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PRECONDITION OF RAILWAY RESTRUCTURING IN DEVELOPING COUNTRIES: A CASE STUDY OF INDONESIA

Purwo Mahardi, 20 - 28



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PRECONDITION OF RAILWAY RESTRUCTURING IN DEVELOPING COUNTRIES: A CASE STUDY OF INDONESIA

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Abstract

The establishment of Law No. 23/2007 on Railway set to eliminate monopolization by incumbent operators and giving opportunity to the private sector and local government to join the railway sector. Ironically, the new law is not completely implemented due to budget constraints and weak basis of restructuring. Proper preconditions have to be created to ensure its success. The paper uses a literature review involving a material harmonization study. Based on the research, legal framework amendment, assets re-evaluation, human resources assessment and obvious support from the government can be considered as the most essential preconditions, together with the existence of good governance.

Keywords: Railway restructuring, Law No. 23/2007 on Railway, Indonesia.

INTRODUCTION

Background

Indonesian railway began the restructuring process on 1998 with huge loan from World Bank under the name of the Railway Efficiency Project (REP). The main obstacle behind the restructuring process is the huge cost should be burdened by the government of Indonesia. That huge spending comes from subsidies and maintenance of rolling stock (Nikmah and Wijati, 2008).

Railway restructuring during that period was only carried out in the intern structure of the company itself. Railway was still being monopolized by government. In this case, government played as owner, regulator and operator. Source of budgeting for development was solely from Indonesian State Budget, which has been set every year. This condition was agonized by the low support of the government. The government tends to develop road transportation rather than

railway. As the neglected sector, Indonesian railway was trying to improve its performance by doing some betterment. An important reform was initially started in 2007 by the establishment of the new railway law.

Law No. 23/2007 on Railway is fulfilled with the idea of restructuring. The monopoly era of PT. Kereta Api Indonesia (Indonesian Railways Company) has been ended and private sectors and/or local governments are allowed to enter the railway business not only for the provision of train service but also in track construction, maintenance and operation. During the implementation of this law, it has been seen that some approaches were not properly implemented. Some concepts are needed to be revised in order to be more applicable. Preconditions set for the Law No. 23/2007 on Railway need to be formulated to ensure that the restructuring process running in the properly and achieving the objectives.

Main Objectives

The objectives of this paper are to:

1. Investigate the current development of railway restructuring in Indonesia;
2. Investigate whether Law No. 23/2007 of Indonesian Railway could have any significant impact in ensuring the success of railway restructuring program;
3. Formulate restructuring option for Indonesia
4. Set the preconditions or requirements as a solution during the process of restructuring.

THEORETICAL FRAMEWORK

Characteristic of State Owned Railway

In mostly countries, railways are being operated under one state owned company who are responsible for managing the railway infrastructure and providing train services (UNESCAP, 2003). Monopoly practices are beginning to become very popular as a basic system in the railway sector and this is generally known as the traditional theory of railway. Richard T. Ely (1937) firstly mentioned that due to operational property, railway and other public facilities have natural monopoly characteristic which is believed to deliver high efficiency and stability. UNESCAP (2003) also states that: *“State-owned railways have therefore often been organized as vertically-integrated publicly owned monopolies.”*

Efficiency and stability delivered by state owned railways can be seen from Japan National Railway (JNR) operation, which dominated the market of freight and passenger. It also had important role in term of post-war economic recovery until the 1950s when it started to loss its competitiveness against other transport mode. (Aoki, E. *et al*, 2000). However, the circumstances of transport market in recent twenty years comes led to the conclusion that monopoly systems of state railways should be reformed in order to ensure the

service quality and performance of railway operation. It is hugely accepted that state-owned monopolistic railways were generally known to be ‘inefficient and unworkable’ (Kopicky and Thompson, 1995; ECMT, 2004, 2005) and restructuring process should be carried out in order to reclaim the performance of the system.

RESEARCH METHODOLOGY

The primary source of data will be from Ministry of Transportation. The main sources of information have been derived from various books and journals at the university and from the internet. The data related to railway restructuring in Indonesia is being gathered and investigated to find the link to the research objective.

Secondary data has been used in this research to describe the implementation of the approach proposed in the Indonesian railway network as the case study. Data are taken from the Directorate General of Railways (DGR) as the regulatory body and PT. Kereta Api Indonesia (PT. KAI) as the operator of train services. Furthermore, this research can be classified as descriptive research, since a structure is set up to answer who, what, where and how type questions. Information related to the research will be clearly defined.

RESTRUCTURING RESULTS

Ambiguity on the Way of Restructuring

In present condition, PT. KAI handles the infrastructure operations and train services. The impact of this is the difficulty in entering the railway market sector, as PT. KAI are reluctant to release its former role. The problem related to competition will be elaborated on the next section. Another problem is related to the objective of PT. KAI, as an incumbent operator, the government mandates that PT. KAI

provide public service tasks. At the same time, PT. KAI also has to gain profit from its operation. Law No. 23/2007 on Railway clearly states that the government cannot directly operate the rail infrastructure and train services, unless in the absence of private operator. Lubis (2007) considers this phrase dilemmatic. In present, PT. KAI is being acknowledged as the incumbent infrastructure operator and service provider, but the government can form a new special company for restructuring within this three years transitional period as stated on the law.

As stated in the Article 214 of Law No. 23/2007, PT. KAI was given three years to adapt with the new system. Related with that transitional time, the government has instructed PT. KAI to do the organizational restructuring, which is the separation, based on the line of business (soft unbundling). With this mechanism, PT. KAI has to separate the division on the specific duty such as rolling stock, ticketing and track maintenance.

There is some ambiguity in way of restructuring which directly impact to PT. KAI as the incumbent operator. The previous organizational reform carried out by PT. KAI based the government agenda is different from the intention of the law. Law No. 23/2007 indicates that the proper restructuring way is vertical separation

which means both infrastructure and services are managed by different bodies (see **Figure 1**).

In other words, PT. KAI should be prepared to compete with new company in railway sector. In the author's opinion, the previous restructuring agenda of PT. KAI set by the government was not properly matched with the law. This condition may lead to a big question related to the competitiveness level of PT. KAI toward the multi operator regime.

Degree of Competition

The expected concept of Indonesian railway is multi operator railway. DGR (2010) describes that in multi operator railway; there will be competition between the train operator and the infrastructure provider. Recently, PT. KAI has a role as the train operator, working together with other train services operator from private company. This option is a modification of the previous framework by giving more opportunities for the private sector. The opportunity for private sector was given only in providing train service as operator while the infrastructure management and operation is still fully managed by PT. KAI. In fact, there is only one involved company named PT. KAI Commuter Jabodetabek, which is responsible for train service operating in the Jabodetabek area. PT. KAI Commuter Jabodetabek is actually the subsidiary of PT. KAI. Pure

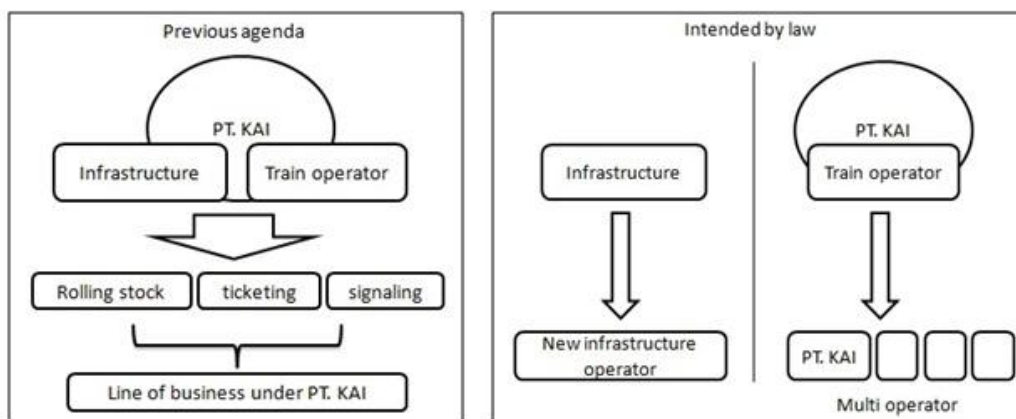


Figure 1 Ambiguity of Restructuring Agenda

private company involvement doesn't exist.

The author identifies that the problem may come from the duality role of the incumbent operator. PT. KAI still dominates the operation of infrastructure. It owns station, signaling system and other facilities. The problem occurs when a new train operator company wants to use this facility. Permission from PT. KAI, as the incumbent infrastructure operator, is needed. On the other hand, PT. KAI also acts as a train operator company using the same facilities as the new candidates of operator companies and competes with them. With respect to PT. KAI, the decision related to infrastructure tends to be not fair. It is still arguable, but in the author's opinion, this condition may lead into some partially policy which brings lucrative situation for only one party, PT. KAI itself.

The Government Intervention on the Infrastructure Providing

Intervention of the government of Indonesia in the provision of infrastructure can be seen from the 2011 Indonesian State Budget Draft. It is mentioned in the document that the government of Indonesia over the budgeting draft for infrastructure provision for four trillion rupiahs. The Ministry of Transportation, particularly Directorate General of Railway is appointed to carry out the provision program.

This intervention is clearly contradictory with the railway law. The position of the government based on the law is limited as a regulator. Joining the infrastructure provision is definitely out of their authority. It will be wiser if the government appoints PT. KAI than being directly involved in the infrastructure provision. For the future, as expected by the railway law, infrastructure has to be provided and managed by independent company, out of government intervention.

Private companies are permitted to built the track and earn money from their track operation for some years. After the end of the permitted operation year, the track will be back and owned by the government.

Public Charging and Financial Support Mechanism

Muthohar (2010) explains that the actualization of Public Service Obligation (PSO), Infrastructure Maintenance Operation (IMO) and Track Access Charge (TAC) scheme within five years after the REP was not yet completed. Differences always occurred between the demand requested by PT. KAI and the realization from the government.

Recently, the actualization of the scheme is on the similar trend with the previous years. Budget constraint is believed to be the main reason between the lack of PSO and IMO payment by the government. Lubis (2007) records that during the period of 2007; the TAC offsets the IMO on the amount of around Rp700 billion or equivalent to £50 millions. This condition directly affects PT. KAI as the sole operator in Indonesia since the budget for maintenance was always under the actual need. Then, Lubis (2007) also adds that there is an accumulated backlog in the amount of Rp6.5 billion or the equivalent of £465k plus another £300k for the rolling stock backlog.

The impact of this accumulated backlog as mentioned in Muthohar (2010) and is the decrease of track in year after year. In present, 59 per cent (2.716 km) of the total length track is qualified as good condition. The rest can be qualified as fair condition (494 km or 11 per cent) and bad condition (1.391 km or 30 per cent). This condition is indicated to be the reason behind the 6 high number of derailment cases. Restructuring of maintenance funding should be carried out for the betterment of both infrastructure and rolling stock, and improvement of safety level.

As stated in Muthohar (2010), another problem is the implementation of IMO and TAC. In practice, the scheme of IMO and TAC was not applied properly. Now, the maintenance of infrastructure is carried out by PT. KAI by using its own money. As a response, the government does not collect the TAC from PT. KAI. In other words, the government presumes that the value of TAC is equal to IMO. There is no real transfer from the government to PT. KAI which has substituted the duty of infrastructure maintenance .

During the three years of transition period, it can be seen that PT. KAI is the sole PSO and IMO receiver and TAC payer. There is a risk with the fund flow under one organisation related to its initial objectives and its implementation, which may lead into ineffectiveness. Therefore, Nash *et al* (2002) explains that subsidy of the train operation which is appropriate on social considerations will be more effective if it is directed at particular services and paid to the train operator rather than the infrastructure provider. In fact, the train operator and infrastructure provider is the same company.

Lubis (2007) points out that although the contracts were separated, funds that are supposed to be utilised for infrastructure maintenance (IMO) or as subsidises for the economy class train (PSO) were actually used by PT. KAI to pay wages or for locomotive and other rolling stock procurement. This is because the funds needed to maintain the track is used for other purposes, the track have not been fully maintained. Therefore, a clear separation of infrastructure provider and operator and train service provider should be established so that the amount of the PSO grant by the government to the train operator is fully used to operate and manage non-commercial trains. Law No. 23/2007 implicitly instruct to reform the railway in this way.

Another problem arises from the calculation of TAC. Santoso (2010) mentions that the basic calculations used in the TAC contract are still questionable since it does not reflect a fair and transparent system in the implementation of railway reform. Muthohar (2010) adds that TAC is calculated based on the infrastructure maintenance and operation (IMO) paid by the government added with the infrastructure depreciation (d) multiplied it with an intermodal or inter-services balancing policy factors (f). The intermodal balancing policy factor (f) has not attributed with a standard formulation; it is only used as a liability factor that balances the net of PSO, IMO and TAC.

Since the new law has set that in the future of Indonesian railway is multi operational, the TAC calculation must be revised. Fair TAC can be beneficial in encouraging the new company to enter the railway market sector. Private sectors absolutely need clear, transparent and rationale fare as their financial expectation before entering the market.

Private Sector Participation

Another new reform stated on the Law No. 23/2007 is the chance for open access in the railway sector. In the future, it will be possible to undertake railway investment and funding using Public Private Partnership (PPP), private financing or local public funding. The amended law also addresses authority, service standardization, certification, licensing and protection of customer's rights. The law recognizes that the railway is an economic sector to be organized by sector participants in manners that are efficient, professional and supportive to national economy. Railway infrastructures and service businesses, which were previously bureaucratic in nature, are to be changed to a corporate focus that emphasizes service reliability, efficiency and direct interaction with economy and industry.

Private sector participation can be arranged in a form of partnership with the related government body. Various potential types of private sector participation can be shown on the table 5 on Appendix. According to DGR (2010), the interest of private sector to join the railways business is mostly focused in coal mining. DGR (2010) records that in the period of 2010 until 2014; there are several projects of track construction for coal mining. The projects will be carried out under the scheme of Public Private Partnership (PPP).

In South Sumatera project, PT. KAI arranges Joint Venture Corporation (JVCo) with PT. Bukit Asam (coal mining company). The total capital of JVCo is 1.55 billion rupiah, 30 per cent supported by PT. Bukit Asam and 70 per cent by PT. KAI. Another potential project which attract private sector is rail link in Soekarno Hatta international airport. DGR (2010) mentions that at least there are seven private companies which are interested to join this project.

COMPARATIVE STUDIES WITH OTHER COUNTRIES

1. Britain Railways case study

In Britain, train operation was under the responsibility of Train Operating Companies (TOCs) while the management of infrastructure was held by Rail track namely Network Rail. This term existed after the establishment of Railway Act 1993 (Kopicki and Thompson, 1995). Basically, the structure of privatized railway in Britain can be described as follows:

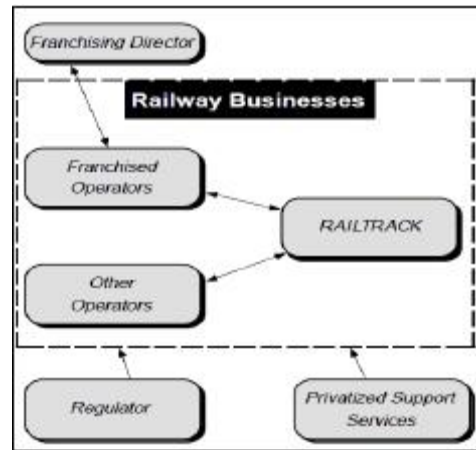


Figure 2 Structure of Britain Railway
Source: Kopicki and Thompson, 1995

2. Swedish Railways case study

The Swedish 1988 reform pioneered railway restructuring for all of Europe (Kopicki and Thompson, 1995). The process was initially started in 1988 when the Swedish state railway, Statens Järnvägar was split into two companies, Statens Järnvägar (SJ) and Banverket (BV). Banverket (BV) is responsible to control the track network. The second one, Statens Järnvägar (SJ), is responsible to operate the train. So, it is basically a vertical restructuring or hard unbundling by the separation of infrastructure and train operation management. The interesting approach learned from Swedish restructuring program is the involvement of Local County to fulfill their local passenger services.

RESTRUCTURING OPTION FOR INDONESIAN RAILWAYS

The restructuring option for Indonesian Railways basically can be divided into three main proposals. The basic concept of restructuring is vertical restructuring or hard unbundling. Within this option, the separation between infrastructure and train operation must be carried out. Actually, the Law No. 23/2007 has set that Indonesian railway should be restructured with this option but unfortunately the implementation was still far from its initial pattern.

Privatization of British Railways can be considered as a failure (Joy, 1997; Thompson, 2004), therefore this system will not be chosen. The Swedish system gives more beneficial impact than the British one. Separation between infrastructure and train operation is still being regarded as the first option.

The restructuring option for Indonesian Railways basically can be divided into three main proposals. The basic concept of restructuring is vertical restructuring or hard unbundling. Within this option, the separation between infrastructure and train operation must be carried out. Actually, the Law No. 23/2007 has set that Indonesian railway should be restructured with this option but unfortunately the implementation was still far from its initial pattern. Since the privatization on British Railway was acknowledge as a failure, it will be better if Indonesia adopt the way from Sweden. In this case PT. KAI as state owned railway should be split into two companies with different responsibility, one for infrastructure, other for train operation.

Another consideration is the geographical condition of Indonesia. Coordination can be a obvious problem in archipelagic country. In order to minimize the impact of geographical constraint, the horizontal separation can be a good solution. This approach has been implemented in Japan since Japan is archipelagic country as well. The question will arise related to the restructuring program which has been carried out by PT. KAI, soft unbundling. In the author opinion, this option is an initially good for further process, hard unbundling. Development of soft unbundling is a subsidiary which latterly can stand itself, separated from PT. KAI. The existence of some companies with different business can be a good foundation for the process of vertical separation.

SETTING THE PRECONDITION

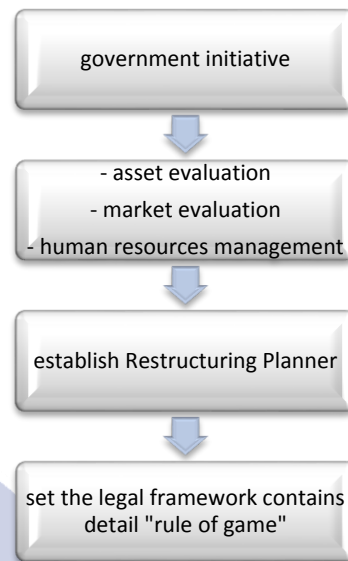


Figure 3 Staggered Precondition Process

From the figure above, the role of government become very essential since the restructuring process can be considered as its initiative. A special body should be created to formulate the scenario of restructuring. This body can be consisted of Ministry of Transportation, Ministry of State Enterprises, and Ministry of Finance. But, before that process is being carried out, an assessment of asset, market, and human resources is absolutely needed to measure the potential and readiness of railway to be restructured.

CONCLUSION

1. The establishment of Law No.23/2007 on Railway is a part of the government's railway reform agenda. Despite the new railway law delivering some new visions relating to the restructuring program, several preconditions need to be envisaged carefully.
2. Railway reform in Indonesia was driven by coercive process by the involvement of World Bank through Railway Efficiency Project (REP). Since the stagnant railway performance after the

project, the idea of restructuring was repeatedly raised. The result was the establishment of Law No. 23/2007 on Railway.

3. Law No. 23/2007 on Railway brings two important changes by ending the monopolistic right of PT. KAI as the sole and incumbent operator and permitting open access to private sector and local government to enter the railway sector. Now, the years after the establishment of the new railway law, there is no significant change on the Indonesian railway. The government budget constraints can be regarded as the main barrier, as well as the weak basis of restructuring program. The reluctance of the incumbent operator to enforce the law, inefficient funding scheme through PSO, IMO and TAC, absence of private sector participation are the impact of this weak foundation.
4. The restructuring option for Indonesia can be a combination between three approaches, horizontal separation, functional separation, and vertical separation. At least there are four things can be regarded as the most important precondition, namely legal framework, asset assessment, human resources evaluation, and good governance and its support.

RECOMMENDATION

For further improvements of railway restructuring process in Indonesia, the following recommendations are suggested by the author based on the results of the study.

1. The bundling mechanism in the funding of PSO, IMO and TAC in Indonesia indicates an inefficient implementation in railway development.
2. Ministry of Transportation, particularly Directorate General of Railway should create a special agency which only concerning with in assessing the bankable railway projects and promoting them to private sector.

3. Further studies related the most suitable option of railway restructuring by investigating the methods from other country and doing some modification based on actual condition in Indonesia;
4. The law needs working detail in the definition of and boundaries between
5. PT. KAI is expected to remain broadly involved in all railway businesses due to its extensive managerial and technical experiences that have been developed over many years.

REFERENCES

- Aoki, E. et al. (2000) *A History of Japanese Railways 1872-1999*, East Japan Railway Culture Foundation Directorate General of Railways. 2010. *National Railway Master Plan*. The Government of Indonesia.
- ECMT. (2004). *Regulatory reform of railways in Russia*. Paris: European Conference of Ministers of Transport.
- ECMT. (2005). *Railway reform and charges for the use of infrastructure*. Paris: European Conference of Ministers of Transport.
- Ely, R. T. 1937. *Outlines of Economics*. New York: Macmillan.
- Joy, S. 1997, *Public and Private Railways*, (London, Journal of Transport Economics and Policy)
- Kopicki, R. and Thompson, L.S. 1995. *Best Methods of Railway Restructuring and Privatization*. CFS Discussion Paper Series, no. 111. Washington D.C.: The World Bank.
- Lubis, H. 2007. *Road Map for National Railway Institutional Development*. Bandung: Institute of Technology Bandung.
- Muthohar, I. 2010. *The Implementation and Impacts of PSO, IMO and TAC Schemes on Indonesian Railway Reform*. Journal of the Eastern Asia Society for Transportation Studies, Vol.8.

- Nash, C.A., Matthews, B. and Shires, J. 2004. *The EU Transport Policy White Paper: An Assessment of Progress*, CER, July, 2004
- Nikmah, S.K. and Wijiati, V.S. 2008. *Railway Efficiency Project. Indonesia: Working Paper No. 1. INFID.*
- Santoso, K.A., (2010). *Rail Infrastructure Charging in Indonesia – the issue of improving rail service*. Master Dissertation. Railway Engineering System and Integration. University of Birmingham
- The Government of Indonesia. 2007. Law number 23 year 2007 on Railway.
- Thompson , Louis S. 2004 *Privatizing British Railways, Are There Lessons for the World Bank and its Borrowers?.* Transport Paper 2nd Edition. Washington D.C.: The World Bank.
- UNESCAP. 2003. *The Restructuring of Railways*. New York: UNESCAP.

