

**International Symposium on “Integrated Connectivity:
A Logistics Perspective on the ASEAN Vision 2040,”
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Bangkok Thailand**

Understanding the impact of future logistics infrastructure on ASEAN Connectivity

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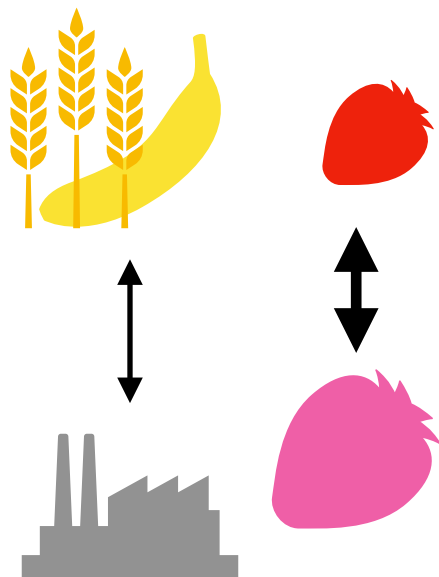
IDE-JETRO

Institute of Developing Economies, JETRO

Globalization's Unbundling

The First Unbundling

The separation of
production &
consumption



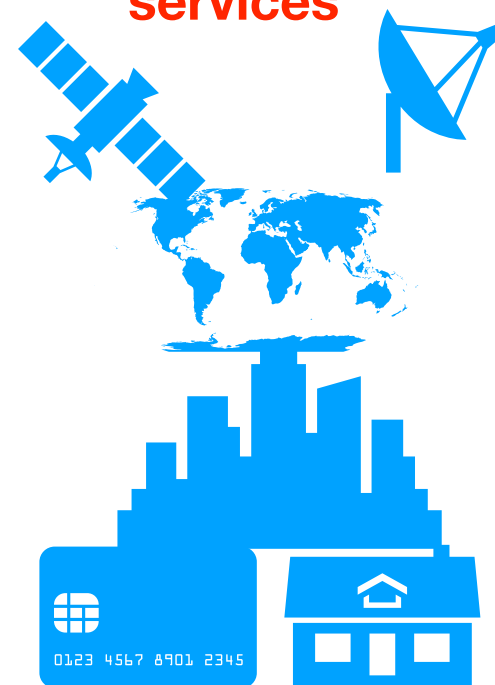
The Second Unbundling

The separation of
production blocks



The Third Unbundling

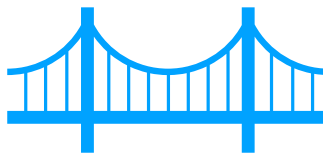
The separation of
services



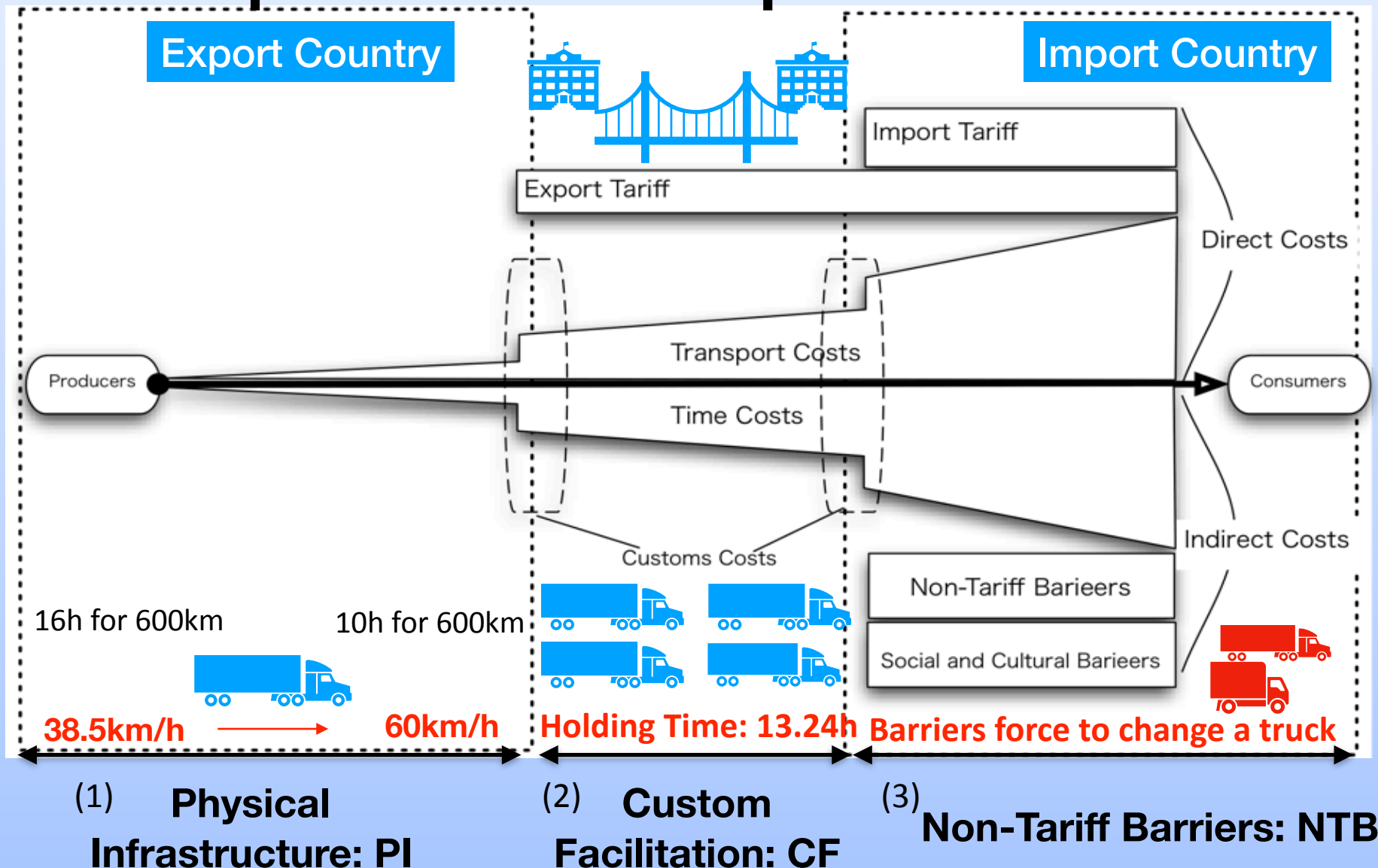
Note: Baldwin, Richard (2016) *The Great Convergence: Information Technology and the New Globalization*, defined the first, second and third unbundling under globalization

PART 1.

TRANSPORT INFRASTRUCTURE FOR GOODS

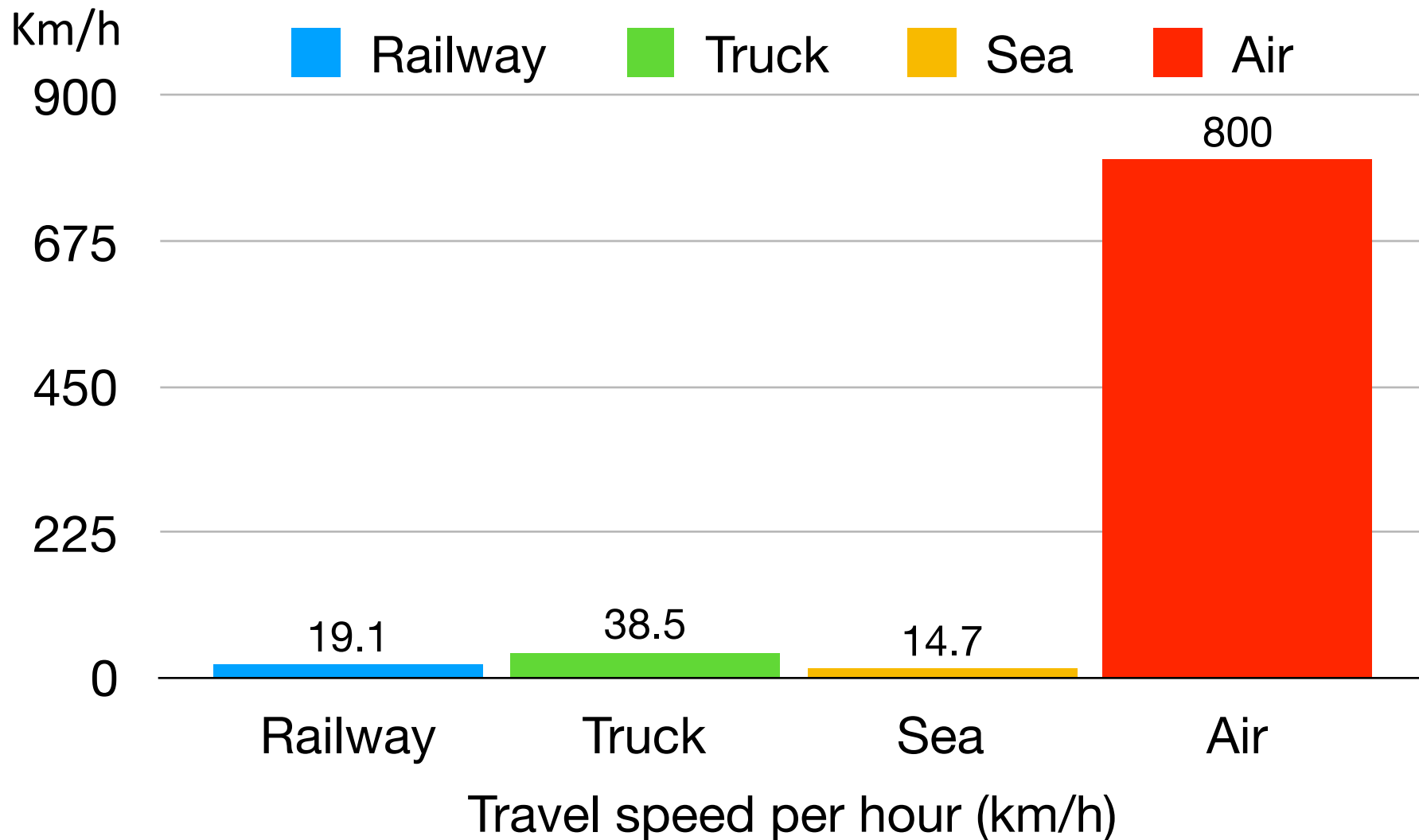


Components of Transportation Costs

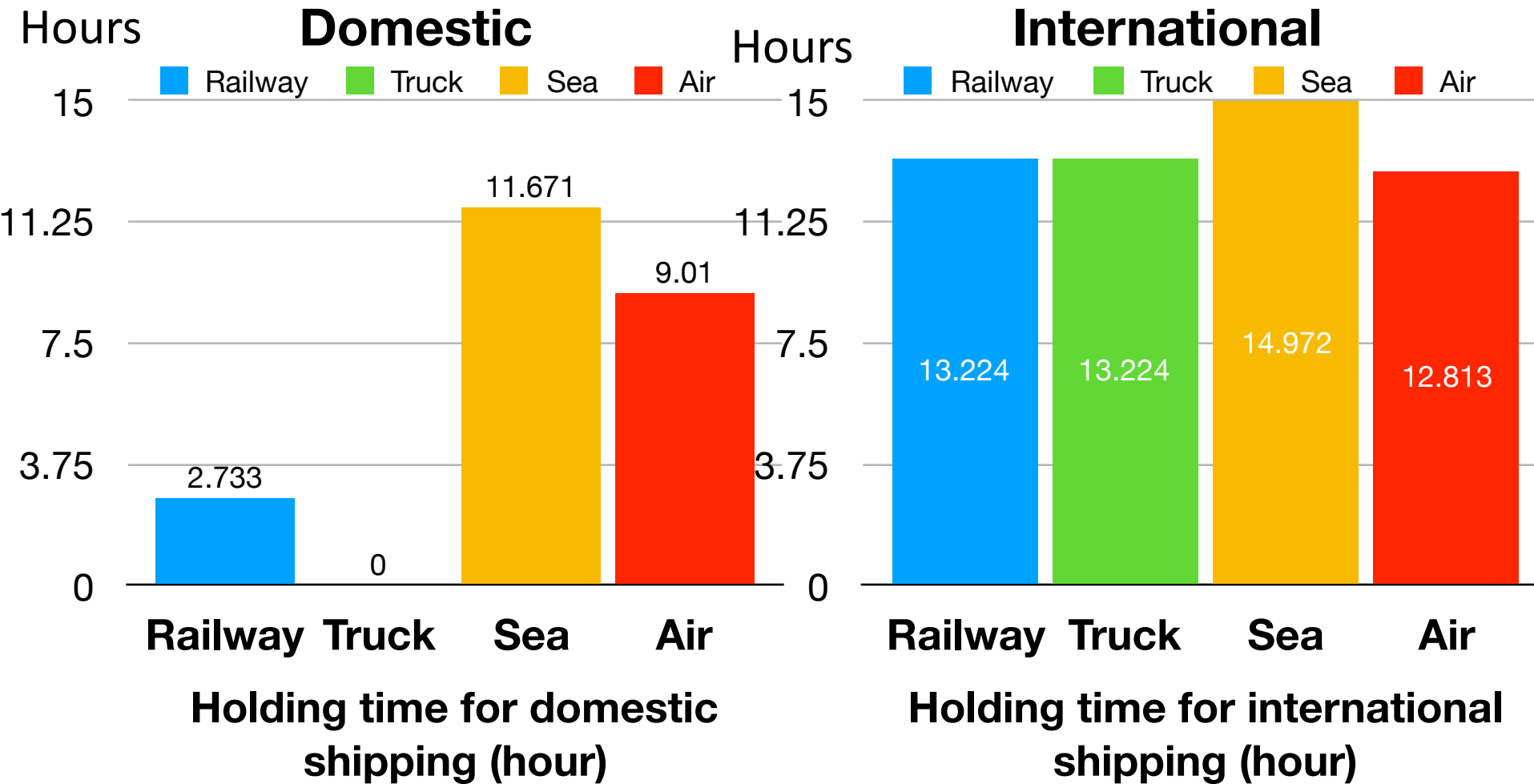


Source: Modified from the original diagram by Kumagai et al. (2013)

Physical Travel Speed per hour (km/h): Parameters in the IDE-GSM Model



Holding Time for Domestic and International Shipping (hours) in the IDE-GSM Model

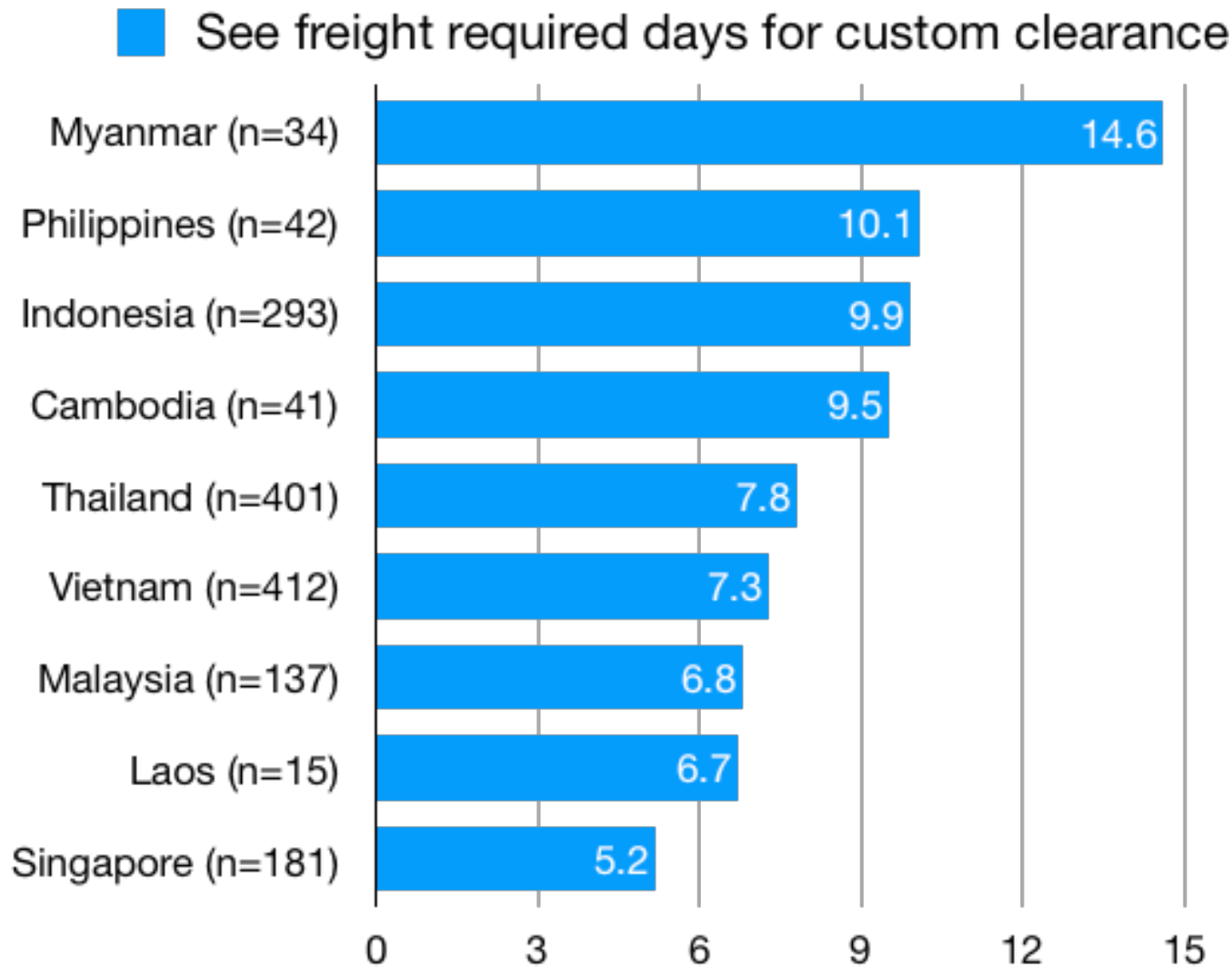


Long holding time due to the limited capacity at the border office?



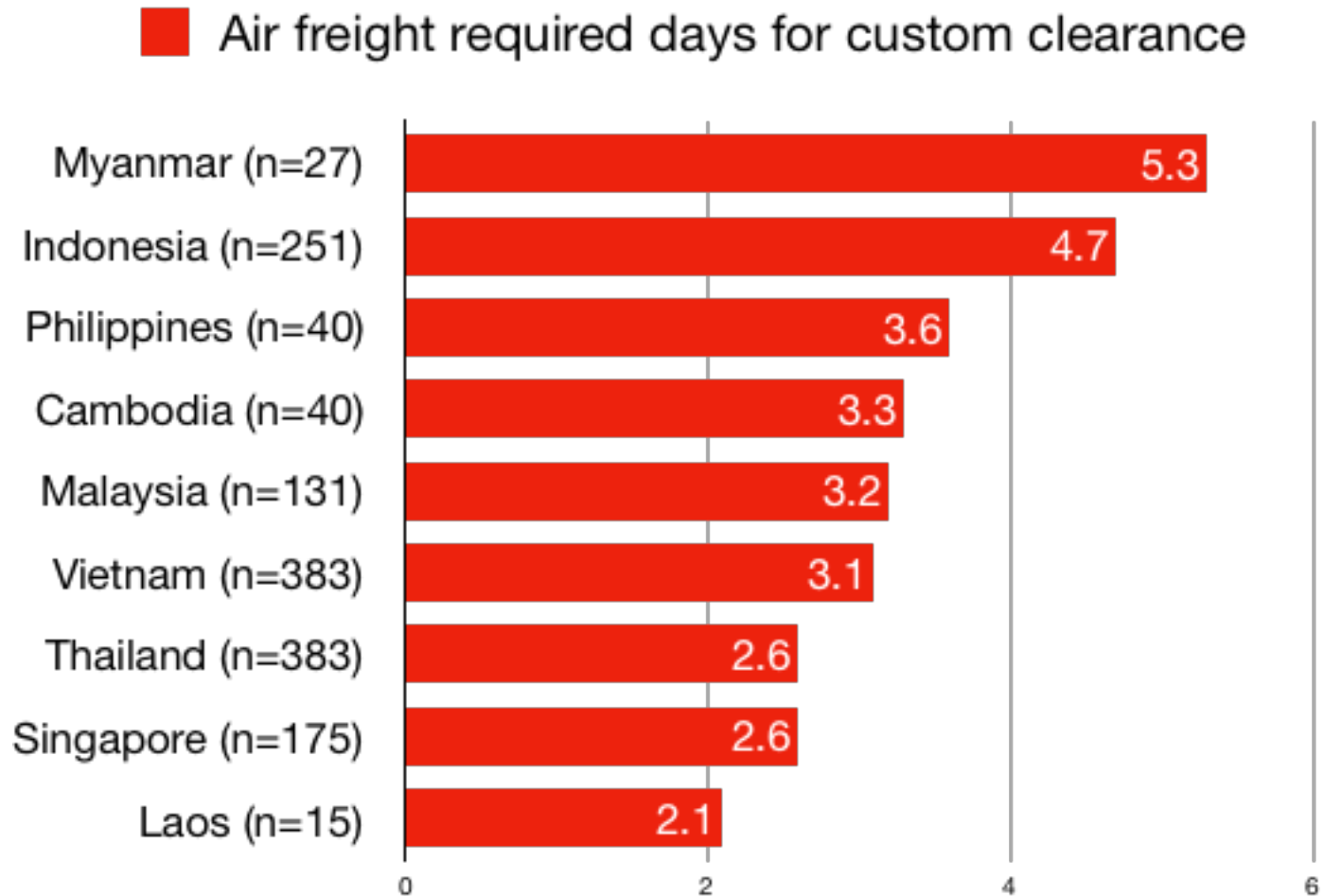
Source: Mae Sot, Jul 26, 2018

The average days required from the arrival of freight to the completion of import clearance



JETRO (2017) The 2017 JETRO Survey on Business Conditions of Japanese Companies in Asia and Oceania December 21, 2017 Asia and Oceania Division China and North Asia Division Overseas Research Department

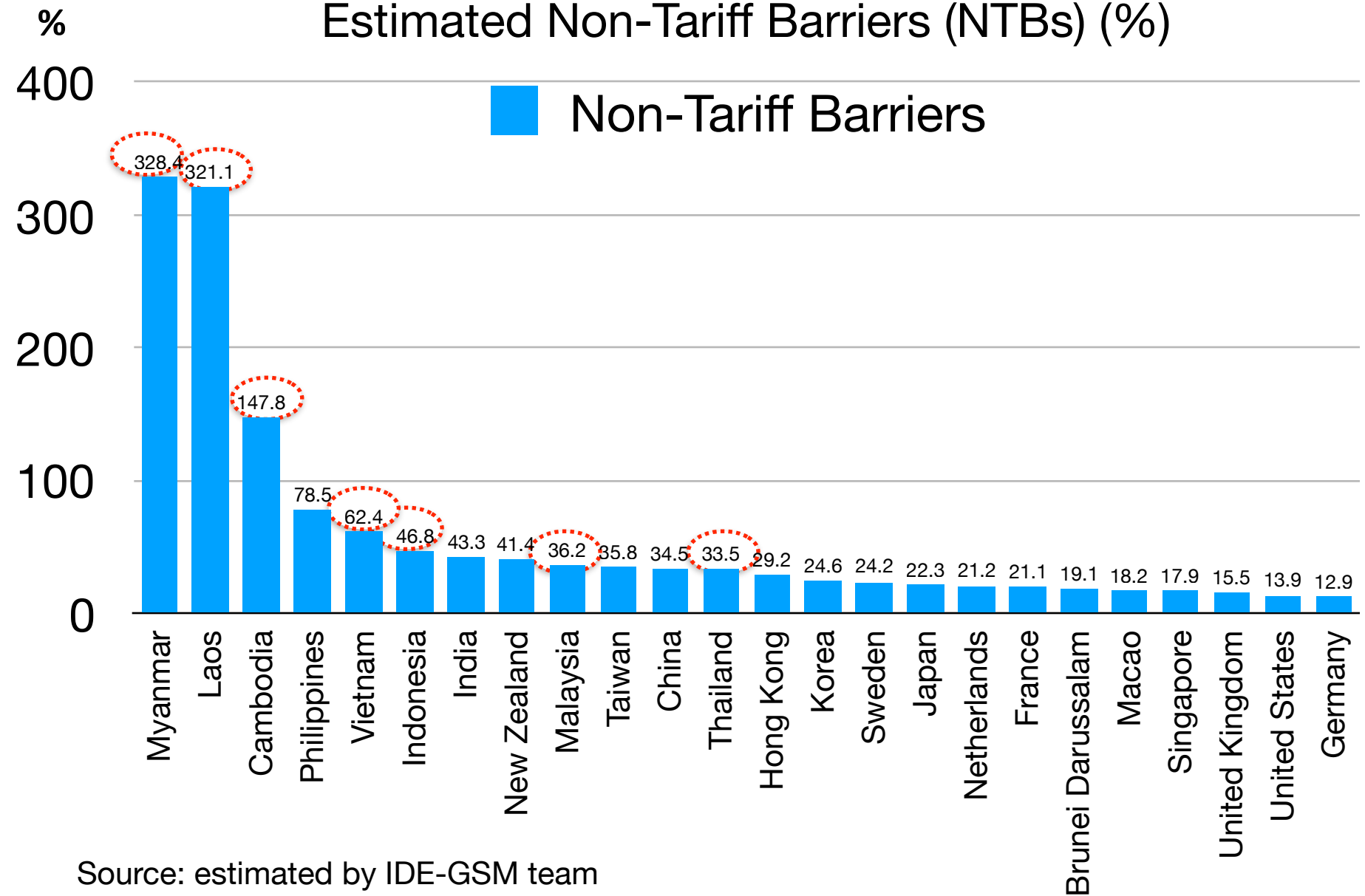
The average days required from the arrival of freight to the completion of import clearance



JETRO (2017) The 2017 JETRO Survey on Business Conditions of Japanese Companies in Asia and Oceania December 21, 2017 Asia and Oceania Division China and North Asia Division Overseas Research Department

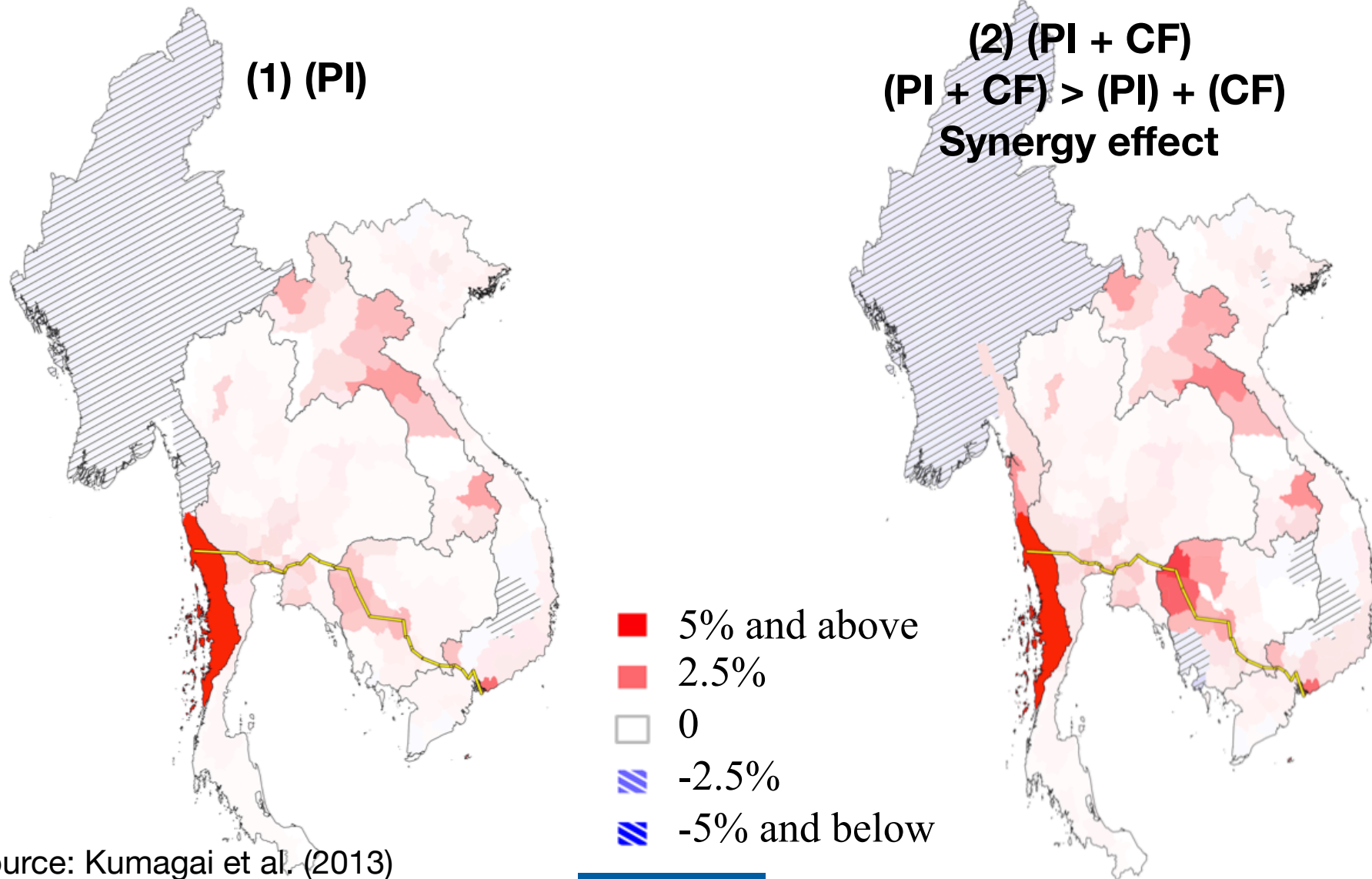
Estimated Non-Tariff Barriers (NTBs) (%)

■ Non-Tariff Barriers



Source: estimated by IDE-GSM team

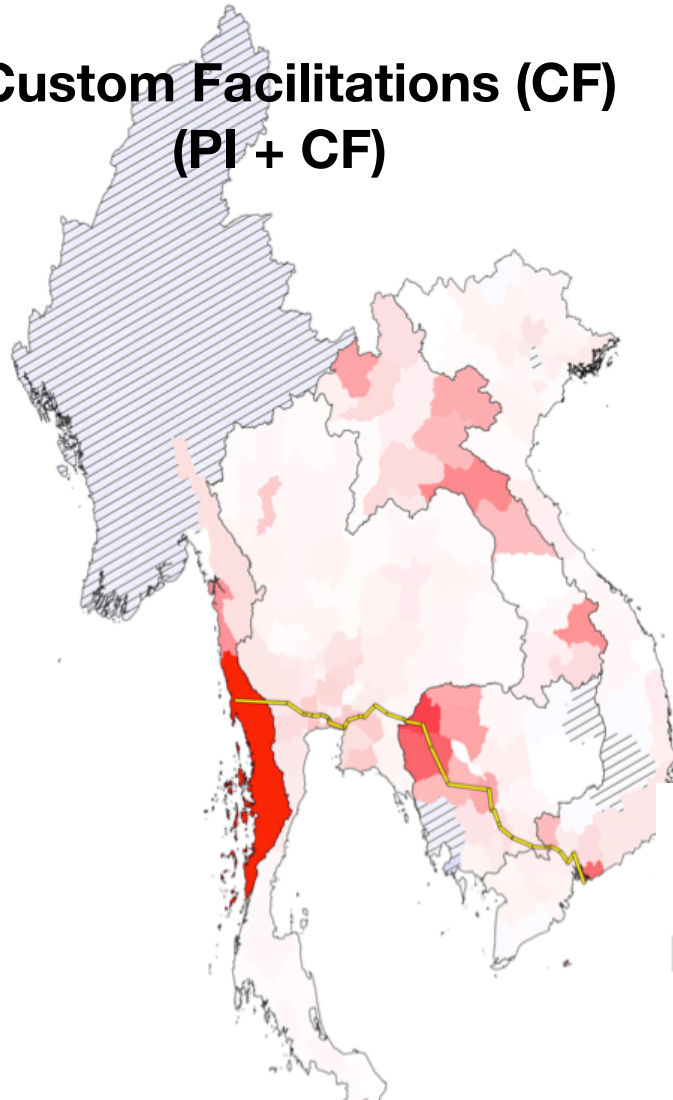
Geographical Simulation Impacts of the Mekong-India Economic Corridor (MIEC) in 2030



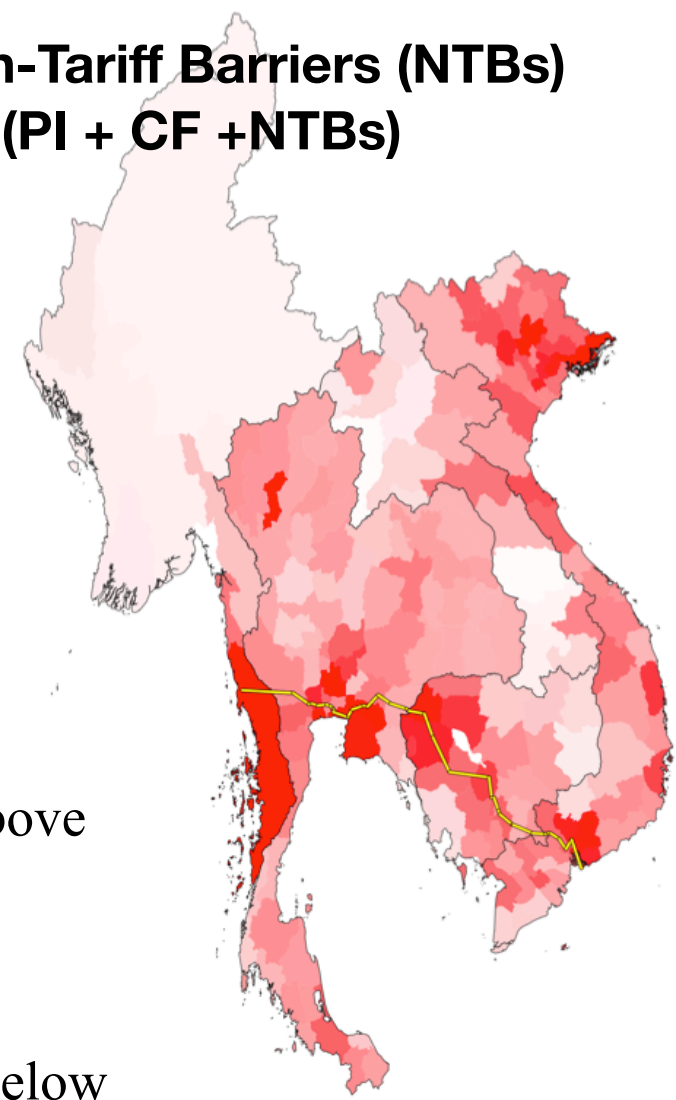
Source: Kumagai et al. (2013)

Geographical Simulation Impacts of the Mekong-India Economic Corridor (MIEC) in 2030

+ Custom Facilitations (CF)
(PI + CF)



+ + Non-Tariff Barriers (NTBs)
(PI + CF + NTBs)

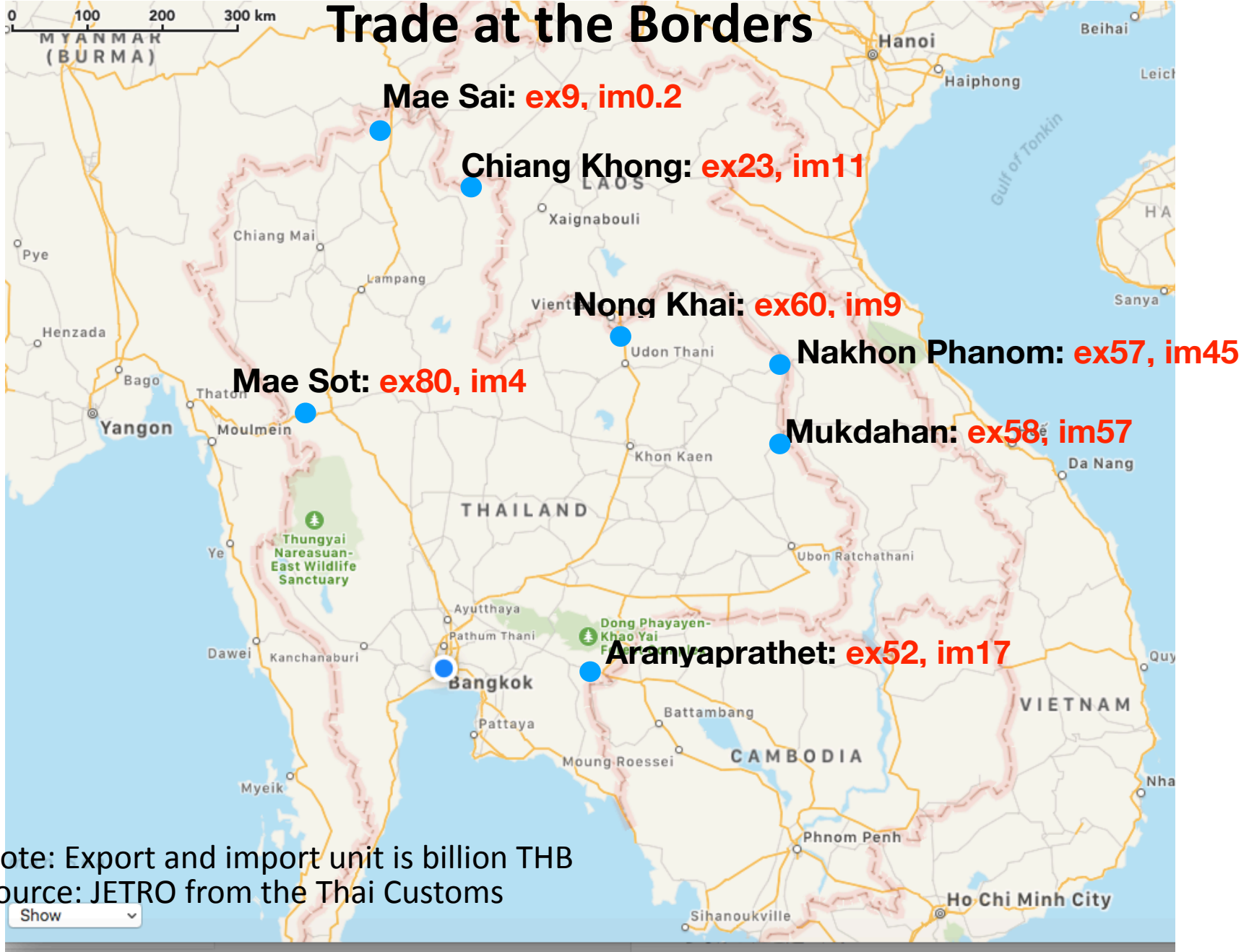


Source: Kumagai et al. (2013)

Implications from the IDE-GSM study, Kumagai et al. (2013)

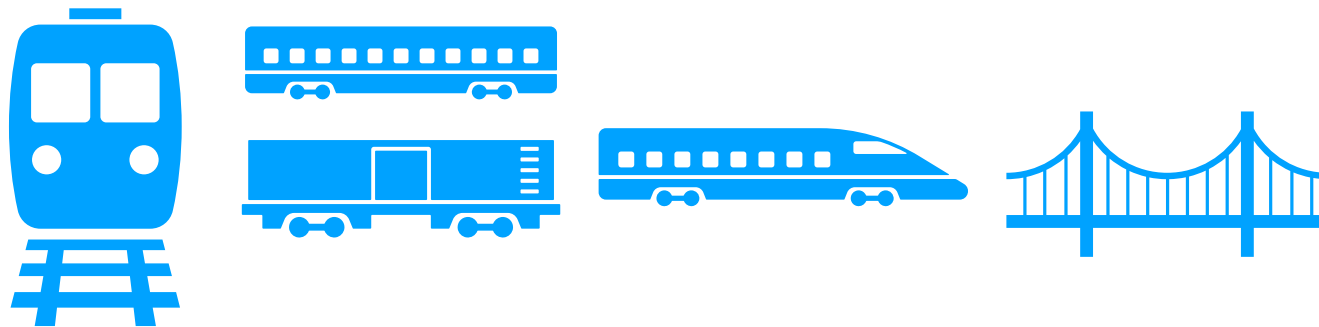
1. The key word is **speed/transportation cost**
2. The combination of PI and CF generates more than the sum (*synergy effect*) **Roads to the borders should be prioritized**
3. PI and CF benefit a little to most regions, and damage some regions (*diversion effect*)
4. Reduction of NTBs generates large *creation effect*. **Cooperation in reducing NTBs in logistics should be challenged by ASEAN.**

Trade at the Borders



PART 2.

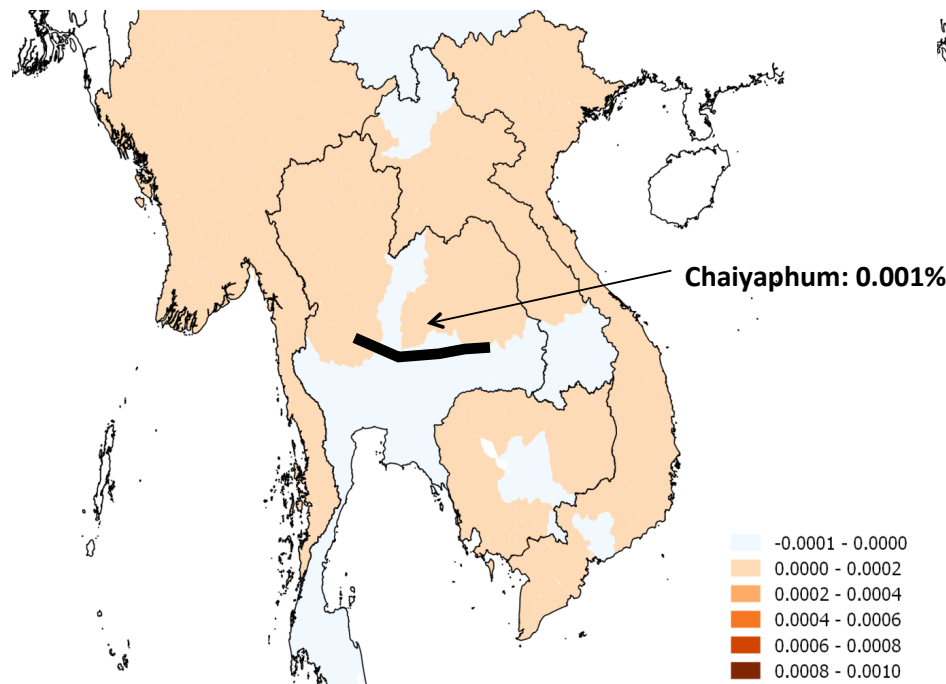
TRANSPORT INFRASTRUCTURE FOR KNOWLEDGE- AND SERVICE- BASED ECONOMY, INDUSTRY 4.0



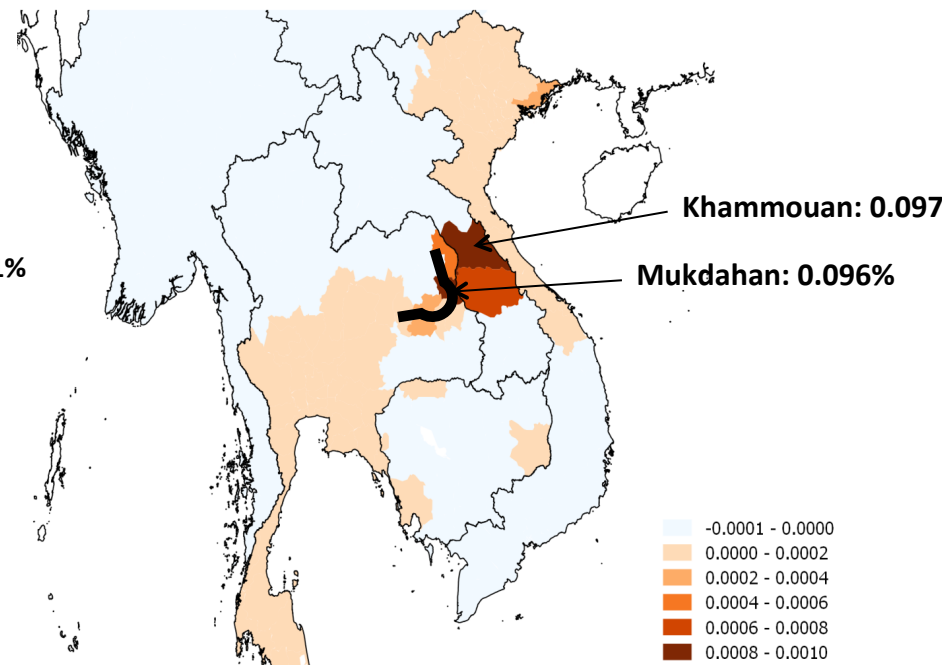
1. Deputy Prime Minister Somkid Jatusripitak has announced the government plans to **shift the country's main transport mode from road and air links to trains** (Bangkok Post, Dec. 27, 2017) .
2. Mr Somkid told "**Thailand must be a main hub among the CLMVT** [Cambodia, Laos, Myanmar, Vietnam and Thailand] countries,and "**Rail transport will be the key player here** (Bangkok Post, Jul. 12, 2018).

Geographical Simulation Impacts of East West Economic Corridor (EWEC) Railway in 2030

**EWEC Central Section:
Ban Phai-Ban Watabeak-Lam Narai-
Hua Wai-Nakhon Sawan 385km**

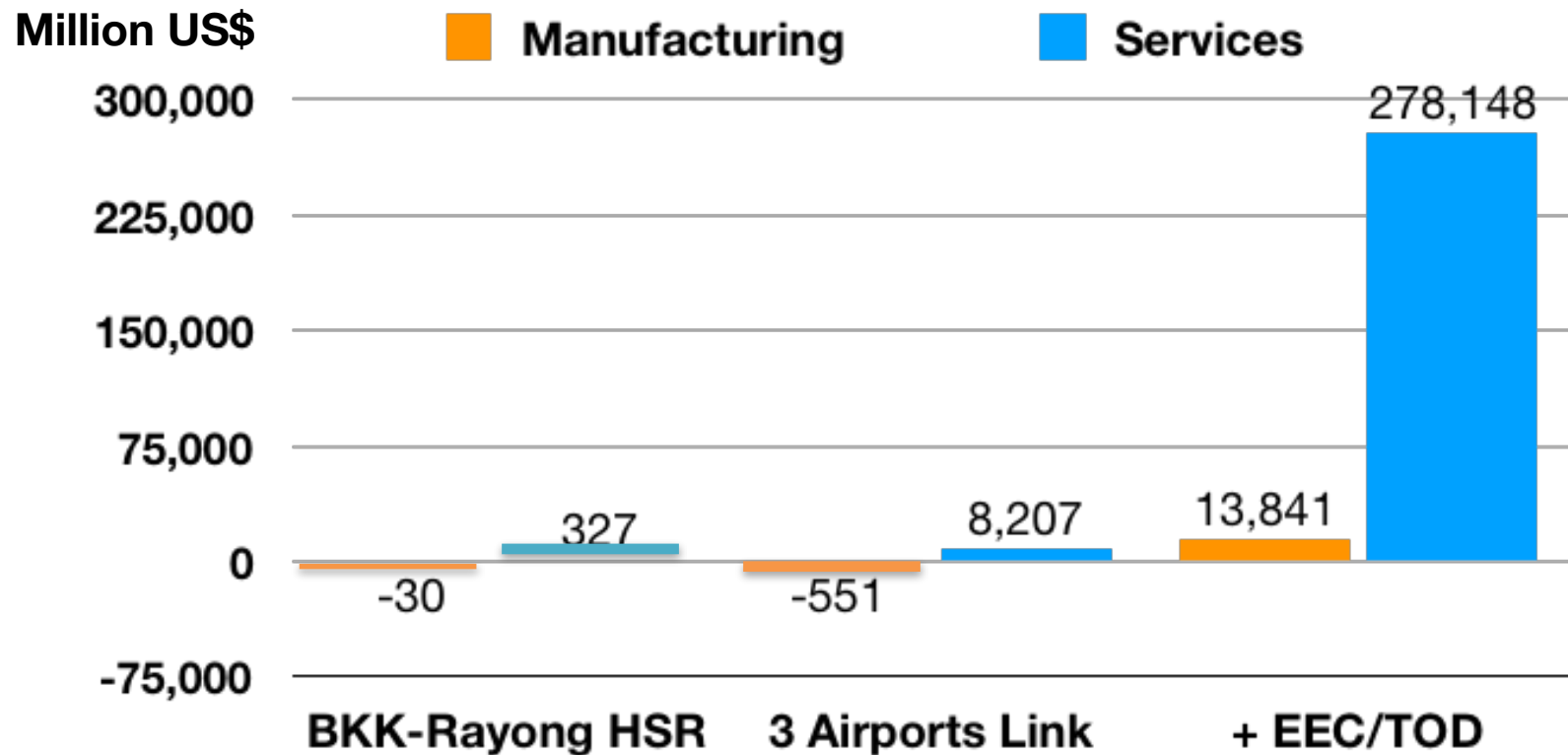


**EWEC East Section:
Ban Phai-Nakhon Phanom 358km**



QUESTION: What will happen by the shift of the country's transportation mode to trains?

Geographical Simulation Analysis of the Three Airports Link HSR (2025-2034)



Note: Services includes R&D activities related manufacturing

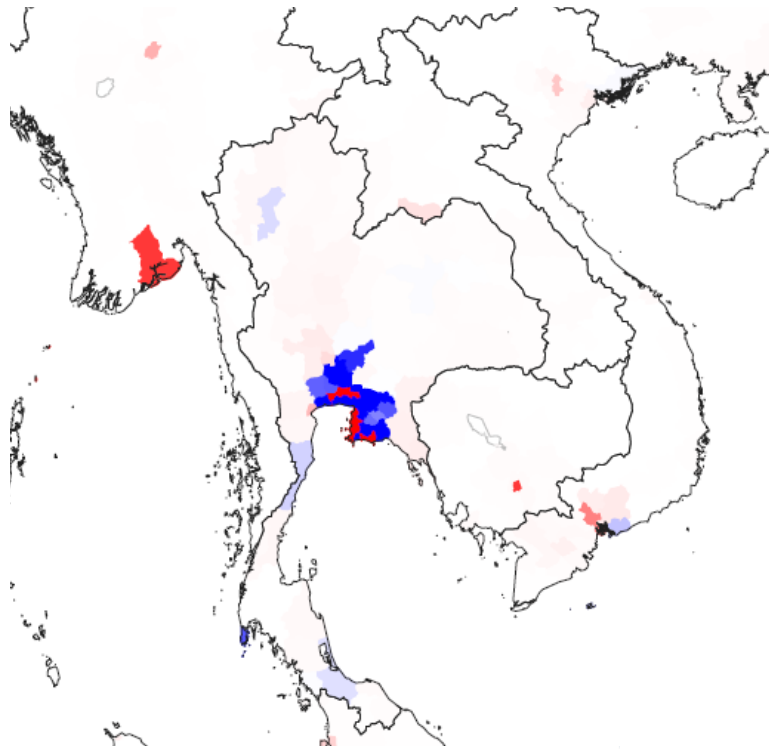
Geographical Simulation Analysis of the Three Airport Link HSR, EEC/TOD (2025-2034)

	Bangkok-Rayong	+ Three Airports Link + Frequent service	+EEC/TOD
Thailand (GDP)	0.08%	1.95%	74.27%
Manufacturing	-0.03%	-0.51%	12.89%
Services	0.12%	3.45%	116.99%

Note: Services includes R&D activities related manufacturing

Source: IDE-GSM simulation results. Note: Original study Isono (2017)

Geographical Simulation Analysis of Three Airport Link HSR + EEC/TOD (2025-2034)



- 10 thus. USD/km2 or more
- 5 thus. USD/km2
- 0 thus. USD/km2 or NA
- -5 thus. USD/km2
- -10 thus. USD/km2 or less

	Three Airports Link + EEC/TOD (Mil. US\$, 2025-2034)
Thailand (GDP)	291,719
Manufacturing	13,841
Services	278,148
Bangkok (GRDP)	246,288
Manufacturing	19,934
Services	226,331
Chachoengsao (GRDP)	8,306
Manufacturing	304
Services	8,011
Chonburi (GRDP)	17,419
Manufacturing	4,245
Services	13,179
Rayong (GRDP)	35,328
Manufacturing	7,689
Services	27,651
The Rest of Provinces	-15,622
Manufacturing	-18,331
Services	2,976

Implications of transit railway

1. Rail infrastructure's total impact is small,
2. Connectivity to other transportation and frequency, which shorten travel time, is crucial
3. Rail transportation will change economic structure from manufacturing to services,
4. while will negatively affect neighboring provinces because of the movement of labor.
5. **Transit-oriented development (TOD)**, which develops transit and urban around a station as a set, may create large impacts.

Suzuki et al. (2015) *Financing Transit-Oriented Development with Land Values*

Development-based land value capture (LVC) for TOD not only **generate funds for transit** construction, operation, maintenance, but also **promote restructuring from manufacturing to knowledge- and service- based industries**

The concept of LVC

- 1) a **railway** transit agency (MRTA,SRT)
- 2) do **property** development business jointly with private,
- 3) under flexible zoning of floor area ratio

References

1. Baldwin, Richard (2016) *The Great Convergence: Information Technology and the New Globalization*, Harvard University Press.
2. Kumagai, Satoru, Kazunobu Hayakawa, Ikumo Isono, Souknilanh Keola, and Kenmei Tsubota (2013) “Geographical simulation analysis for logistics enhancing in Asia,” *Economic Modelling* 34, 145-153.
3. Isono (2018) “High-speed Railway, Eastern Economic Corridor and Thailand: A Geographical Simulation Analysis,” in Hiratsuka, *High-Speed Railway, the EEC, and the Changes of Thailand and its Neighboring Countries*, BRC Research REport, Bangkok Research Center, JETRO Bangkok/IDE JETRO.
4. JETRO (2017) *The 2017 JETRO Survey on Business Conditions of Japanese Companies in Asia and Oceania* December 21, 2017 Asia and Oceania Division China and North Asia Division Overseas Research Department
5. Suzuki.H., R. Cervero, and K. Iuchi (2013)) *Transforming Cities with Transit: Transit and Land-Use Integration for Sustainable Urban Development*, World Bank Group
6. Suzuki.H., J. Murakami, Y.H. Hong, B. Tamayose (2015)) *Financing Transit-Oriented Development with Land Values*, World Bank Group