

Over-Investment & Regulatory Capture in China's Transportation Industry

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Abstract—To investigate the reason why consumers transfer from one transport network to another one is inconvenient in China while China has invested much in transportation infrastructure and suffer in conflict on its over-investment growth path, we considered the impact of infrastructure operators' rent-seeking activities from asymmetrical information and cadres' rank-order tournaments. We extended the framework of traditional economy growth theory by involving the mechanism between natural monopoly industries' investment and regulation method, and concluded that the transfer barriers and regulatory capture emerges from collude between transport operators and cadres for seeking superiors government' subsidies. The main solution is to minimize the opportunity of hidden cost information by regulatory agency reform and private operators introducing.

Keywords—transport network; over-investment; transfer barriers; regulatory capture

I. INTRODUCTION

Large scale of transportation infrastructure investment dominant by government is the key factor of China's great development since 1990s, and yet the dependence path to sustain rapid economy growth when the efficient demand is insufficient. With the local government debt crisis growing, new airports, high-speed railway and highway suffering in deficit condition, whether China should insist on large investment on transportation become a major problem affect China's growth, especially when China remains in high saving rate and low consumption rate.

With the innovation in technology and planning concept such as seam-less transportation, there's room for sectoral coordination between some traditional transport infrastructure industries to save energy depletion and provide better consumers' utilities. While China constructs the industrial management institution based on Soviet Union's, some independent sub industry division insist on non-cooperative strategy, increase endogenous transaction costs and frustrate the whole transport system's efficiency, even though China also take some regulatory effort by Development and Reform Commission to regulate them as well as other natural monopoly industry. So interchange between transport networks such as high-speed railway, airline and public transportation has become the bottleneck of the whole transport system, users almost fell inconvenient when they transfer from one transport operator to another one.

Such transfer barriers and low efficiency in transport along with large amount of investment indicated the failure of regulatory, while regulator's effort to eliminate barriers is denied by monopoly transport operators. Meanwhile, as a composite result of fiscal decentralism, regional competition and political promotion chasing, cadres in local government still show their strong preference to transportation investment. The article intends to search on the endogenous link between such investment and regulation failure.

II. THE ENDOGENOUS RELATION BETWEEN ECONOMY GROWTH & OVER-INVESTMENT

Since 2011, IMF propose some reports on China's over-investment problem, and it contributes the result of current investment level of about 50% of GDP to the highly decentralized fiscal expenditure system and political incentives for officials [1]. The government and state-owned entrepreneurs generate great burden in financing for investment, which is distributed to other sectors of the economy through a hidden transfer of resources. The preference to transport infrastructure is reasonable for its pull power to economy, and large amount of scholars contributes a lot since Bougheas et al use empirical study to certificate that infrastructure can promote specialization and long-run growth [2]. But investment rate also has threshold point according to Solow-Swan model which determines whether the capital stock reach golden rule.

Why high investment rate in China lasts for years, Prasad & Rajan indicates the investment trend emerge from the low cost of credit and over-optimistic about future demand [3]. Song et al found evidence to prove that high productivity manufacturers tend to rely on their own retained earnings while low productivity state-owned enterprises manufacturers can rely on cheap credit and other external financing, resulting in a distortion of labor and capital factor configuration, so that nearly 30 years of investment return rate remained above 20% [4]. To interpret such phenomenon, it's necessary to investigate the government intervention on state-owned enterprises. As Chen et al point out: majority state ownership permits government intervention in SOEs and unconstraint appointment SOEs' manager, which makes the investment expenditure weak correlated with investment opportunistic [5]. Lazear & Rosen firstly design rank-order tournaments model to modify risk-neutral agents' competition [6]. From them on, rank-order tournaments theory has been generally agreed with

interpretation China's regional competition and the cadres' incentive to maximize the balance between tax revenue and public investment expenditure.

That is, over-investment posed by SOEs is induced by economy-growth-oriented local government which dominated by cadres who attend the rank-order tournaments; the situation would be much more obvious when GDP growth slows down. Although China earns amazing economy growth, it has already consumed much natural resource and leaved many luxury infrastructures project unfinished.

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III. THE MECHANISM WITHIN INVESTMENT & CAPTURE

SOEs also have much opportunity to earn fiscal subsidy for bonus of fast building efficiency. Unfortunately, limited fiscal resource is not enough to feed all SOEs, so SOEs from different sub industry have to struggle in obtaining project approval. Once its project approved, the monopoly SOE can achieve larger amount of fiscal support for a long time and avoid the fate of being merger, which permits the SOE remain in monopoly stage and provide its staff high wage continuously. To persuade the government approve its project, SOE have to certificate its importance and unique, which can be realized by posing some obstacle to cooperate with other sub industry monopolies. That is why consumers fell inconvenient when transferring within transport methods, and it cannot be explained by only the lag in planning technology and exists continuously without any investment for improvement.

The transfer barriers make the real cost of transport monopolies unobservable. The benevolent government can only identify the real cost θ within interval $[\underline{\theta}, \bar{\theta}]$, so it has to concede some information rent, meanwhile delegate regulator to distinguish it. The social cost of transfer barriers mainly reflected in the consumer side, whether it is eliminated would not impact the cost structure and expected revenue of monopolies. That is, the most part of increase in social surplus from elimination of transfer barriers would be consumer surplus, the increase of producer surplus is negligible. Indeed, transfer barriers benefit monopolies to hidden the cost information, and the size of transfer barriers make up the width of cost information interval. In order to incentive the regulator truly report the real cost, the governments need to pay a certain percentage of information rents as incentive compensation. But the bureaucratic system doesn't permit the existence of such compensation. So cadres in regulator agency have incentive to collude with monopolies, hidden the real cost and share the information rent together.

While the regulator and monopolies cooperate to maintain the asymmetric information status, the phenomenon of

regulatory capture forms. The monopolies can get more protection of their own property rights and superior firm performance [7]. The well-known A-J effect also indicated that entrepreneurs have incentive to increase the base of stock capital through over-investment while they were under investment return rate regulatory [8].

It also can be describe as one form of ratchet effect. The top cadres have multitask Principal-Agent relation with government as the cadres would also in charge of local regulatory agency, local Development and Reform Commission, while their main task is to achieve high GDP growth. Cadres are also glad to see transport operators receiving fiscal resource for further investment, which can fuel the economy, increase the employment rate and tax revenue, enhance their competitive strength in participate the rank-order tournament. Regulatory capture appears while cadres' motivation is indentified by monopolies.

In addition, the existence of two equilibriums make government lacks the means to break the capture condition: the enhancement of degree of competence would expose the real cost information, but the decrease in income would weaken the power of monopolies to provide cross-subsidy, so maintaining high fiscal subsidy is also exchange for the supply of universal service obligations, which permits peoples in poor region can get access to common transportation services; if transfer barriers disappears, the outside entrepreneurs can observe the real cost, they would harm the scale of economy of incumbent while they doesn't need to bear policy-related losses and save on specific investment.

In China, The antitrust law has not been perfect enough to curb monopolistic behavior. Nowadays, Development and Reform Commission bear the main industry regulatory task. Although it's designed to be an integrated organization, it cannot monitor the real efficiency of monopolies while it also has potential to implementation of integrated management across some sub transport industries. When the industries have hard information structure, the asymmetric information and principal-agent relation makes the regulation difficult. There are also problems in other department which increase the possibility of collusion and regulatory capture: state-control banking system can provide monopolies loan guarantee, construction bureau have unique power in selection of contractors and engineering design.

IV. CONCLUSION

The monopolies in transportation industries regulated by government have incentives to strengthen the level of transfer obstacle and hide the real cost information. Through these methods, they can be wrongly indentified as high-cost entrepreneurs by regulatory agencies continuously, achieve light intensity regulation, get more subsidy from the government in exchange of universal service obligations(USOs) and sustain high level of industry entrance threshold. The rank-order tournaments between cadres distort the commitment power of regulatory agencies, result in the failure of regulation. To summarize, the essence of the transfer barriers is information rent. It also can be a variant of soft budget constraint which first indicated by Kornai [9].

As pointed out by Laffont [10], the high public fund cost, weak auditing and monitoring tools, low transaction cost in corruption and weak counter power in developing countries would make regulatory agencies special. According to the conclusion from Laffont & Martimort, separation of powers in regulatory agency would reduce the threat of regulatory capture, avoid socially wasteful activities [11], while regulators are no longer directed by local government leaders and compete to sustain its duty to monitor monopoly industry.

Besides the reform of regulatory agency power design, to minimize the degree of transport transfer barriers, government should clarify the transport network connecting infrastructure's characteristic as public goods, and provide some necessary subsidy to induce operators cooperate in providing connecting. What's more, the central government should modify the evaluation mechanism of officials' promotion, weaken the importance of GDP growth and design accountability system to prevent from arbitrary and low-efficiency investment, so as to minimize cadres' incentive to collude with monopolies and reduce the possibility of being captured. Some useful arrangement pushed by political pressure may not be desirable in the long run [12]. Induced by suitable access pricing mechanism, transport network can be capitalized to attract outside investors and become more transparency for regulatory while the information rent diminishes.

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REFERENCES

- [1] I. H.Lee, H.S.Murtaza , and X. Liu , Is China Over-Investing and Does it Matter?. No. 12-277. International Monetary Fund, 2012.il 1955.
- [2] S. Bougheas, P.O. Demetriades, and T.P. Mamuneas, Infrastructure, specialization, and economic growth. *Canadian Journal of Economics/Revue canadienne d'économie* 33 (2000) 506-522.
- [3] E.S. Prasad, and R.G. Rajan, Modernizing China's growth paradigm. *The American economic review* 96 (2006) 331-336.
- [4] Z. Song, K. Storesletten, and F. Zilibotti, Growing like china. *The American Economic Review* 101 (2011) 196-233.
- [5] S. Chen, Z. Sun, S. Tang, and D. Wu, Government intervention and investment efficiency: Evidence from China. *Journal of Corporate Finance* 17 (2011) 259-271.
- [6] E.P. Lazear, and S. Rosen, Rank-Order Tournaments as Optimum Labor Contracts. *Journal of Political Economy* 89 (1981) 841-864.
- [7] J. Tirole, Hierarchies and bureaucracies: On the role of collusion in organizations. *JL Econ. & Org.* 2 (1986) 181.
- [8] H. Averch, and L.J. Leland, Behavior of the Firm Under Regulatory Constraint. *The American Economic Review* 52 (1962) 1052-1069.
- [9] J. Kornai, *Economics of shortage*, North-Holland Publishing Company, 1979.
- [10] J. Laffont, *Regulation and development*, London,UK,Cambridge University Press, 2005.
- [11] J. Laffont, and D. Martimort, Separation of regulators against collusive behavior. *The Rand journal of economics* (1999) 232-262.
- [12] C. Bai, and Y. Qian, Infrastructure development in China: The cases of electricity, highways, and railways. *Journal of Comparative Economics* 38 (2010) 34-51.