Searching For An Appropriate Public Private Partnership Model For Future Indonesia Railway Development

by Herawati Zetha Rahman

Submission date: 05-Nov-2019 01:30PM (UTC+0700)
Submission ID: 1207393444
File name: propriate_PPP_Model_for_Future_Indonesia_Railway_Development.pdf (1,007.69K)
Word count: 5281
Character count: 28748

Searching For An Appropriate Public Private Partnership Model For Future Indonesia Railway Development

Suyono Dikun [a], Herawati Z.Rahman[b] Titiek M.Agustriana[c]

[a] *Professor, Department of Civil Engineering*
University of Indonesia, Depok 16424
Tel : (021) 727-0029. Fax : (021) 727-0028
E-mail : sdikun@eng.ui.ac.id

[b]*Doctorate Student, Department of Civil Engineering*
University of Indonesia, Depok 16424
Tel : (021) 7270011 ext 51. Fax : (021) 7270077
E-mail : zetha_r@indo.net.id

[b]*Doctorate Student, Department of Civil Engineering*
University of Indonesia, Depok 16424
Tel : (021) 7270011 ext 51. Fax : (021) 7270077
E-mail : ina_masdini@yahoo.com

ABSTRACT

The future of Indonesia's railway has actually been shaped, first of all, by the issuance of the new railway law, Law Number 23/2007 in April 2007. This law dismantles state monopoly and opens railway industry and market for private sector participation. Two government regulations elucidating the principles of the law have also been issued. Government is now finalizing the National Railway Master Plan, outlining railway programs and investment plans up to the horizon year of 2030 with an estimated total investment costs of about US$ 90.5 billion. For many decades in the past, railway is a transport sector which was heavily regulated and had been operating under state monopoly, delegated to the state-owned enterprise. The issuance of new railway law marked the beginning of new railway era in Indonesia in which state monopoly was dismantled, making it possible for private sector involvement in the railway market and industry. But railway market is still considered high risk due to a masive investment needed and some uncertainties in the operating regulation and institutional frameworks. While the new law is very necessary for a public-private partnership scheme to operate in the rail business, it is, however, not sufficient for immediate private investment in the sector.

This paper investigates the options of possible public-private partnership undertakings in future Indonesia railway development. It is hyphotetically perceived that from now on railway market and business could be rationally divided into two broad streams. First, is the existing railway system that needs massive enhancement in infrastructure and rolling stocks. This system will carry the heavy burden of future people movement in Jawa. Second, is the new railway system to be built that is considered commercially viable, including the special railways and urban rail systems. Therefore, the spectrum of public-private partnership could start with the situation in which private sectors could play a greater role in the operation of special, freight railways serving a specific economic movement which are perceived to be commercially viable, until the full-scale, unsolicited, private investment with vertical integration and to a strategic alliance-type of PPP in which government and private sector work together from day one to prepare the project, to search its debt and equity financing, and to share the risks.

Keywords

Public Private Partnership, railway privatization, special railway, unsolicited, strategic alliance, railway financing model.

1. INTRODUCTION

1.1. The Indonesia Railway: Current Situation

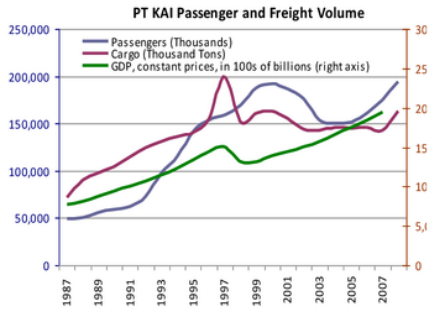
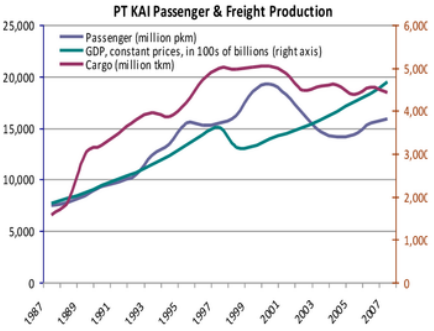


Figure 1: Productivity of PT KAI 1987-2007
Source : PT KAI, 2009



Indonesia is reported to have nearly 6,000 kilometers of railway lines, of which approximately 4,500 kilometers are currently in operation, and the remaining lines are out of service at the moment. About 400 kilometers of the rail network is electrified (1.5 kV-DC) for local commuter services in Jabodetabek area. PT KAI as the only operator has approximately 560 diesel-electric locomotives, 30 four car EMUs, 130 diesel-electric rail cars for passenger services, 1,200 locomotive-hauled passenger coaches in a variety of configuration, including dining coaches, and about 10,000 freight wagons, many of which are 2-axle freight wagons. The network relies on a variety of systems, both electrical and mechanical, for train control. Most PT KAI lines use R54 and R43 rail, concrete sleepers, and a 250 mm ballast section. Typical axle loadings on Java are 15 tons per axle with some lines able to handle 18-tons axle load. This relatively light axle loading (more typical of narrow gauge railways is a 22.5 ton axle loading) tends to limit the usefulness of the railway for freight services (since most 2-axle freight wagons weigh approximately 18-tons, leaving only 12 to 15 tons for lading; most 4-axle wagons weigh 25 tons, yielding a wagon payload of approximately 35 tons – a low limit for bulk commodities, typically a railway mainstay). Main-line speeds remained low: between 60 and 120 km per hour, with most in the 100 km per hour range for passenger trains. Vacuum brakes remained standard on the limited number of new coaches ordered, limiting the weight of wagons and coaches, and hence of trains.

Figure 1 shows that both railway passenger and freight traffics grew rapidly from 1987 to the Asian financial crisis of 1997. Passenger traffic climbing from some 50 million people to nearly 200 million by the time it peaked in 2000. After that, traffic declined and has only recently recovered to the 2000 level with the recovering economy. Freight traffic also grew quickly as well, from about 8.5 million tons in 1987 to a peak of about 24 million tons in 1997, after which freight traffic declined to about 17 million tons and remained relatively flat, rising again only in the last two years. Note that freight traffic did not increase with the recovering economy, indicating that railway market shares declined throughout the period after 2000 until the modest reversal experienced in 2008. When measured by production (passenger-kilometers and ton-kilometers), the picture is not significantly different. Passenger production climbed from about 7.5 million passenger-kilometers in 1987 to a peak of a little over 19 million passenger-kilometers in 2000 before declining to the 15 million passenger-kilometer range for the last decade [1].

Currently, the only railway operator PT KAI operates as a commercial enterprise with some passenger services provided a direct subsidy through a Public Service Obligation (PSO) type contract with the Ministry of Transport. PT KAI operates many passenger services on a commercial basis and provides third class intercity services as well as urban rail services in Jabodetabek under the PSO arrangements. Since 2002, revenue for passenger services has remained relatively constant at about 1,500 billion rupiahs while freight revenue has climbed from about 400 billion to nearly 1,200 billion rupiah in 2006, as a result of freight tariff increases. It is possible that rail market share has declined

(or rail traffic remained relatively constant in the face of a growing economy) as a result of price elasticity.

Government also compensates PT KAI for infrastructure operations and maintenance through a payment covering those charges while charging the railway for access to the infrastructure. In recent years, it has been the custom to set access charges for use of the infrastructure exactly equal to PT KAI spending for infrastructure operations and maintenance indicating that there is no specific subsidy for railway infrastructure [2]. However, the Government plans and constructs railway infrastructure. Theoretically, there should be significant interchange between government and PT KAI in the development of investment plans, however, there appears to be only nominal coordination to date.

1.2. The Railway Master Plan

The National Railway Master Plan (NRMP) [3] is now in the final stage of its making and waiting for a decree from Minister of Transportation to make it a formal planning document. In the Plan, Indonesia railway will be massively built for the next twenty years (up to 2030) with an estimated costs of about US$ 90.5 billion shown in Table 1 below.

Table 1 : Railway Investment Plan , 2030

Items	Volume (Unit)	Unit Cost (US$)	Total (US$ million)
Rolling Stocks			
Locomotives	10,320	2.500,000	25,800.0
Rail Cars	19,410	1,800,000	34,938.0
Freight Cars	166,840	80,000	13,347.2
Urban Rail cars	752	900,000	676.8
Sub Total			**74,762.0**
Infrastructure (km)			
Inter Urban Rail	7,450	1,400,000	10,430.0
Urban Rail	3,760	1,400,000	5,264.0
Sub Total			**15,694.0**
Total			**90,456.0**

Source: Draft Final NRMP, DG Rail, 2010

Table 2 and Table 3 show the investment spectrum by regions for both infrastructure and rolling stocks as well as for urban railways. Until 2030 urban railway systems will be developed in 7 cities in Jawa, 1 city in Bali, 6 cities in Sumatera, and 2 cities in Sulawesi.

Table 2 : Railway Investment Plan 2030

Items	Track (km)	Loco	Railcars	Freight cars
Jawa	6,800	9,390	17,890	151,870
Sumatera	2,900	620	810	10,590
Kalimantan	1,400	100	190	1,530
Sulawesi	500	170	470	2,380
Papua	500	40	50	470
National	12,100	10,320	19,410	166,840

Source: NRMP, DG Rail, 2010

Table 3 : Urban Railway Development Plan 2030

Items	Track (km)	Number of Trains	Electrification (KWh/day)
Jawa Bali	2,020	384	15,890
Sumatera	1,430	304	11,160
Sulawesi	310	64	2,430
National	3,760	752	29,480

Source: NRMP, DG Rail, 2010

1.3. The Indonesia Railway: Future Situation

Indonesia's railways are at a turning point. Government policy, as exemplified in Law 23/2007, is to expand and enhance the role of railway sector in transportation with the objective of substantially increasing rail market share. The aims of these policies are to reduce offsetting road transport investments, increase mobility, improve environmental standards, and reduce the cost of transport so that Indonesia's economic growth is not constrained by transport shortages or congestion. The earlier version of draft NRMP has projected significant railway traffic passenger and freight volumes for 2025 as indicated in Table 4. Passenger volume is to grow from the currently around 7 percent of the national figure into around 12 percent in 2025. Freight volume was projected to grow rather dramatically from 0.67 percent into 15-17 percent.

Assuming that demand forecasting is rationale enough given projected economic growth of 7-8 percent per annum, it is logical to postulate that the development of future Indonesia's railway can be broadly categorized within two streams, graphically illustrated in Figure 2. Stream "A" would be dealing with the improvement and upgrading of the current system, including a great program and investment for Jawa Passenger and Freight Rails. Stream "B" would be dealing with the "*brand new*" future system. Table 4 depicts the selected large-scale railway projects that can be considered within each stream [4].

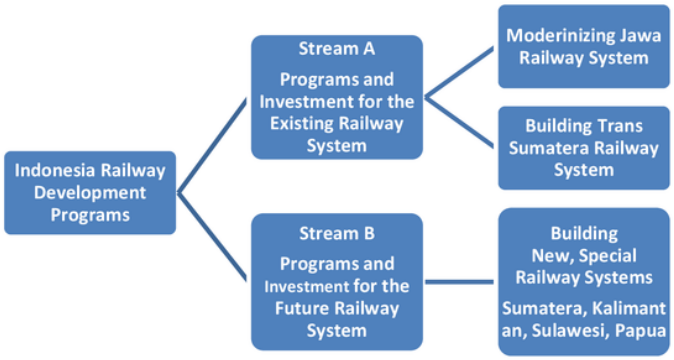


Figure 2: The Two Railway Development Streams

1.3.1. Stream "A" Development Prgram

Already many parts of the existing infrastructure network are at capacity – to increase rail market share substantially in a growing economy would require a rather massive investment in upgrading the infrastructure and purchasing new rolling stocks. Another alternative might be to build new rail infrastructure at standard gauge to provide the additional capacity. Such an effort would have significant transition expenses – it would take years to standard gauge primary infrastructure, but much of Indonesia's railway rolling stock needs replacement now. The existing railway lines have also to be enhanced for larger clearances and heavier axle loads.

Table 4: Railway Development and Investment by Stream Category

Railway Projects	Track Length (km)	Investment (US$ Million)
Projects Under Stream "A" (Jawa and Sumatera)		
1. Tracks, Turnouts, Level Crossings		1,451.00
2. Bridges		4,700.00
3. Signals		1,289.00
4. Special Terminals		300
Total Infrastructure		**7,740.00**
1. Locomotives		950.00
2. Diesel Multiple Units (DMUs)		266.00
3. Lectric Multiple Units (EMUs)		741.00
4. Coaches & Others		2,500.00
5. Freight Wagons		249.00
Total Rolling Stocks		**4,706.00**
Total Investment, Stream "A"		**12,446.00**

	Projects Under Stream "B" (Jawa, Sumatera, Kalimantan)		
1.	Tumbang Samba-Nanga Bulik Railway, Central Kalimantan	418	1,858.00
2.	Padang Monorail, Sumbar	31	465,00
3.	Maratuhup-Kalipapak-Balikpapan Coal Railway & Terminal, Kaltim	361	484,20
4.	Kudangan-Kumai Railway, Kalteng	195	890,00
5.	Kuala Kurun-Palangkaraya-Pulau Pisang-Kuala Kapuas Railway, Kalteng	390	2.071,00
6.	Jakarta Monorail	-	475,00
7.	Integrated Terminal Gedebage, Bandung, Jabar	-	121,00
8.	Bangkuang-Lupak Dalam Railway, Kalteng	175	1.112,00
	Total Investment, Stream "B"		**8,176.20**

Source: Consolidated NRMP Paper, Indii, 2009 and PPP Book, Ministry of Transport, 2010

These enhancements permit increased.train speeds and heavier trains. They also permit the use of larger locomotives with greater speed or tractive effort capabilities. Freight wagons will be able to carry more than double the load; passenger coaches and equipment can utilize bi-level equipment to increase passenger capacity. Increased speed (to as much as 150-kph on portions of the Java North Corridor), larger loading gauge and higher axle loads, improved signal systems, better road crossing protection systems all contribute to a significant enhancement of Indonesia's railway assets. The end goal would be to upgrade the existing main lines to a minimum 22.5 ton continuous axle load capability and provide an infrastructure that will support 150-kph train services on the Java North Coast main line.

Table 4 indicating a US$ 12.5 billion investment costs for Stream "A". Of this investment, approximately US$4 billion would be spent in the first five year period (2010-2014), and the entire infrastructure enhancement would be completed by the end of the second five year period (2015-2019). Under the NRMP railway revitalization plan, clearances are increased to permit bi-level passenger equipment. On some lines, if the demand justifies it, clearances can be increased sufficiently to permit bi-level auto carriers, high-cube appliance wagons, or double-stack container trains in well cars. Over time, axle loads should be increased to at least 22.5 tons, and on some lines, to 25 tons. Bridges on main lines should be enhanced to sustain loads from locomotives of 25 tons per axle and from wagons and coaches of at least 22.5 ton per axle.

Indonesia's railway rolling stock fleet is aging and a substantial portion of it is already operating beyond its economic useful life and should be retired soon. In addition, most of the remaining rolling stock will need to be replaced over the planning period. In total, approximately US$ 4.7 billion will be required to simply replace existing rolling stock. One way to minimize the capital cost of new and replacement equipment is to increase speed and to increase capacity of the equipment. With these enhancements, the capacity of passenger equipment can be increased substantially using bi-level rolling stock and faster services. Freight wagon capacity can be more than doubled.

1.3.2. Stream "B" Development Prgram

Table 5 also indicating a cluster of railway projects intended to be financed through PPP, listed in the PPP Book of the Ministry of Transport. From US$ 8.2 billion investment, US$ 6.4 billion out of which are special railway investment, defined as freight railways to carry a specific commodity such as coal and other special products. Other large-scale railway projects fall under Stream "B" would include: (1) Trans Sumatera Railway connecting Banda Aceh and Lampung traversing the East Coast Line of Sumatera and in support for east Sumatera Economic Corridor. The estimated costs is not yet known; (2) Jawa High Speed Train connecting Jakarta and Surabaya with an estimated cost of US$ 5.2 billion, (3) Urban Rail Systems with 3,760 km total track length in several big cities, and (4) Sunda Strait Bridge [5].

II. PUBLIC-PRIVATE PARTNERSHIP FOR INDONESIA RAILWAY

2.1. The Rationales for Public Private Partnership

2.1.1. The Limit of Government Investment

In many countries in the world there has been a decline in government investment and public spending as a percentage of their gross domestic products. In many Asian developing countries, including Indonesia, one of the main reasons has been the heavy focus of government spending on the rescue of their financial and fiscal systems that were devastated by the severe financial crisis in mid 1997. In 1994, the World Bank had confirmed this by asserting that when times are hard, capital spending on infrastructure is the first item to go, and operations and maintenance are often close behind.

Despite the long-term economic cost of slashing infrastructure spending, governments find it less politically costly than reducing public employment or wages. Studies of fiscal adjustment and expenditure reduction find that capital expenditures are cut more than current expenditures, with infrastructure capital spending often taking the biggest reduction. Infrastructure maintenance and rehabilitation had been sidelined by the macro economy mainstream and the state owned enterprises which have been mandated by public monopoly have shown a less than satisfactory level of performance and productivity in providing public services in running government funded utilities. Cutbacks in infrastructure operations and maintenance expenditure are worrisome.

2.1.2. The Advantages of Private Financing

Although private sector financing for infrastructure, including rail, is possibly more costly than conventional public spending, PPP financing can still compensate by providing better value for money for the following reasons:

- The private sector is more innovative in design, construction, maintenance and operation over the life of the contract.
- It creates greater efficiencies and synergies between design and operation. It is claimed that PFI/PPP result in better services, better value for money and efficiency savings.
- It invests in the quality of the asset to improve long-term maintenance and operating costs.
- The discipline of the market place ensures that the private sector manages risk better.

2.2. Prerequisites for Public Private Partnership in Indonesia railways

It is nevertheless realized that a significant involvement of private investment in Indonesia railway sector would not come in a very near future. Railway is still perceived as high risk business due to the high investment costs and long-term undertaking. Although willingness and affordability to pay of Jabodetabek's middle-income people are reasonably high and therefore justify a commercial pricing, urban rail services are usually not viable financially except to be closely associated with property development and retail business along the corridors and at the stations. Apart from that, the involvement of private sectors in railway development would require some necessary conditions. In its Final Report [6], TRKA has indicated the preconditions, and reiterated in the RMP's Interface Paper [7], in which private sectors can participate in railway development, as follows.

1) **High Demand.** Return on investment of railway services, and hence its financial viability, is strongly determined by high demand, not only for commercial volumes of passengers transported but also for users' willingness and ability to pay. It is believed that strong demand for passenger rail services at Jabodetabek is abundant and the willingness to pay of the users are high enough to justify a commercial services. A commercial line between Bintaro and Dukuh Atas has proved the high demand and willigness to pay for better service in the Jakarta area.

2) **Strong Government Support.** Although the Railway law had opened railway market and industry for private sector, it is not sufficient to attract private involvement**.** Clarity and certainty of regulations are critical to mitigate risks that are embedded within long-term railway investment by private sectors. Government is also obliged to set regulations on railway safety, technical specification for railway operation, level of service, and clarity on tariff setting for economic services in relation to PSO, IMO, and TAC financial scheme. All these new regulations are absolutely necessary when new players coming in to the market to create competition and efficiency in the railway industry.

3) **Financially Strong Private Sector**. For any infrastructure project, the last resort to bear the risks is usually the investor, as the *residual claimant*. Risks are better managed and mitigated if the private investors have enough capital and financial resources, flexible enough to be acquired when necessary.

4) **Good Project Structure.** Projects to be offerred to private sectors must be structured appropriately as to cover risks identification, risk sharing arrangement and allocation, and good and professional arranged contracts. The structure of projects will determine the viability and bankability of the projects, minimize the risks, and reduce financial costs involved, and in the end will ease the process of financial closure**.**

5) **Legal and Regulatory Frameworks.** Effective legal and justice systems are instrumental in honoring long-term contracts engaged by parties responsible to the execution of the projects. The success of railway project financing with all the risks associated with it would depend on the the quality and credibility of legal and justice systems upon which all contracts and commitments of the transactions and financial closure be based.

III. DEVELOPING PPP MODEL IN RAILWAY PROJECTS

3.1. Financing Modality

Government will still be playing an important role in future Indonesia railway development [8]. Table 5 identifies financing modality for both streams of railway development. Government will play a great role in stream "A" although a combination of both public and private financing would still be possible in Stream "A". While stream "B" would be predominantly private sector domain with minimal government's role and in most extent behaves like a special railway. Most of the current special railways were initiated by private investors, they become unsolicited projects, and government has to incorporate them within the official planning.

Table 5: Financing Modality

Investment	Type	Financing
Stream "A"	Infrastructure	Government
	Rolling Stocks	Government and Operators
Stream "B"	Infrastructure	Private Investors
	Rolling Stocks	Private Investors

The identification and development of PPP model for future Indonesia railway would be better described in the following project cases.

3.2. Jakarta-Surabaya High-Speed Line

In the draft NRMP, Ministry of Transport has plans to develop a high-speed-rail (HSR) train and track project covering a distance of 683 kilometers between Jakarta and Surabaya. The project has been estimated to cost some US$ 5.14 billion and the government would facilitate the process of securing the license and guarantee legal certainty for investors agreeing to build and operate the project, which

might possibly be built and operated without involving PT KAI. Detailed feasibility and engineering design studies have not yet been completed. While Directorate General of Railway (DGR) projects that the rail line would not be complete and operational until after 2025, pre-feasibility, feasibility, and engineering design studies, along with financing arrangements and contractor selection would all need to be completed prior to 2025 if the project were to become reality in the 2026-2030 period.

Several options emerge as the PPP's investment and financial scheme of this big project. It is perceived, however, that future big railway projects could be undertaken with or without the involvement of PT KAI. The PPP model and its project financing scheme is therefore can be arranged as illustrated in Figure 4 below where equity financing (in the order of about 30 percent) is provided by the sponsors, consisting of GOI, PT KAI, and bilateral and multilateral credit agencies. The debt (70 percent of the total costs) would be financed through syndicate of international commercial banks with no or limited recourse. Other option would be releasing government from financial burdens and letting private investors with or without PT KAI to execute the project under BOT/BOO scheme. The involvement of Japanese loan, nevertheless, is rather imperative if government decides to borrow for at least building the track infrastructure and its associated supporting and control systems.

Figure 3: Jawa HST Line
Source: DGR-MoT, 2009

3.3. The Railway Line to Soekarno-Hatta Airport

The US$ 400 million railway line linking Jakarta to Soekarno-Hatta International Airport in neighboring Banten province has been in planning for many years and after some considerable delays, development should be underway in the near term. It would connect Manggarai railway station in central Jakarta with the airport with a total distance of about 34 kilometers. PT Railink, a joint venture between state-owned railway company PT KAI and airport operator PT Angkasa Pura II, has originally been assigned to undertake the investment and construction of the project. The airport railway line would be expected to ease the congested road traffic to the airport and its operation would be under a separate management from PT KAI.

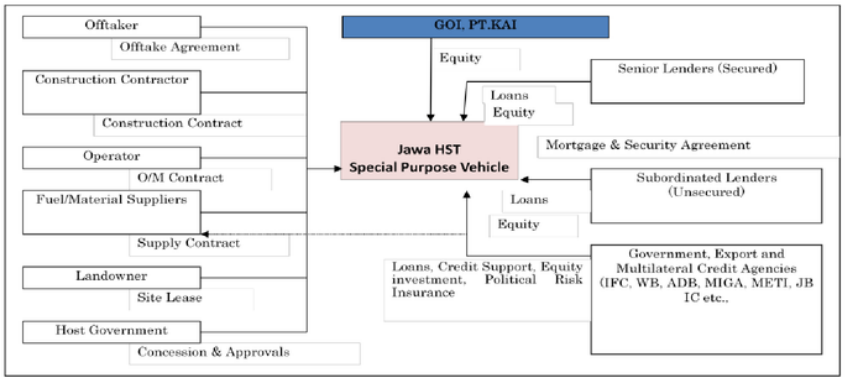


Figure 4: PPP Model For Jawa High Speed Rail Project
Source: Jawa HDR Study, 2008

PT Railink, however, has failed to build the system for some financial and regulation difficulties. Controversy has also arisen as whether the project is solicited or unsolicited. As the private developer doing all preparation works from the beginning, the joint venture company felt very strongly and requested the government to declare PT Railink as the initiator of the project, and hence eligible for

10- percent compensation had the project been undergone a competitive bidding. The government, i.e. the DGR, has been very undecided and kept the issue floating for some considerable time, delaying the process of project procurement.

Figure 5 : The Route of Airport Rail Link
Source: PT Railink, 2008

This stalemate provided a strong indication of the incapability of the government to embark on private intiaitive, unsolicited project although Presidential regulation No. 13/2009 had provided some legal basis to do so. Later, it was strongly recommended by stakeholders that government itself construct the infrastructure and let the private investors runs the operation and management of the system.

3.4. The Sunda Strait Bridge

The US$ 15 billion, 31 km, long-span Sunda Strait Bridge (SSB) connecting Jawa and Sumatera has been indicated as a PPP project that will be suited for a strategic alliances type of PPP (SA-PPP) [9]. In this PPP scheme, both public and private sectors work together from the beginning to prepare the project, including to conduct feasibility study, due diligence, searching for equity and debt financing, to share the risks, to establsih the special purpose vehicle, and to embark on transaction and financial closing. The SA-PPP is hypothetically applied to SSB project, presumably for eliminating the controversy of solicited-unsolicited issue.

The basic idea of SA-PPP is schematically shown in Figure 6. In this non-conventional PPP, both government as the original sponsors and the investors, the initiator of the project, would need to form a strategic alliance as a consolidated, hybrid organization to conduct all the preparation works of the SSB project. In this scheme, unsolicited issue is no longer relevant as both government and project creators merge into the alliance. It is assumed that this type of PPP configuration would ease the implementation of integrated project management approach during the course of the project preparation, construction, and operation. This is going to be a long range project management undertaking as a 10-15 years time span would be anticipated for the completion of the project. No empirical evidence has so far been emerged in this kind of project and its is realized that this idea still in the infant stage of implementation.

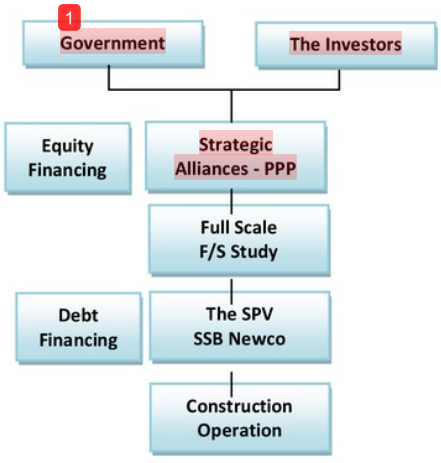


Figure 6 : Strategic Alliances PPP Scheme

SSB project is a complicated undertaking, involving a large amount of parties, working together in an orchestrated work under the direction and supervision of the SA-PPP and executed by a special purpose vehicle, the SPV-SSB Newco. Complexity creates conflicts, uncertainties, and project risks all the way from financing down to construction risks. The room for risk management, as well as value management processes is large and mandatory. It is assumed that for this large-scale and complex infrastructure project, the process of management integration between public and private sectors constitutes an important and coherent process, embedded within the course of overall project management from preparation until the operation.

IV. CONCLUSION

If economy keeps growing in the order of 7-8 percent per annum for the next two decades as planned and the big push of economic corridor development works well within the agenda, then railway will consequently be developed in a rapid fashion manner. The two streams of railway development and financing modality would provide different speed of investment. Stream "A" would, in the next 5-10 years, be powered by government investment and other public expenditures to embark on a massive railway infrastructure rehabilitation and train modernization programs in Jawa and Sumatera. Within this stream there also exist PPP initiatives in between government funding and private financing. But ill-prepared projects such as the Railink and Jakarta Monorail projects are good examples of non-compliance to the principles of PPP best practice as represented in the five prerequisites described above. Jakarta Monorail would probably be taken over by central government and the Railink project could very well be bailed out by the government for infrastructure part and let private investors as well as PT KAI to provide the rolling stocks and to run the operation.

Stream "B", on the other hand, would happen in a shorter time period in the forms of special, coal-based freight railways in South Sumatera and East Kalimantan. PPP for these special railways are private financing initiatives (PFI) and could be unsolicited in nature, not necessarily listed in government's PPP Book. From now on, government which is equippped with PPP-Center and PPP-Nodes has to embark on a professional undertaking to prepare PPP process from the preparation till the transaction, including for unsolicited PPP projects. It is also interesting to figure out what would be the best configuration of very large scale railway projects such as Trans Sumatera Railway and Jawa High Speed Rail. This would serve as an agenda for further research.

REFERENCES

[1]. Harral-Winner-Thompson-Sharp-Klein, Inc. National Railway Master Plan: Consolidated Background Papers. AusAid-Indii, April 2010.
[2]. Study on the Mechanic and Calculation of PSO-IMO-TAC. Final Report, DG Land Transport, December 2004.
[3]. National Railway Master Plan, Draft Final Report. Directorate General of Railways, Ministry of Transport, December 2010.
[4]. Technical Team of National Railway Revitalization Program, Draft Final Report, December 2010.
[5]. Infrastructure Projects in Indonesia. PPP Book 2010-2014, Bappenas, 2010.
[6]. Indonesia Railway Revitalization Program, a Final Report. Technical Team of Natonal Coordinating Team for Railway revitalization. December 2009.
[7]. Dikun, S. The Future of Indonesia Railway. Interface Paper Final Report, AusAid-Indii, 2010.
[8]. _____.Public Private Partnership in Indonesia Railway Financing. Unpublished National Strategic Research Report, DG of Hihger Education and University of Indonesia, October 2010.
[9]. Dikun, S and Hera. Z. R. The Integration of Value Engineering and Risk Management in Strategic Alliance Public Private Partnership. Value World Volume 33 Number 2, Summer 2010.

Searching For An Appropriate Public Private Partnership Model For Future Indonesia Railway Development

ORIGINALITY REPORT

13%	0%	0%	13%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Universitas Pancasila Student Paper	13%

Exclude quotes	Off	Exclude matches	< 3%
Exclude bibliography	On		