

## The Implementation and Impacts of PSO, IMO, and TAC Schemes on National Railways Reform in Indonesia

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**Abstract:** The Public Service Obligation (PSO), Infrastructure Maintenance and Operation (IMO), and Track Access Charge (TAC) schemes marked a new beginning towards national railway industry which given its autonomy to offer commercial service, better quality of service provision, and competitiveness, in balance with the accountability to the government. The schemes were also proposed as initial step to clarify the separation of railway infrastructure and transport services management. Within five years implementation, there were some problems related to the lack of optimization on railway performance. It is necessary to reformulate the strategies to avoid further dispute and to support the smooth-running of the national railway reform. The simplest thing that the government should do is to refer back to the genuine concept of PSO, IMO, and TAC schemes as the unity of independent entities.

**Key Words:** *PSO, IMO, TAC, railway*

### 1. INTRODUCTION

In Indonesia until the last one and half-century, the national railway network which initially developed by Dutch Government, only established in Java and Sumatera Island. The total length of railway track in this network is 6,797 km, which is 4,675 km (68.78%) of operating line and 2,122 km (31.22%) of non-operating line. Operating track consists of 3,327 km in Java and 1,348 km in Sumatera. In 2006, the contribution of railway based on national transportation share is lower than other transportation modes, only 7.32% of passenger transportation and around 0.63% of freight transportation. In contrast, road still dominates by nearly 84.13% of passenger transportation and 91.25% of freight transportation (MoT, 2007).

Recently, the problems faced by Indonesian railway are more complex and dynamic due to social behavior, economy-financial, and technical-operational issues (Dikun, 2003; MoT, 2007). Therefore, Indonesia's railway industry, part of the Asia/ASEAN Railway Network, is still striving for improvement, towards the establishment of better mass railway transportation services.

This struggle actually was begun in 1945 a little while after national freedom through several stages of institutional changes from Djawatan Kereta Api (DKA) to Djawatan Kereta Api Republik Indonesia (DKARI) in 1950. Followed by Perusahaan Negara Kereta Api (PNKA) in 1963, and then reformed as Perusahaan Jawatan Kereta Api (PJKA). These national railway institutions were the same institution oriented for public service with strong involvement of Indonesia government. Later, in 1991, it changed to a state-owned enterprise, Perusahaan Umum Kereta Api (PERUMKA) providing both public and semi commercial services. The revolutionary change in the national railway industry is symbolized by the enactment of the Government Regulations No. 19 / 1998 concerning the transformation of PERUMKA into Perseroan Terbatas Kereta Api (PT KA) as Limited Company. It marked the new beginning of the national railway industry given the autonomy to offer commercial service, better quality of service provision, and competitiveness, in balance with the accountability to the government.

Meanwhile, in term of policy reform, the government prepared some instruments to clarify the relationship between government and operator by accountability basis. This policy was supported by World Bank through the Railway Efficiency project emphasizing on national railway financial restructuring. One of the instruments was known as PSO, IMO, and TAC schemes. It had been agreed by Joint Decree of Minister of Transport, Minister of Finance, and State Minister of Development Planning on 4<sup>th</sup> March 1999. The philosophy of the scheme is to role division clearly between public service function of government obligation and commercial function of train operator. Government has an interest to support middle class society for their mobility and economic activities. Therefore, subsidized system for economical train passenger was set up in the PSO scheme.

The establishment of Law No.23 / 2007 marked end of the monopoly era of PT KA. As the monopoly privilege of PT KA had been discarded, other business entities including private sectors and local government were then welcomed to involve in the national railway industry. However, this was not succeeded due to the unestablished foundation to invite private sector in railway industry, such as the institutional framework was still being developed, especially in the existing main railway lines (Lubis and Nurullah, 2007). Under the new law, the government should be able to restructure the existing railway network for up to 3 years and to resolve issues including: total audit of PT KA, assets inventory, PSO, IMO, TAC schemes as well as to pass service liabilities resolution and to settle new balance sheet of PT KA.

The transition period from the year of 1998-2010 becomes a critical matter to determine the next step for national railways development. The aim of this paper is to evaluate the implementation of PSO, IMO, TAC schemes and to deliberate possible future developments of the schemes for national railways reformation.

## 2. PSO, IMO, TAC SCHEMES: CONCEPT AND IMPLEMENTATION

Based on the Joint Decree of Three Ministers No KM 19/1999, No S3/KMK.03/1999, No.KEP.024/K/03/1999, it was clearly defined that PSO is governmental subsidy for economical class passengers through the compensation paid by the government to the operator due to the service provided for economical class passenger, in which the tariff is set by the government. It is calculated by the difference between operating cost of economical train passenger and revenue from economical train passenger tariff. IMO is the government compensation to the operator for the cost of infrastructure maintenance and operation. It is calculated by total cost of maintenance of track, bridge, signal and electricity, and the cost on railways infrastructure operation. TAC is the operator expenses paid to the government for the use of railroad infrastructure. It is calculated based on IMO added with the infrastructure depreciation (d) multiplied it with an intermodal or inter-services balancing policy factors (f). Figure 1 shows the role of the government and operator (PT KA) in the scheme's implementation.

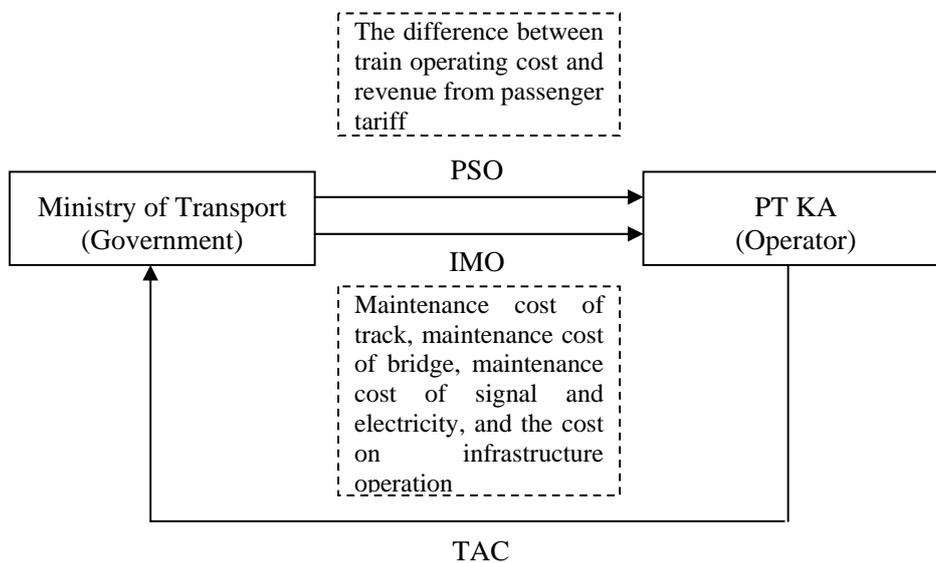


Figure 1 Model of railway budget mechanism

Based on the formal procedure issued in the mutual agreement of three ministers, PT KA proposes the budget of PSO, IMO, and TAC schemes for the next year implementation. Then, the government conducts interdepartmental meeting to discuss the proposed budget and its calculation. Finally, after the meeting members reach an agreement, the Ministry of Transport prepares official contract to PT KA for one year implementation of the scheme. Operator receives the payment's schemes after they give progress report made in every three months of implementation. Figure 2 shows the overall process of the schemes. As a result of this procedure, there would be 3 (three) documents of the schemes that are i).document of the scheme's proposed, ii).document of the scheme's determination, and iii).document of the scheme's realization. The amount of each scheme for 2000-2004 of implementation could be seen at Table 1.

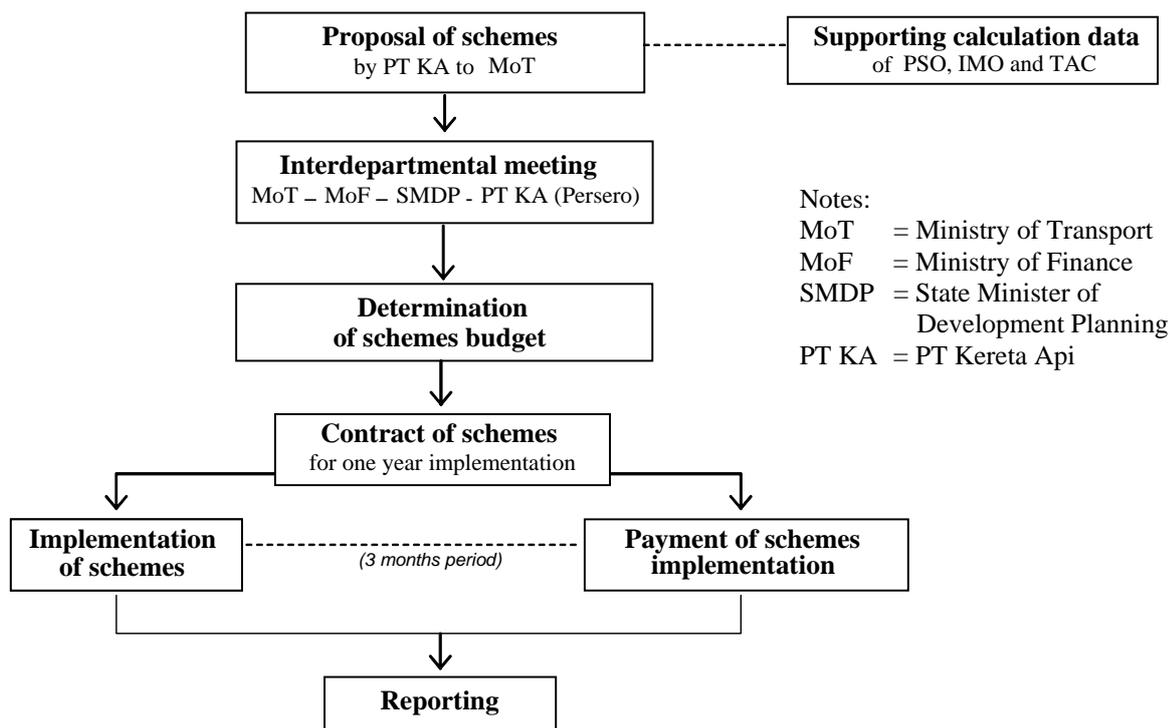


Figure 2 The formal mechanism of PSO, IMO, and TAC schemes

### 3. DISCUSSION: PROGRESS SO FAR AND PROBLEM OCCURED

Within five years of implementation, there were some problems due to the lack of optimization on railway performance. The problems were (a) the net form of PSO, IMO, and TAC, (b) significant difference between budget plan in contract PSO contract and actual cost in its implementation, (c) undeveloped system of monitoring and evaluation in IMO, and (d) 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.

#### 3.1 The net form of PSO, IMO, and TAC

The scheme applied as the initiation step has not been properly conducted. It is indicated by the fact that in the implementation of the formulation was only paper-based theories and there was no real cash flow applied in each scheme. The PSO, IMO, and TAC schemes were supposed to be the unity of independent entities, instead of to be aggregately calculated in net form. The amount of net was calculated by  $PSO+IMO-TAC$ . In practice, the fund provided by the government for PSO and IMO payment was not enough due to the budget constrain. The Ministry of Finance allocated PSO fund for not only railway sector but also other infrastructure sectors, such as electricity for low income people, pioneer post mail, and pioneer sea and air transport. Table 1 shows the total amount of net determination which is less than its proposal. Such condition influenced overall PT KA financial and technical performances, such as backlog in infrastructure maintenance. Backlog problem caused the decrease of track performance year after year. Currently, total track length only reached 2,716 km or 59% of good condition, 494 km or 11% of

fair condition, and 1,391 km or 30% of poor condition. Several technical error e.g. derailment cases often happened in the matter of this problem.

Table 1. Implementation of PSO, IMO, TAC scheme 2000-2004 (in billion Rp.)

	Year	PSO	IMO	TAC	NET= PSO+IMO-TAC
2000	Proposal	434.497	399.245	592.147	241.595
	Determination	255.307	316.216	512.339	59.184
	Realisation	596.113	354.313	547.215	403.211
2001	Proposal	342.281	489.137	684.369	147.049
	Determination	256.711	410.878	607.588	60.001
	Realisation	529.498	421.098	607.588	343.008
2002	Proposal	326.87	589.322	693.365	222.827
	Determination	224.958	528.407	693.365	60.000
	Realisation	495.986	512.365	693.365	314.986
2003	Proposal	217.307	590.729	558.677	249.359
	Determination	148.203	566.683	608.686	106.200
	Realisation	419.679	546.613	608.686	357.606
2004	Proposal	193.662	755.111	659.191	289.582
	Determination	93.068	569.551	522.619	140.000
	Realisation	388.086	538.250	522.619	403.717

Source: Ministry of Transport (2000, 2001, 2002, 2003, 2004)

### 3.2 Significant difference between budget plan in contract PSO contract and actual cost in its implementation

In the PSO, IMO, and TAC schemes, it is obviously seen that PSO has a significant difference in terms of proposal – determination – realization process, compared by other schemes. However, it should be realized that transport service for economical class faces serious problem affecting both user and government budget. The main problems are as follows.

#### a. The different calculation method of budget plan contract and the realization report

Contract of the PSO scheme was developed based on the difference between total operational cost of each economic train and total revenue of each economic train services. This revenue was calculated based on standard tariff multiplied by estimated load factor of train capacity. Nevertheless, in the realization report, PT KA used different method. In this method, total operational cost of economic train was calculated based on allocation system of total operational cost of all train classes by train-kilometer (km-ka) basis. For example in 2002, allocation for total operational cost of economical train was 39%, meanwhile 42% and 18% were allocated for non economical train and freight train. This allocation is irrational and unfair considering the following item: crew staff cost (economic train does not have steward, whereas the others have); fuel, lubricant, and other energy resources (economic train only uses ventilator and limited lighting system whereas the others use air conditioner and better lighting system), train maintenance cost (the maintenance service level of the economic train

is not as good as the others), and overhead cost (economic train passenger could not enjoy the station facilities as much as the others).

- b. The changes of basic assumption and additional work which influence the budget plan contract

During the implementation, the assumption in the scheme changed due to the real load factor alteration and the external factor like increasing of fuel cost, price of spare-part, or contingency fee. Until this period end, there was no well-prepared mechanism for additional work or assumption change. It is important to consider additional work or assumption change in calculation because it classified as an inevitable things.

- c. The lack of integrated train operating cost accounting system

Currently, specific expenditure for economical class train is not fully supported by integrated train operating cost accounting system. It causes difficulty in the calculation of total cost each economical class train. Furthermore, the different method used in the realization method could effect in PSO audit process. Actually, it is important to initiate the system development, not only for the budget planning but also for overall final reporting.

### **3.3 Undeveloped system of monitoring and evaluation in IMO**

Until the end of the first five years implementation, there was no mechanism which systematically monitors and evaluates of PT KA performance as mandatory in contract. It is difficult to trace the truth of PSO, IMO, TAC implementation report proposed by PT KA. Monitoring and evaluation system should provide information for decision makers in readily understandable form and in a timely fashion. Not only does the magnitude of the impact have to be determined, but those which are positively or negatively affected should also be identified. This information is important for the next budget planning process to minimize the divergence between contract and its implementation.

### **3.4 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**

Throughout the years, track access charge (TAC) has not received attention it deserved because of the assumption that it functions only for balancing the calculation between PSO, IMO, and TAC. 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.

The present concept of TAC charging is by making TAC equivalent to IMO added with the decrease, which means the principle applied here is the concept of cost. It does both side unfairly. For the government, it holds the government from 'selling' the infrastructure based on its level of utilization, in which the busy route having the same 'price' with the less busy route. It leads to imbalance infrastructure utilization, in which on busy route, the infrastructure hold a high load,

while on the less-busy road, the infrastructure holds lower load. For road authority, such a concept makes them take all the liability for maintenance spent by the government, whether they use it or not. On the other hand, this concept makes railway operational system becomes static and lacks innovation. Using the concept of pricing, the government faces the demand to conduct the development and maintenance of the infrastructure so that it is marketable, so that the road authority can improve the management to achieve the most efficient operation. This figure below describes the implementation of TAC during 2000-2004 period.

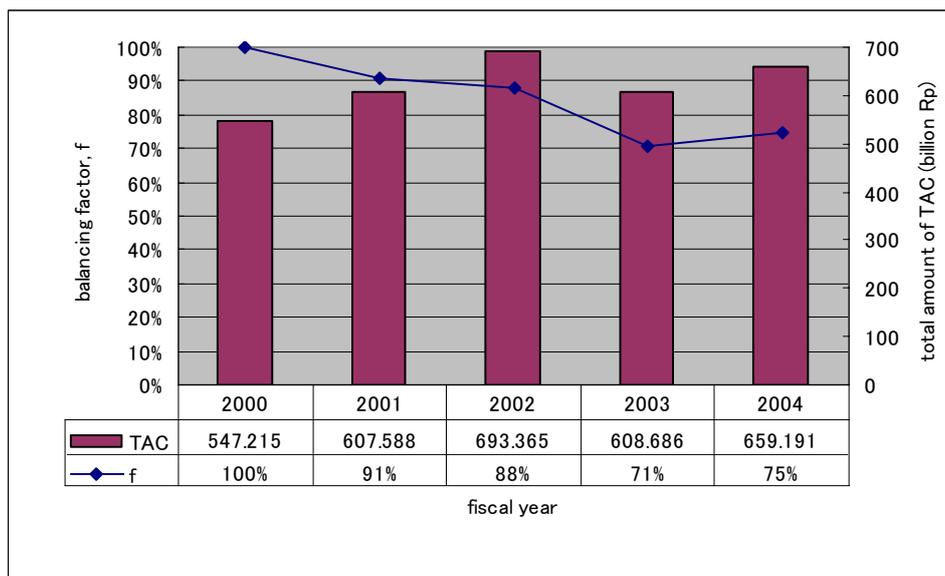


Figure 3 Implementation of TAC 2000-2004

#### 4 IMPLICATION ON RAILWAY REFORM AND FUTURE DEVELOPMENT

Apparently, the budget and financial scheme calculated in the net form of PSO, IMO, and TAC has not provided enough effects to improve the national railway reform especially with the railway reform goals of accountability to the government and increasing competitiveness. Therefore, it is necessary to reformulate strategies to avoid further dispute in the future. The simplest thing that the government should do is to refer back to the genuine concept of PSO, IMO, and TAC scheme as the unity of independent entities. Figure 4 describes the steps that could be done by government in establishing the schemes separation towards the genuine concept.

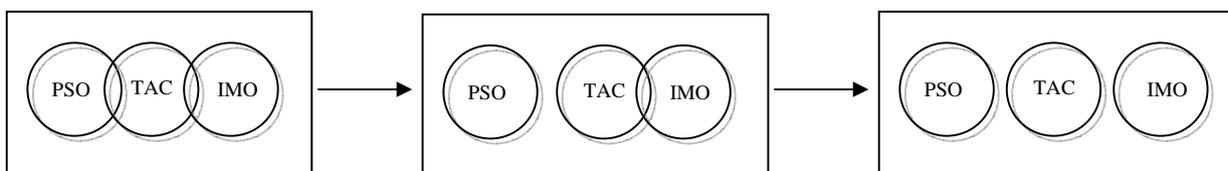


Figure 4 The process towards genuine concept of PSO, IMO, TAC schemes

Stage 1 is the net concept of PSO, IMO, and TAC schemes. The schemes implementation is not in line with the Joint Decree of Three Ministers and makes ambiguity in accountability of its financing flow. It is indicated by the fact that there was no real cash flow applied in each scheme. It is also raise the conflict of interest and borne the reformation process itself.

Stage 2 is an effort to separate PSO scheme from IMO scheme and TAC scheme and directed for transitional period before full separation. Operator should provide better services due to all of the difference between operational cost and revenue would be covered by government. Government not only could control and monitor of operator performance easier, but also has more power to implement reward and punishment if breach of contract was occurred. IMO scheme was offset by TAC scheme; it means that real financial flow only for PSO scheme.

Stage 3 is more advanced stage in which the schemes are separately each other or in other word back to the genuine concept. Consequently, the government has to allocate sufficient budget and set up the institutional framework which emphasize the role of regulator, operator, and other part which involve in the railway industry.

Furthermore, it is necessity to formulate the initial strategy that the government could adopt to produce the incentives for improving national railways performance. Table 2 describes it for each scheme and its impact on national railway reform.

## **5 SUMMARY**

The railway reform implementation, enlighten in Law 23/2007, is in progress now, but slowly. It was influenced by the fact that the PSO, IMO, and TAC budget schemes had not been implemented accordingly to the regulation. Beside the net form, problems mainly occurred in concerned of the difference between budget plan in PSO contract and the actual cost in its implementation, undeveloped system of monitoring and evaluation in IMO and TAC concept, as well as the intermodal balancing policy factor (f) which has not attributed with a standard formulation. Initial strategic efforts for supporting national railway reform should be encouraged continuously for the better condition in the future and attracting the private sector to participate in the national railway industry.

Table 2 Initial strategy for supporting national railway reform

Scheme	Initial strategy	Tentative impact on national railway reform
PSO	<ul style="list-style-type: none"> <li>▪ Develop integrated train operating cost accounting system which could treasure the distinction of direct operational cost easily for each economical class passenger train (towards convergent in the same method of measurement).</li> <li>▪ Control the level of service through periodic monitoring and evaluation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Government has strong argument to the parliament for providing full subsidy for economical passenger train</li> <li>▪ Government could implement reward and punishment if the obligatory operator could not achieve the level of services (towards better quality of service provision)</li> </ul>
IMO	<ul style="list-style-type: none"> <li>▪ The Government has strategic position to overcome the backlog problem. In one side, according to the Law 37/2007, infrastructure is still belongs to government and its compulsory to keep in normal condition. On the other hand, operator has limited budget to take this problem and the budget is only enough for keeping existing track performance.</li> <li>▪ It is necessary to enable another operator for handling the IMO works by outsourcing method, so this scheme could be taken well and professionally. Furthermore, the government would be easier for monitoring and evaluation the IMO implementation</li> </ul>	<ul style="list-style-type: none"> <li>▪ The performance of railway infrastructure has significant influence for attracting private sector to participate in this sector. They need to be ensured that the infrastructure are in well perform, so they could estimate the optimum benefit from the operation.</li> <li>▪ By outsourcing method, not only IMO works could be taken well and professionally but also reduce the cost of the maintenance and operation. Moreover, it gives impact of the access charge and tariff of services</li> </ul>
TAC	<ul style="list-style-type: none"> <li>▪ The set up of appropriate standard of the track access influences the railways competition. That is why it must be considered carefully, so an unfair charging does not burden among enterprises and Government itself.</li> <li>▪ TAC would be set up based on pricing theory not the cost concept like current condition.</li> </ul>	<ul style="list-style-type: none"> <li>▪ There is a trade-off relation with the rate standard of the track access charge and the quantity of the new entry in the open access policy.</li> <li>▪ It would be easier for the new operator setting the tariff due to TAC would be calculated by pay as you go principle.</li> </ul>

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