (The CRC 2017). It has actively engaged in bilateral and multilateral cooperative initiatives with regional and international railway organisations. These initiatives are meant to foster a healthy environment for the export of HSR and to deepen international cooperation between the Chinese railway sector and its counterparts in Belt and Road countries. The Chongqing-Xinjiang-Europe railway line is an example of how the CRC was able to enhance China's connectivity with Europe through freight as goods can be transported from Europe to China, then shipped to various parts of Asia with ease. Chongqing also aims to become the centre of a new 'four-hour aviation economic zone' (*si xiaoshi hangkong jingji quan*), where goods could be transported to Chongqing from large commercial and industrial hubs such as Bangkok, Hong Kong, and Osaka within four hours via air (Zhao 2017). Chongqing could thus become a logistical hub capable of connecting land with air (*tiekong lianyun*) and Asia with Europe. This freight line provides OBOR countries with a variety of options for the transportation of goods and further lowers logistical costs. And the CRC will continue leveraging its advantages in railway freight to promote the transportation of goods along OBOR countries. The Yiwu-London railway line which was put into operation in January 2017 is another example of China's ambition to connect itself with the world, and the CRC was also a key player in its establishment.

Looking at the present moment, China's provision of global public goods indeed rests upon its ability to build large infrastructural projects abroad – the China-Laos Railway, China-Thailand Railway, the Budapest-Belgrade HSR, and the Kuala Lumpur-Singapore HSR (The CRC 2016). This is mainly due to Chinese policymakers' propensity towards promoting infrastructural projects overseas, which is part and parcel of China's developmental model that emphasizes state to state loans and infrastructural development (Paltiel 2017). These actions could be considered as a means to 'buy support' for China's global status (Paltiel 2017, 10). China's infrastructural projects in Latin America, including improving and developing railway infrastructure in Argentina and Brazil, have resulted in an expansion of its geopolitical interests by 'fill[ing] the void left by a declining US presence' (Urdinez et al. 2016, 24).

One concrete international implication of the REB, according to the CRC, is the expansion of China's discourse rights in the railway sector (*kuoda le zhongguo tielu huayuquan*) (The CRC 2017). Also, as the REB expands and deepens, road rights could ultimately pave the way for China to become a dominant land power. The strategy of securing economic resources and energy are important strategic goals in geopolitics (Gao 2015), and connectivity has become a method to achieve such a goal – as connectivity aims to bridge different geographical regions together regarding policy, facility, trade, finance, and people-to-people relations. Often, 'institutions of concertation and coordination' are the basis of hegemony and international hierarchy (Cox 1992, 36; Butt 2016). Yet, China has seemingly chosen an alternative path as connectivity directly contrasts with how hegemony and counter-hegemony forces were formed in the past. The concertation, coordination, and even integration of regional powers is not through institution building; instead, infrastructural projects are the locomotive pulling countries together (Butt 2016). In 2017, seven countries, including major powers like China, Russia, and Germany, agreed to jointly build an information-sharing platform for transportation safety and a fast customs clearance system for the China Railway Express (Belt and Road Portal 2017). The signing of such an agreement shows how railway infrastructure projects could deepen the integration of countries in other issue areas – such as technology sharing and standardising custom clearance. Thus, the building of railways could potentially reshape both the ways through which people and goods travel through space and the existing international system. Indeed, as technology and the international system are co-constitutive (Herrera 2006, 2–7), the 'going out' of the Chinese railway sector, compounded with technological breakthroughs in its CRH, could potentially result in international systemic change as China continues to participate in and contribute

to the international management and building of HSR (Gao 2012, 16-19).

Discussion and Conclusion

In the railway sector, it seems that institutional inertia played a key role in centralisation. Indeed, China's control of its railway sector had been through the MOR before the 2013 reform and the CRC after. There is a clear chain of command in this sector, with three major layers – the SC and NDRC on top giving general directions, the CRC makes plans and then coordinates, or even herds, other railway related firms towards the general direction given by the SC and NDRC. Thus, by having firm control over the CRC, the SC and NDRC have effective control over the entire railway sector, as the CRC often leverages its monopolistic position in the transportation and service sub-sectors to coordinate market activities in rolling stocks, railway infrastructure, and signalling (1721I). This new type of relationship – directly controlling a monopolistic SOE instead of regulators – is not counterintuitive. And the logic is similar to Gerschenkron's (1962) idea on late industrialisers. Indeed, a complete supply chain is the foundation in building an internationally competitive industry.

This type of relationship is also seen in the 'going out' process, as the CRC serves as both a coordinator and a platform builder. The CRC effectively leads the entire railway sector in the building of railway infrastructure and CRH and CEMU exports along Belt and Road countries. The SC and NDRC then would only need to control the CRC in meeting the state's international objectives. The upside of this type of arrangement is the efficient implementation of state goals, and the state can shield away from domestic and intra-sector competition. The downside of this type of relationship, however, is that the SC and NDRC's international objectives must be highly aligned with the CRC's political and commercial agenda for the CRC to be an effective agent of the state (Norris 2016). The hitherto story of Chinese rails going abroad indicates that state goals and that of the CRC's are indeed well aligned. The fall of Liu Zhijun in 2011 meant the MOR had lost its political leverage in the SC (Ma and Zhang 2015). However, the reform of the MOR did not result in controlled competition. Prima facie, the CRC was satisfied with the reform result as it had pushed back for reform (1373I). Within the CRC, there were also cries for greater centralisation of the entire railway sector – returning to super-ministerial status, a time when rolling stocks and railway infrastructure were integral parts of the MOR (16121I). At least, the CRC's immediate objectives, though remain muddled at the moment, could be met by implementing state directives.

In conclusion, can China link the Belt and Road Initiative by rail? The answer is 'yes', though premature. First, can China build alliances through infrastructural projects? International institutions help continue international regimes after the initial, favourable condition has disappeared (Keohane 1984) – projects based upon mutual interests indeed lack continuation in this respect. To be specific, can the increasingly connected continental Asia and the ensuing change in regional power dynamic forge a counter-hegemonic force against the extant liberal order? Second, the question is whether the Chinese state can effectively and continuously control the railway sector in serving its international ambitions? Beijing's influence over other countries with the provision of international public goods through infrastructural projects is largely dependent upon Beijing's firm control over its commercial actors. The extant relationship shows that the state and the sector are highly aligned with their goals and objectives. The CRC has the capacity to leverage its domestic production capacity against international competitors, and the state can thusly help the CRC in securing contracts abroad with its diplomatic tools and bringing a conglomerate of actors into bear on ensuring implementation success. However, in the implementation phase, can the CRC adapt to different political institutions and business cultures and deal with countries with profoundly different domestic power dynamics? Indeed, many questions are left unanswered and need to be explored in future research.

**The author is grateful to the following for their helpful comments: Gregory Chin, Victor Falkenheim, Asif Farooq, Bernie Frolic, Jeremy Paltiel, and Yin Yang. The author thanks the anonymous interviewees who had spent their precious time with the author, often multiple times.*

Abbreviations

CARS – the China Academy of Railway Sciences

CEMU – China-standard Electric Multiple Units or China Standard High Speed Rails

CCP – the Chinese Communist Party

CDRC – the China Railway Design Corporation

CNR – the China North Locomotive and Rolling Stock Industry Corporation

CRC – the China Railway Corporation

CRH – China Railways High Speed, a high-speed rail service operated by the China Railway Corporation

CRRC – China Railway Rolling Stock Corporation

CSR – China South Locomotive & Rolling Stock Corporation Limited

CTCS – Chinese Train Control Systems

HSR – high speed rails or multiple units

ISO – International Organization for Standardization

MOR – the Ministry of Railways

MU – Multiple Units or high speed rails

NDRC – the National Development and Reform Commission

OBOR – the Belt and Road Initiative

REB – the Railroad Economic Belt

SC – the State Council

SRB – the State Railway Bureau

Notes

[1] This is an interview code, similar codes such as 1373I and 1721I are explained in detail in the bibliography section.

[2] E.g. the World Bank, the International Monetary Fund, the Asian Development Bank.

[3] According to Norris (2016, 33), a concentrated market structure is one with 'a few large firms with powerful domestic political equities'.

[4] In short, China Standard refers to a set of standards developed by the CRC, which owns the CEMU's independent intellectual property rights. The goals are to standardise and systematise the production of EMUs using cutting edge Chinese technology.

[5] Sources with 'The CRC' as authors are internal documents provided by the China Railway Corporation; please see the bibliography section for details.

[6] Controlled competition here refers to the idea of 'restrain[ing] disorder competition' among a limited number of state-owned enterprises in China's strategic sectors (Pearson 2005, 314–315)

[7] The top speed of passenger trains running on passenger and freight shared networks was 140km/h.

Bibliography

Alves, Ana Cristina. (2013). 'Chinese economic statecraft: A comparative study of China's oil-backed loans in Angola and Brazil', *Journal of Current Chinese Affairs,* 1, pp. 99–130.

Baldwin, David. (1985). *Economic statecraft.* Princeton: Princeton University Press.

Belt and Road Portal. (2017). 'Seven Countries to Deepen Cooperation on China-Europe Freight Rail Services', 24 April. Available at: https://eng.yidaiyilu.gov.cn/qwyw/rdxw/11598.htm.

Brautigam, Deborah and Tang, Xiaoyang. (2012). 'Economic statecraft in China's new overseas special economic zones: soft power, business or resource security?', *International Affairs,* 88 (4), pp. 799–816.

Butt, Ahsan. (2016). 'The Construction of a Chinese Hierarchic Order in the Global South',*World Politics in a Time of Populist Nationalism.* 15 December. Available at: http://duckofminerva.com/2016/12/wptpn-the-construction-of-a-chinese-hierarchic-order-in-the-global-south.html.

Caixin – Century Weekly. (2012). 'Tiedaobu haozi 900 yi yinji gaotie jishu', [The Ministry of Railway Spends 90 Billion in Technology Transfer for High Speed Rails], 4 July. Available at: http://www.shigongjishu.cn/Item/11478.aspx.

Chin, Gregory T. and Yan, Shu Liang. (2013). 'Chonggou buleidun senlin tixi: wei zhongguo jueqi chuangzao kongjian', [Creating Space for China's Rise: Reshaping the Bretton Woods System], in Zhang, Jianxin (eds),*Guoji tixi biange yu xinxing daguo guanxi* (*Change in International System and New Great Power Relations*), pp.182–201.

Eaton, Sarah. (2016). *The advance of the state in contemporary China: State-market relations in the reform era.* Cambridge: Cambridge University Press.

Gallagher, Kevin P., and Irwin, Amos. (2015). 'China's economic statecraft in Latin America: Evidence from China's policy banks', *Pacific Affairs,* 88 (1), pp. 99–121.

Gao, Bai. (2015) 'Railway and Road Rights: Historical Lessons on the "the New Silk Road Economic Belt"',*China International Strategy Review,* Beijing: World Affairs Press. Available at: http://www.faobserver.com/Newsinfo.aspx?id=11493.

Gao, Bai. (2012). 'Gaotie yu zhongguo 21 shiji dazhanlue' [The High Speed Rail and China's Grand Strategy in the 21st Century] in Gao, B. (eds.) *The High Speed Rail and China's Grand Strategy in the 21 st Century*. Beijing: Social Sciences Academic Press (China), pp. 1–31.

Gerschenkron, Alexander. (1962). *Economic backwardness in historical perspective, a book of essays.* Cambridge, Mass: Belknap Press of Harvard University Press.

Herrera, Geoffrey L. (2006) *Technology and International Transformation: The Railroad, the Atom Bomb, and the Politics of Technological Change.* Albany: State University of New York Press.

Huawei. (2012). 'Huawei's Digital Railway Solution Helps World First Alpine CTCS L3 High-speed Line to go into Passenger Operation', 5 December. Available at: http://pr.huawei.com/en/news/hw-198411-digitalrailway.htm#.WS61J2iGNhF.

Jilin-China, the Official Government Website of JiLin Province. (2015). '"CNR Changchun-made" Chinese-standard EMU Rolled Off the Production Line', 6 July. Available at: http://english.jl.gov.cn/News/GeneralNews/201507/t20150728_2047407.html.

Johnston, Alastair Iain. (2007). *Social states: China in international institutions, 1980–2000.* Princeton, NJ: Princeton University Press.

Li, Kangping. (2010). 'Zhongguo gaotie shidai de xinshenghuo', [A New Life in the New Era of Chinese High Speed Rails], *Guangming Daily* (*Guangming Daily*), 10 April, p. 7.

Lu, Bingyang. (2015). 'Zhongguo 350 gongli biaozhun dongchezu yangche 6 yue xiaxian', [China's 350km/h CEMU off the Assembly Line by June], *Caixin*, 12 May. Available at: http://companies.caixin.com/2015-05-13/100808753.html.

Luger, Katrin. (2008). *Chinese railways: Reform and efficiency improvement opportunities.* Heidelberg: Physica-Verlag.

Ma, Deyong, and Zhang, Zhiyuan. (2015). 'Guannian, quanli yu zhidu bianqian: tiedaobu tizhi de shehui yanhualun fenxi', [Ideas, Rights, and Institutional Evolution: An Analysis on Reform of Ministry of Railway from a Social Evolution Perspective], *Zhengzhixue yanjiu* (*CASS Journal of Political Science*)*,* 5, pp. 96–110.

National Development and Reform Commission. (2016). 'Xianjin anquan, kaifang jianrong, zizhu kekong de zhongguo gaotie liekong xitong', [Advanced and Safe, Open and Compatible, and Self-Controlled Chinese High Speed Rail Control System], 6 July. Available at: http://www.ndrc.gov.cn/fzgggz/wzly/jwtz/jwtzgk/201607/t20160706_810628.html.

National Development and Reform Commission. (2017). 'Guojia fagaiwei huitong shisan ge bumen he danwei jianli "yidai yilu" PPP gongzuo jizhi', [NDRC and 13 Ministries and Work Units Established a PPP Work Model for the Belt and Road Initiative], 6 January. Available at: http://www.ndrc.gov.cn/gzdt/201701/t20170106_834564.html. (Accessed 9 May 2017).

Norris, William. (2016). *Chinese economic statecraft: Commercial actors, grand strategy, and state control.* Ithaca and London: Cornell University Press.

Paltiel, Jeremy. (2017). 'Out of the Shadows: Xi Jinping and Peaceful Order in Post-hegemonic Asia',*ISA Annual Convention 2017*, Baltimore, the US, 22–25 February 2017.

Pearson, Margaret M. (2005). 'The business of governing business in China: Institutions and norms of the emerging regulatory state'. *World Politics,* 57 (2), pp. 296–322.

Pei, Minxin. (2006). *China's trapped transition: The limits of developmental autocracy.* Cambridge: Harvard University Press.

Reeves, Jeffrey. (2015). Economic statecraft, structural power, and structural violence in Sino-Kyrgyz relations. *Asian Security,* 11 (2), pp. 116–135.

Jiao, Yang, Liu, Li, and Liu, Chenguang. (2011). 'Ba zhongguo gaotie tuixiang shijie zhi dian', [Pushing Chinese High Speed Rails to the Top of the World], *Keji ribao* (*Science and Technology Daily*), 25 January, pp. 1 and 3.

Sohu Business. (2016). 'Gaotie chuangxin jixu: Zhongguo biaozhun dongchezu jiang chengwei xiayidai zhuli chexing', [High Speed Rails Continues to Innovate: CEMU Will Become the Main Model for the Next Generation of Trains], 15 June. Available at: http://business.sohu.com/20160615/n454531218.shtml.

The Beijing News. (2017). 'Youzheng yinhang 2000 duo yi zhichi tiezong tielu jianshe', [Postal Saving Bank of China will Provide More Than 200 Billion in Support of the CRC's Railway Construction], 12 May, pp. A17.

The State Council Information Office of the People's Republic of China. (2016). 'Fagaiwei juxing "zhongchangqi tieluwang guihua" youguan qingkuang xinwen fabuhui', [NDRC Holds Press Conference on "Med-and Long-term Railway Network Program"], 20 July. Available at: http://www.scio.gov.cn/xwfbh/gbwxwfbh/xwfbh/fzggw/Document/1484562/1484562.htm.

Urdinez, Francisco, et al. (2016). 'Chinese Economic Statecraft and US Hegemony in Latin America: An Empirical Analysis, 2003-2014'. *Latin American Politics and Society,* 58 (4), pp. 3–30.

Wang, Hongru, and Zhu, Jintao. (2015). 'Yatouhang, pingheng de zhidian', [The AIIB: A Point of Balance],*Zhongguo jingji zhoukan* (*China Economic Weekly*) 12, pp. 22–29 and 88.

Xinhua News Agency. (2016). 'Zhongguo biaozhun dongchezu shouce zaike yunxing', [CEMU Operates with Passenger for the First Time], Edited by Huang, Yue, 15 August. Available at: http://news.xinhuanet.com/politics/2016-08/15/c_129230065.htm.

Xu, Fei. (2016). 'Zhongguo gaotie "zouchuqu" de wu da zhangli', [Five Tension Points on the "Going Out" of China's High Speed Rails], a speech made at the *Fourth Summit on Globalization Strategy of China's High Speed Rails* . Leshan, China, 10 December 2016. Available at: http://edu.people.com.cn/n1/2016/1210/c1053-28939535.html.

Yeo, Yukyung. (2012). Revisiting China's economic regulatory reform. *The Korean Journal of International Studies*, pp. 255–274.

Yin-nor, Linda Tjia. (2016) *Explaining railway reform in China: A train of property rights re-arrangement.* New York: Routledge.

Yu, Hong. (2015). Railway sector reform in China: Controversy and problems. *Journal of Contemporary China,* 24 (96), pp. 1070–1091.

Zhao, Jian. (2016). *Reform and Restructure of the Chinese Railway Sector and Research on High Speed Rails.* Beijing: China Economic Publishing House.

Zhao, Yufei. (2017). 'Jizhe shouji: jianzheng zhongou banlie "zhangda"', [A Journalist's Diary: Witnessing the 'Maturing' of China-Europe Freight Rail Service], *Xinhua News Agency*, 14 April. Available at: http://news.xinhuanet.com/world/2017-04/14/c_1120811223.htm.

Zhen, Zhihong. et al. (2012). 'Zhongguo tielu tizhi yiwushichu? Cong bijiao de shiye kan gaotie', [Is China's Railway Regime all Wrong? Looking at the High Speed Rail from a Comparative Perspective], in Gao, B. (eds.)*The High Speed Rail and China's Grand Strategy in the 21 st Century*. Beijing: Social Sciences Academic Press (China), pp. 50–76.

Zhu, Pengfei. (2015). 'Fahui zhongguo tielu youshi, fuwu "yidai yilu" guojia zhanlue', [Utilize Advantages of the Chinese Railway Sector and Serve the National Strategy of the Belt and Road Initiative], *Zhongguo keji rencai* (*Science and Technology Talents of China*), September Edition, pp. 25–27.

Interview Codes

Interview with Shenyang Railway Bureau Cadre, Shenyang-China, 3 July 2013 – coded as 1373I

Interview with Guangzhou Railway Group Cadre, Guangzhou-China, 21 December 2016 – coded as 16121I

Interview with China Railway Corporation Cadre, Beijing-China, 18 February 2017 – coded as 1721I

Documents presented by the CRC

The CRC. (2015) *2015 yinni gaotie zhanlan ji fabuhui cailiao*. [*Materials on Chinese High Speed Rail Exhibit and Press Conference at Jakarta in 2015*].

The CRC. (2016) *zhongguo gaotie ziliao* [*Materials on Chinese High Speed Rail Development*].

The CRC. (2017) *Tielu zongongsi 2017 nian neibu gongzuo huiyi xinwen sucai.* [*The CRC's 2017 Internal Work Meeting for Publication*].

About the author:

Shu Liang (Karl) Yan is a PhD candidate in Political Science at the University of Toronto. Karl's research focuses on the effects of China's grand strategy on its economic statecraft. Karl is currently investigating the reform and 'going out' of the Chinese railway sector along Belt and Road countries.