Assessing the Economic and Financial Impacts of Jakarta-Bandung High-Speed Railway

Gusti Raganata and Siddhartha Nath

Graduate School of Public Policy
The University of Tokyo, Japan

ADBI, Tokyo
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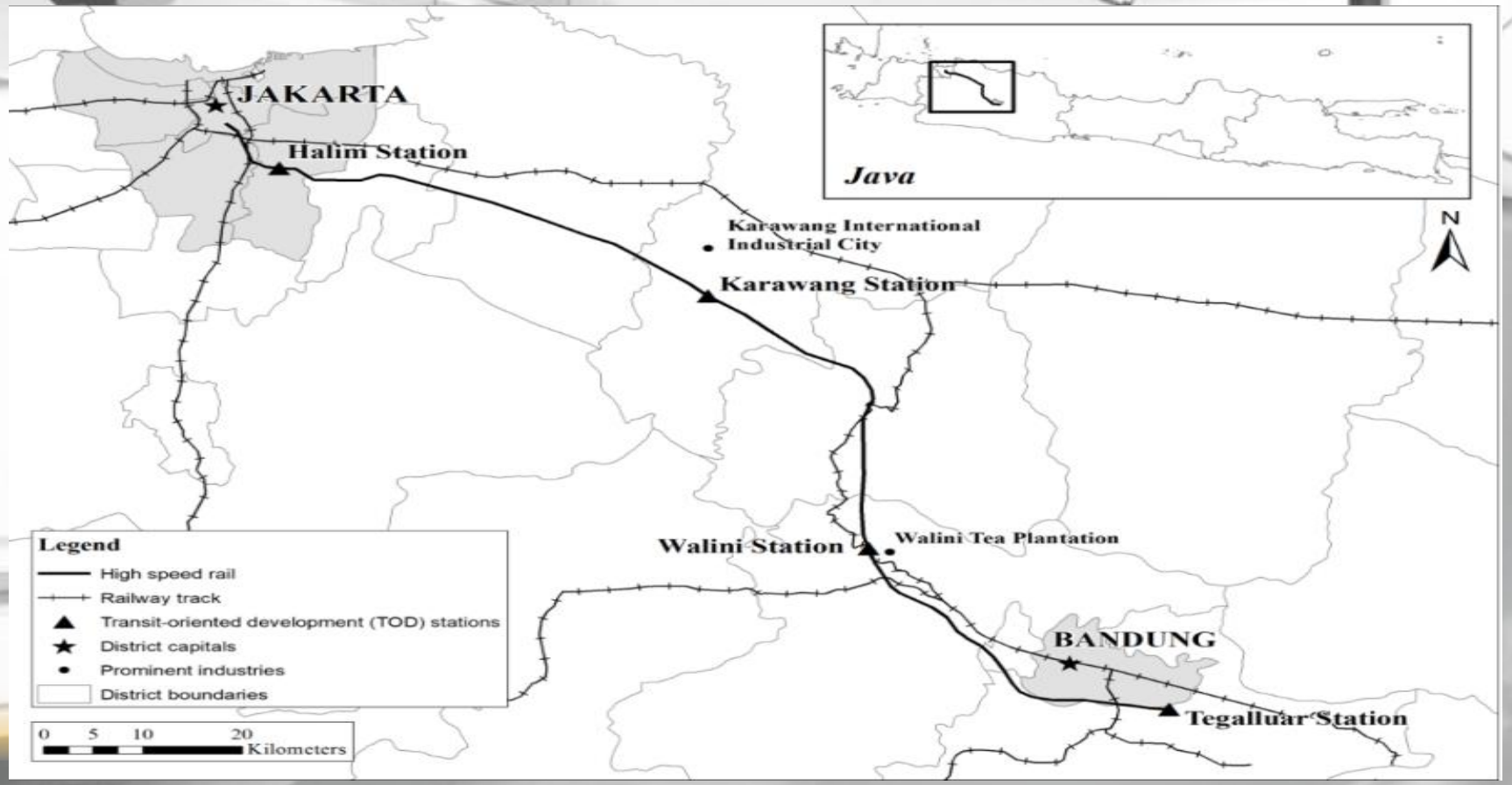
Basic Information



- Total cost: US $ 6 billion
- Railway track:142.3 km, 4 stations (Halim-Karawang-Walini-Tegalluar)
- Speed: 250-350 km/hour
- Time frame: 2017-2019/2020

SOURCE OF FUNDING FOR HIGH SPEED TRAIN

KATADATA ekonografik

Indonesian government chooses China to manage the high-speed railway Jakarta-Bandung project because of financial reasons. Four consortiums of Indonesian firms will also be the source of funding for this project. Thus, the 142 km project will be developed without using the State Budget.

BUSINESS-TO-BUSINESS INVESTMENT

New Updates:
- Construction of tunnel and elevated railway have been started
- CDB delivered US $170 million disbursement on April 27 2018

75% Loans
China Development Bank
IDR **58** trillion

25% Joint Venture
IDR **19** trillion

WITHOUT FINANCIAL GUARANTEE

60% in US$
2% Interest/year

40% Yuan
3.46% Interest/year

Period:
40 years, including 10 years of transition phase

40%
Consortium of China
IDR **7.5** trillion

60%
Indonesian Firms
IDR **11.5** trillion

Wika	PTPN VIII	KAI	Jasa Marga
38%	25	25	12
(IDR 4.3 trillion)	(IDR 2.9 trillion)	(IDR 2.9 trillion)	(IDR 1.4 trillion)

Stakeholders & Investment

Summary of Risks

Type	Sources of Risks
Institutional (Mostly during construction)	Land Acquisition (only 60% completed till date) Loss of farming (mostly rice), other non-farming and community farming along the line Development of new cities and transit stations to affect water supply, CO2 emmission Frequent revision in legislations by the govt.
Viability (Mostly during construction)	Cost escalation due to High altitute construction Track reduced from 150 km to 142 km, due to increase in cost, change in shareholding No track record of the newly formed consortium CRC is operational mostly in China till date The line cuts through Purwakarta, an earthquake prone area Commitment to local inputs (60%) against cheaper imports Global commodity price shock
Demand/ Ridership	Fare revised from $16 to $35 in response to cost escalation from $5.5bn to $6bn Fare is higher by 2 times and 5-7 times, respectively, than the existing railway and buses.
Currency	Depreciation of IDR against UD$ and CNY:
Offtaker/ Sponsorship	CDB fails to provide the fund (75% of the project cost) Shareholding by China proposed to be increased from 40% to 90% No Indonesian govt. guarantee: No interest of govt.
Technology	Technology not available upon requirement

Economic & Financial Impacts

Financial Impacts

Benchmark Scenario: Project Failure

- NPL for CDB upto 2.3% (2016 est.)
- Asset reduction of CRRC by upto 0.07%.

IDR depreciation and lower than expected ridership:
Benchmark Scenario: 50%

- PT-KCIC partners' annual operating income by 0.4% for 40 years.
- CRRC and CDB annual operating income by 0.2% and 0.01%, respectively, over the similar term.

No Direct impact on fiscal as no govt. 'guarantee'. But 'contingent liability' may be upto 0.04% GDP for each country.

Economic Impacts

Market access (Zou et.al., 2018)

$$MA_0 \approx \sum_d \tau_{0d}^{-\theta} Y_d^r$$

MA_0: Market access by the source region

τ_{0d}: Bilateral trade cost between source and destination 'd'

Y_d^r: Real income of destination 'd'

θ: Trade elasticity (=3.8 following Zou et. al., 2018)

$$\tau_{0d} = 1 + t_{0d}^{0.6}$$

t_{0d}: (Shortest time X Unit logistics cost) between 0 and 'd'

- 7 Locations: Jakarta, Bekasi, Karawang, west Bandung, Cimahi, Bandung, Majalenka.
- Square matrix of t_{0d} before and after HSR b/w each pair of 0-d; Unchanged real income.
- MA estimation before and after HSR

Economic Impacts

Findings

- HSR likely to improve MA by more than 2X
- **An estimated increase in the combined real income in the range 12-18%**
- Impact on real income is based on the elasticity estimates from Zou et. al. (2018): 1% MA ≡ 0.12% real income.

Economic Impacts

- $5.9 bn project cost
- **$4.6bn potentially added back to Indonesian economy (≈0.4%of GDP)**
- Assume 40% labour cost
- 60% of the materials are locally supplied
- Over 40,000 jobs created

Conclusion

- Real income due to Market access increases up to 12-18%
- Adds upto 0.4% to the Indonesia's Real GDP during construction
- Over 40,000 jobs generated
- Negligible fiscal risk

However,

- Over 2,000 traditional jobs affected
- Community farming and water supply will be affected

This project is likely to generate potential economic benefit around HSR area in the long run.

References

1. Siwage Dharma Negara and Leo Suryadinata. “ Jakarta-Bandung High Speed Rail Project: Little Progress, Many Challenges”. Yusof Ishak Institute, No. 2, 4 Janurary 2018.

2. Zou, W., Chen, L. and Xiong, J. (2018), “High-speed railway, market access and economic growth”, ADBI Working paper, No. 852, July.