



Comprehensive Asia Development Plan

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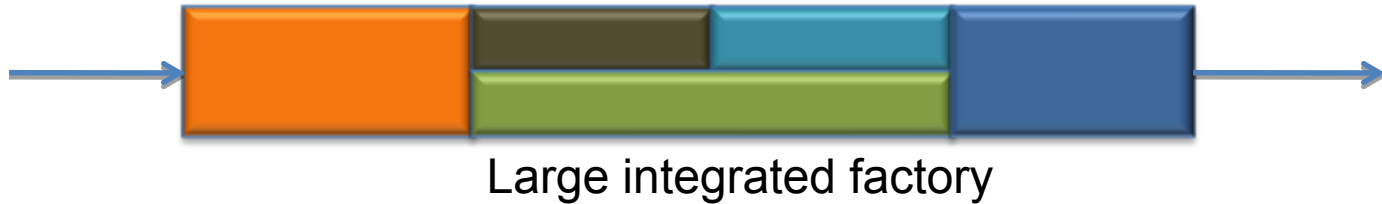
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Conceptual framework

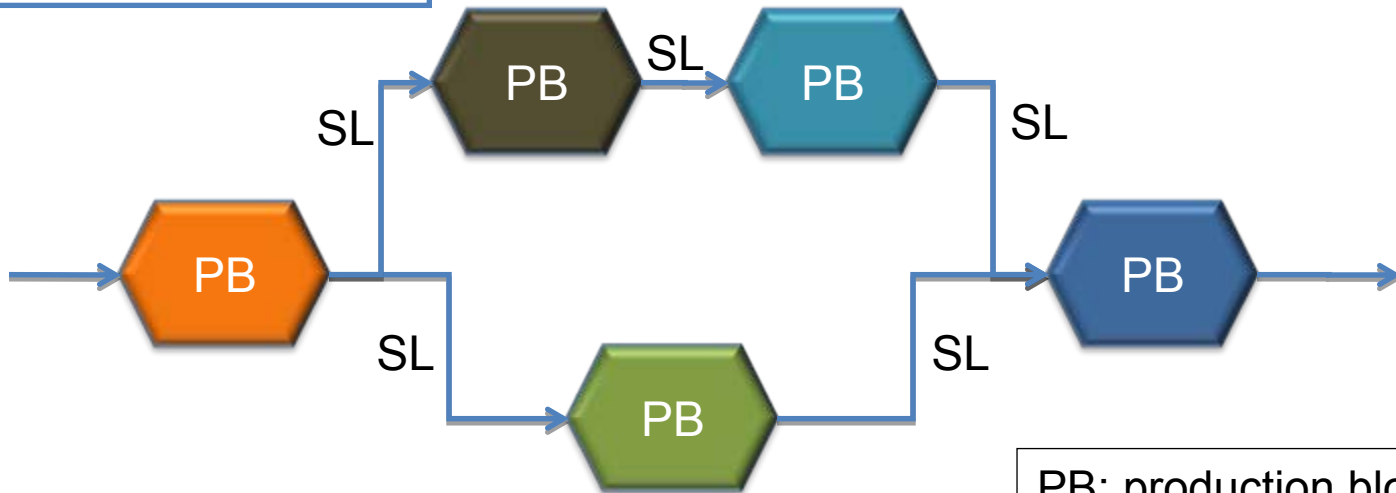
- ❑ Comprehensive Asia Development Plan (CADP) will provide a grand spatial design of economic infrastructure and industrial placement in ASEAN and East Asia and claim to pursue both deepening economic integration and narrowing development gaps.
- ❑ This chapter presents our novel conceptual framework based on new waves of international trade theory: the extended fragmentation theory and new economic geography.

➤ The fragmentation theory: Production blocks and service links

Before fragmentation

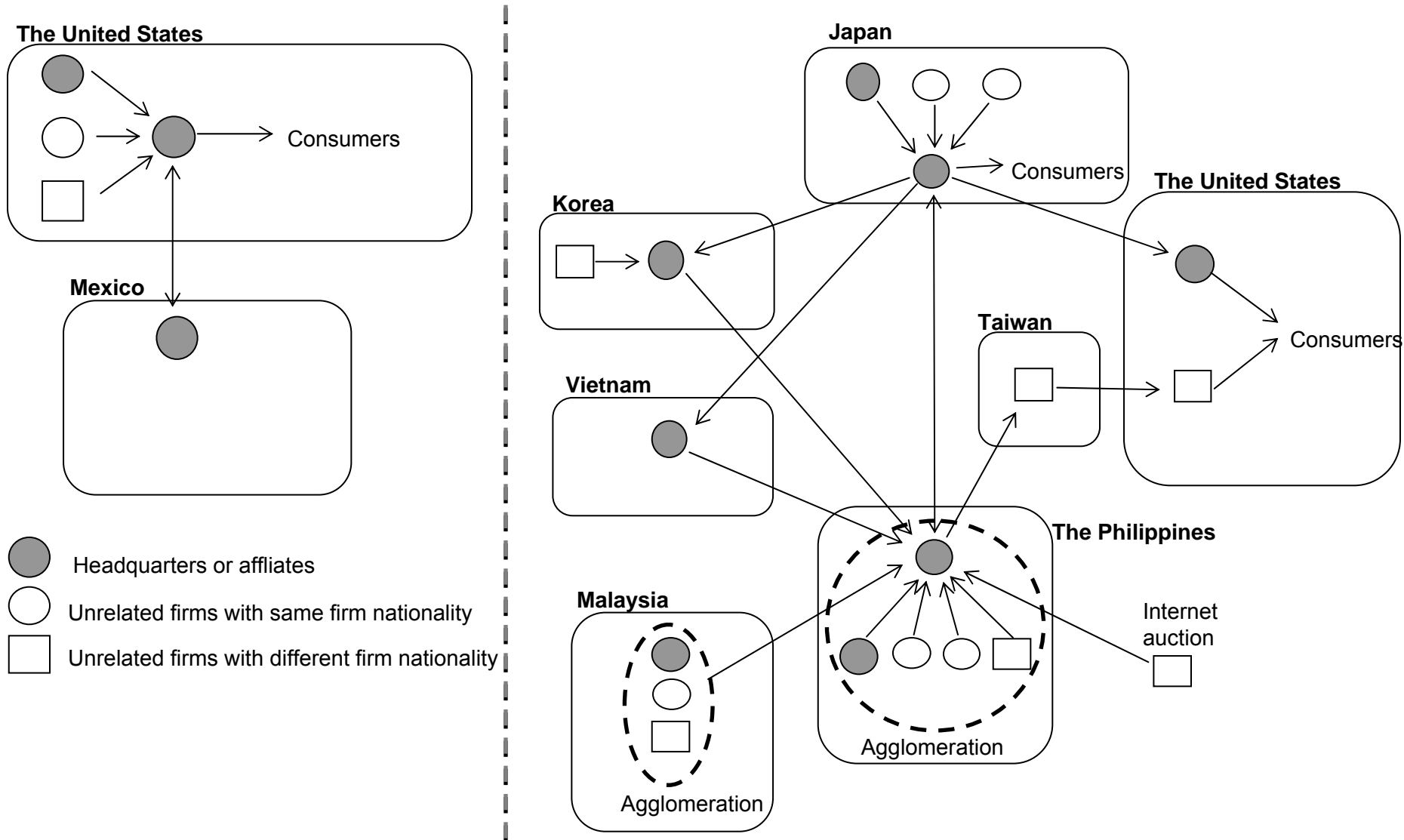


After fragmentation



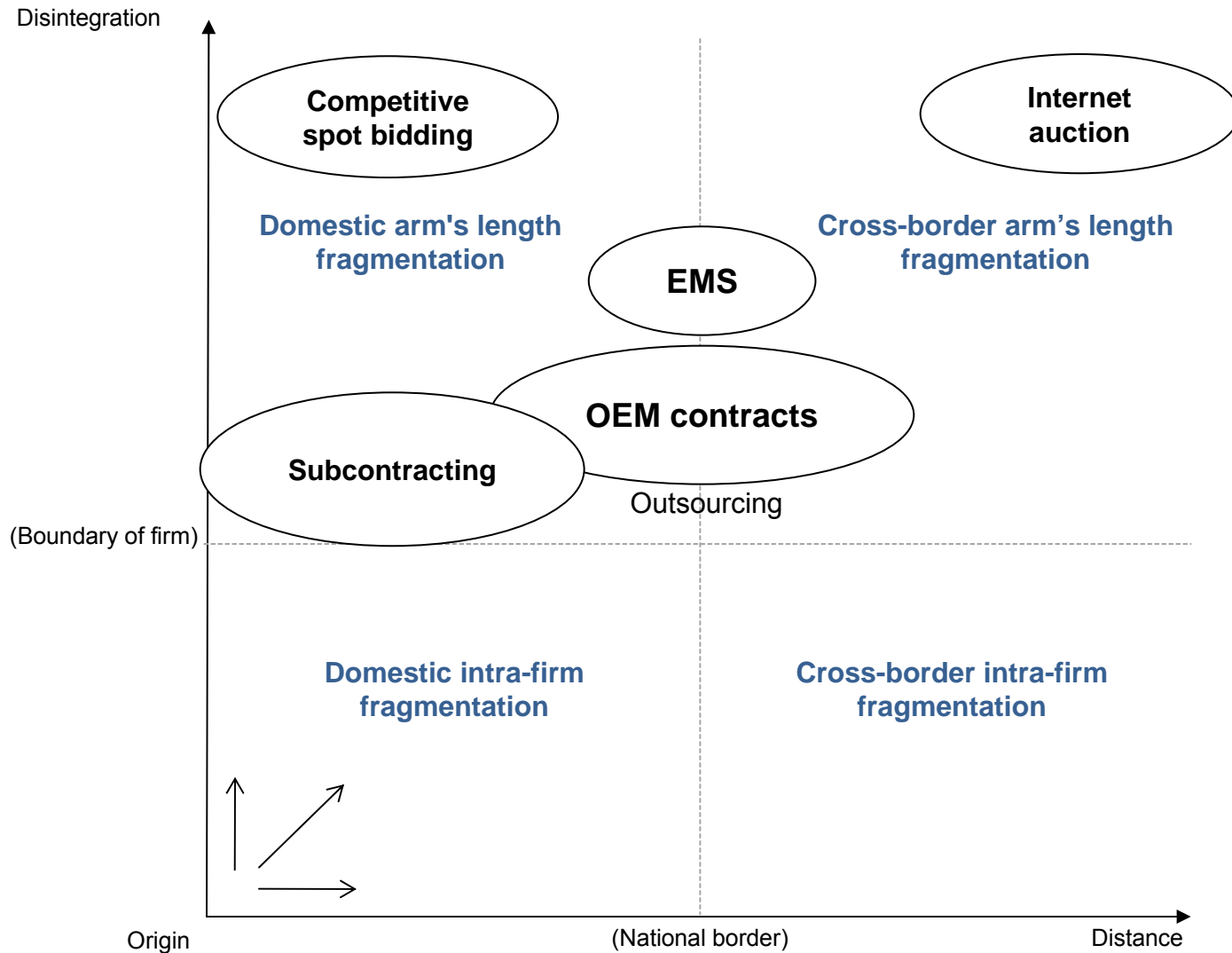
PB: production blocks
SL: service links

Production networks: The US-Mexico nexus versus East Asia



Source: Ando, Mitsuyo and Fukunari Kimura (2009). *Fragmentation in East Asia: Further Evidence*, ERIA Discussion paper Series No.2009-20 (<http://www.eria.org>).

➤ Two-dimensional fragmentation: An illustration



Source: Kimura, Fukunari and Mitsuyo Ando (2005). "Two-dimensional Fragmentation in East Asia: Conceptual Framework and Empirics", *International Review of Economics and Finance* 14, pp.317-348.

➤ Agglomeration and dispersion in new economic geography

Dispersion effects:

Avoiding congestion including wage hikes,
land price surge, traffic jam, pollution problems
Location advantages such as low labor costs



Agglomeration effects:

Vertical inter-firm production linkage
Proximity to market

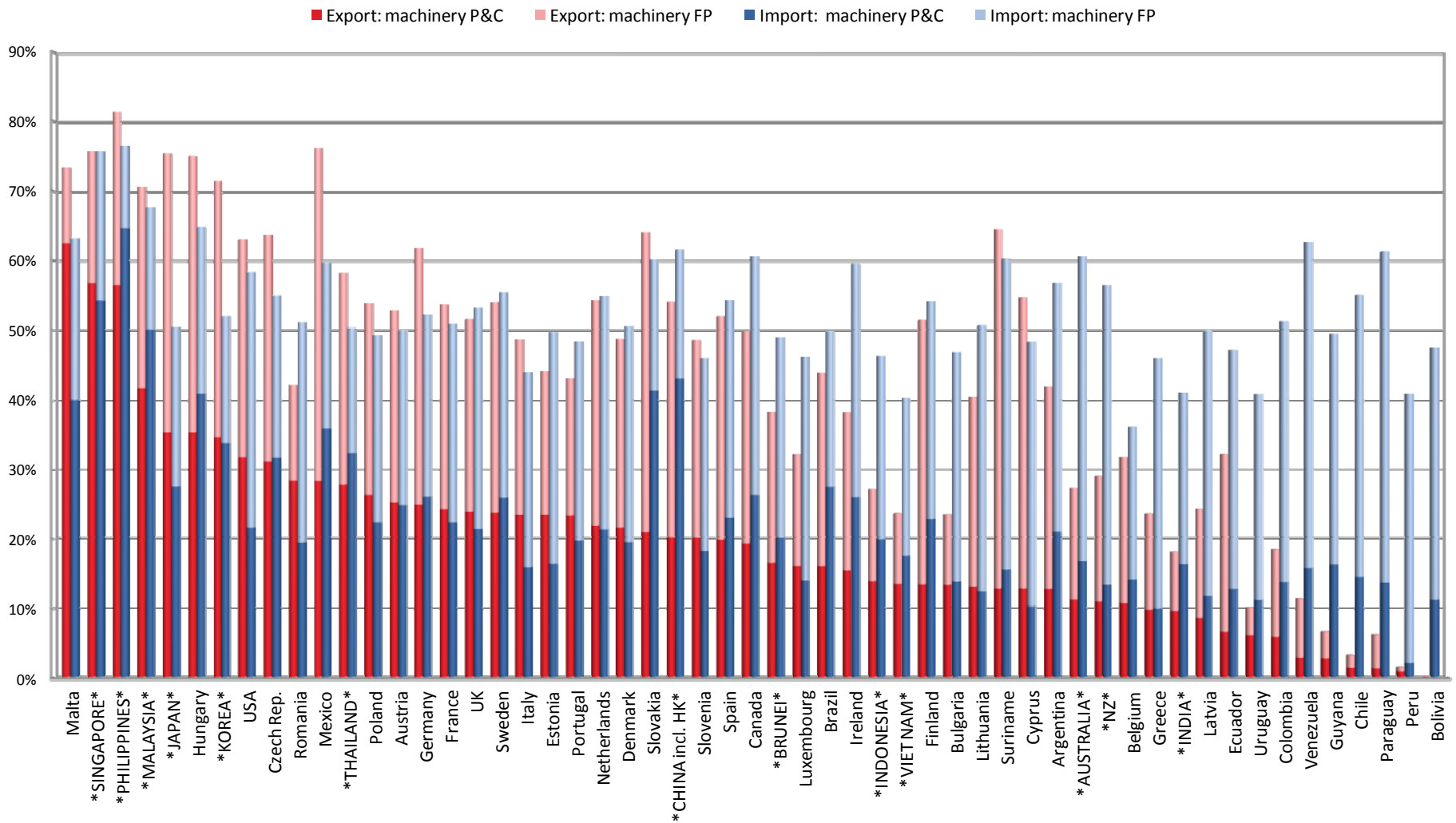


Reduction in trade costs

Assessment of the current East Asian Economies

- ❑ This chapter presents a series of quantitative evidences of the superior features, as well as uneven development, of international production networks in East Asia.
- ❑ International production networks in East Asia have been the most advanced and sophisticated in the world and have been the source of dynamism of East Asian economies with strong resilience against macro shocks.
- ❑ However, the geographical distribution of international production networks has been highly skewed and has covered just limited areas of East Asia.
- ❑ The mechanics of fragmentation and agglomeration should be more aggressively utilized in order to pursue both deeper economic integration and narrowing development gaps.
- ❑ Logistics and economic infrastructure is often the key in activating private dynamism.

Shares of machineries in total exports/imports of manufacturing goods to the world in 2007



Source: Obashi, Ayako (2010). *International Production Networks in East Asia: An overview*. Forthcoming in ERIA Discussion Paper Series.

Export structure of East Asian countries

(a) By-destination shares and annual average growth rates

	1994	1997	2001	2007	1994-1997	1997-2001	2001-2007
Within East Asia	43.6%	45.3%	43.5%	45.1%	5.6%	-0.9%	14.2%
United States	30.2%	28.1%	29.0%	22.6%	1.8%	1.0%	8.9%
European Union	17.2%	17.5%	18.0%	18.4%	4.9%	0.8%	14.0%
Others	9.0%	9.1%	9.5%	13.8%	4.4%	1.3%	20.9%
Total	100.0%	100.0%	100.0%	100.0%	4.3%	0.1%	13.5%

(b) By-commodity shares and annual average growth rates

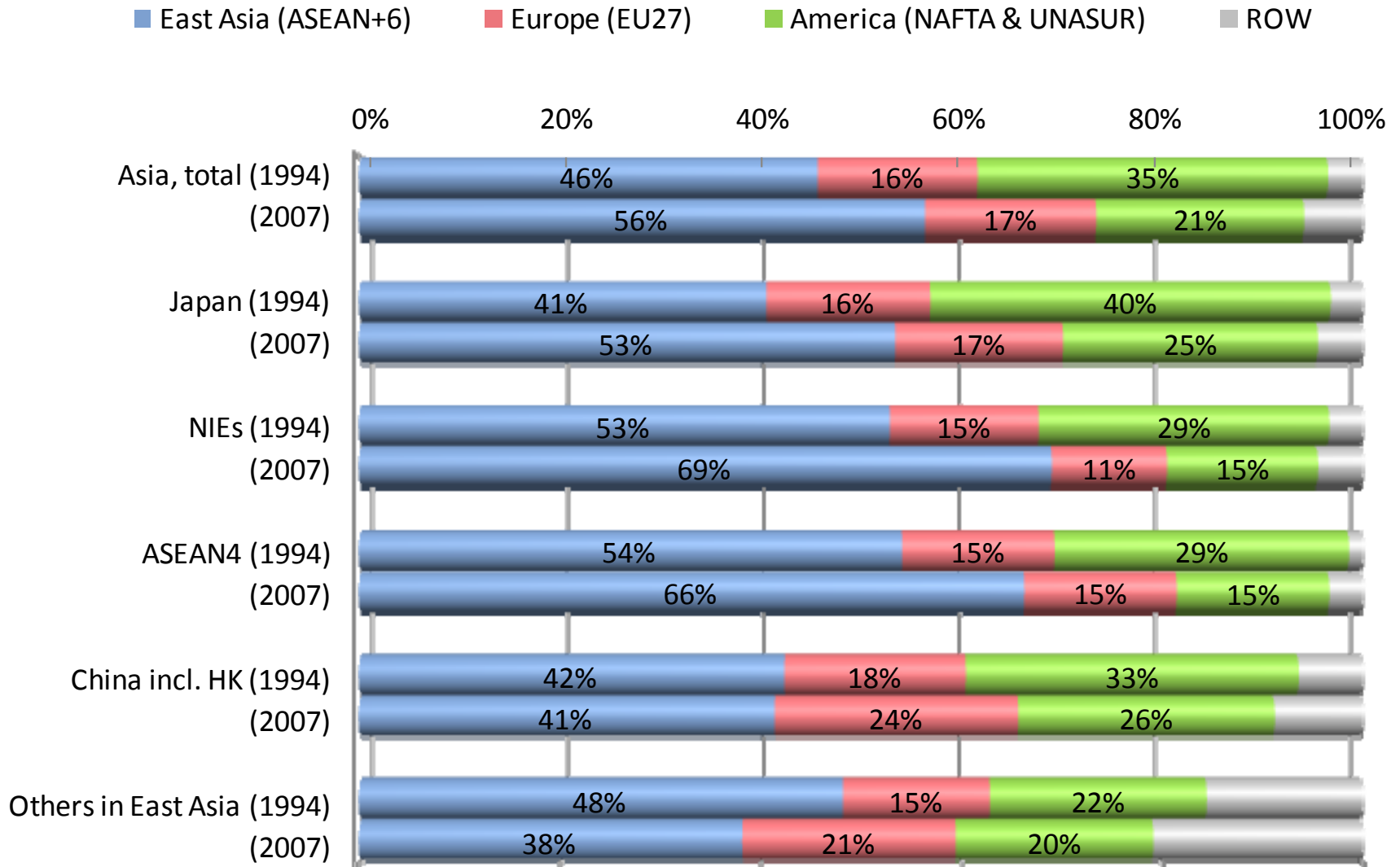
	1994	1997	2001	2007	1994-1997	1997-2001	2001-2007
Machinery parts and components	24.0%	24.7%	25.8%	24.3%	5.3%	1.2%	12.4%
Machinery finished products	29.5%	28.1%	27.2%	26.4%	2.6%	-0.6%	13.0%
Other manufactured goods	31.4%	31.2%	30.6%	32.2%	4.0%	-0.3%	14.5%
Non-manufactured goods	15.1%	16.0%	16.3%	17.1%	6.3%	0.6%	14.4%
Total	100.0%	100.0%	100.0%	100.0%	4.3%	0.1%	13.5%

East Asia includes ASEAN10, Japan, Korea, China, Australia, New Zealand, and India.

Annual average growth rates are calculated by using export data deflated by the US CPI (2005 basis).

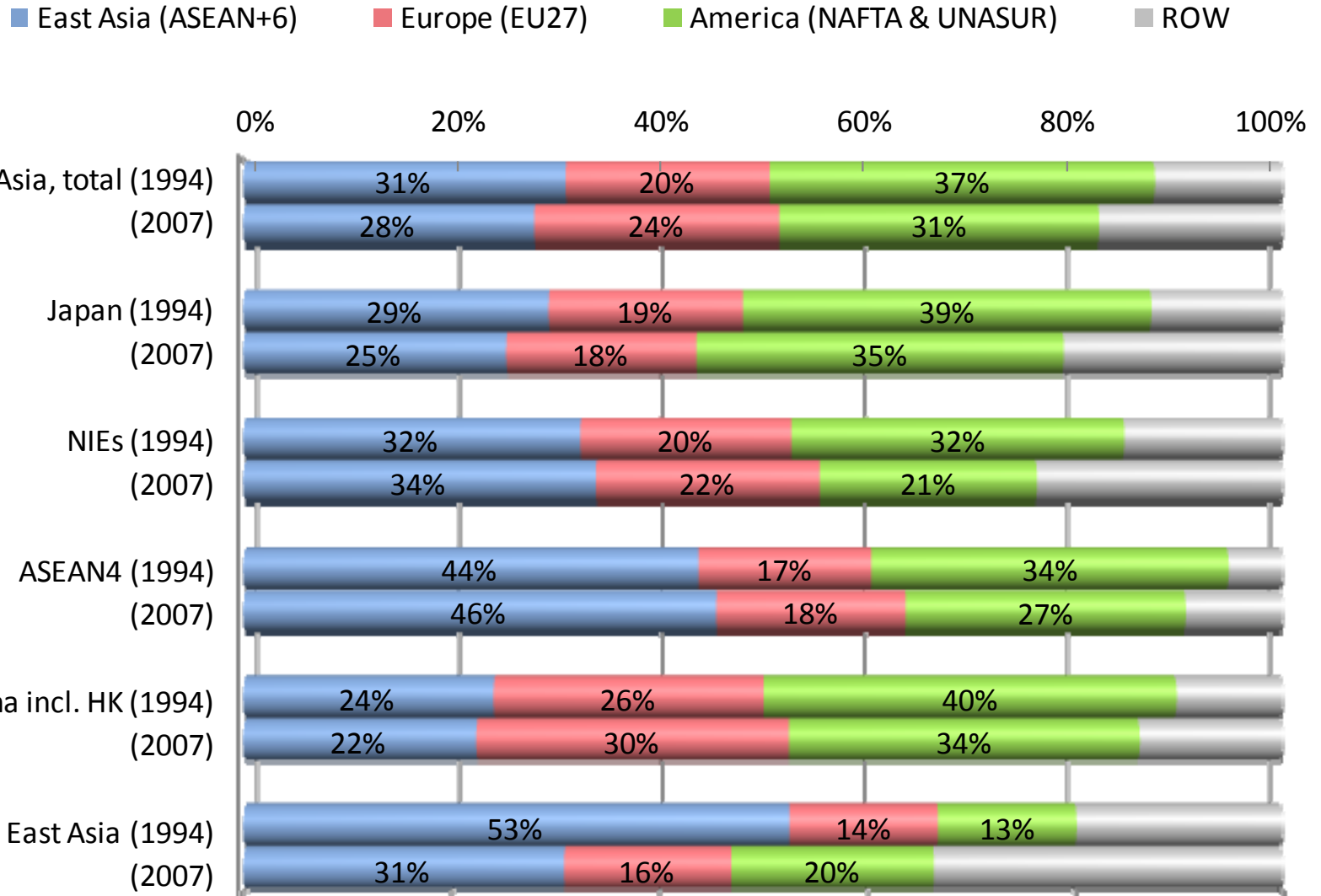
Data source: UN Comtrade.

Shares by destination: East Asia's exports of machinery parts & components in 1994 and 2007



Source: Kimura and Obashi (2010).

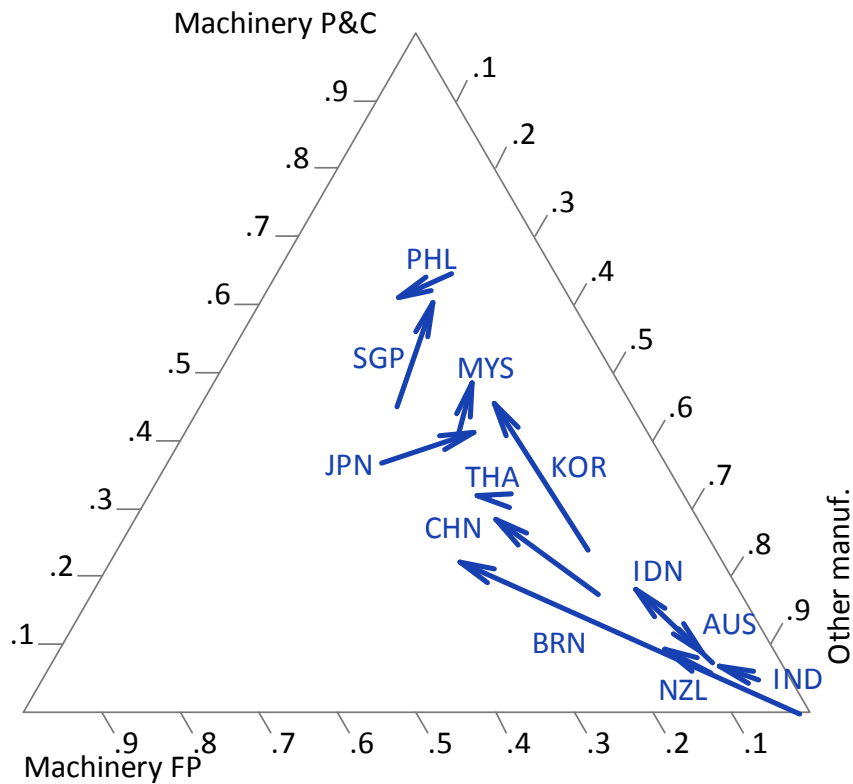
Shares by destination: East Asia's exports of machinery finished products in 1994 and 2007



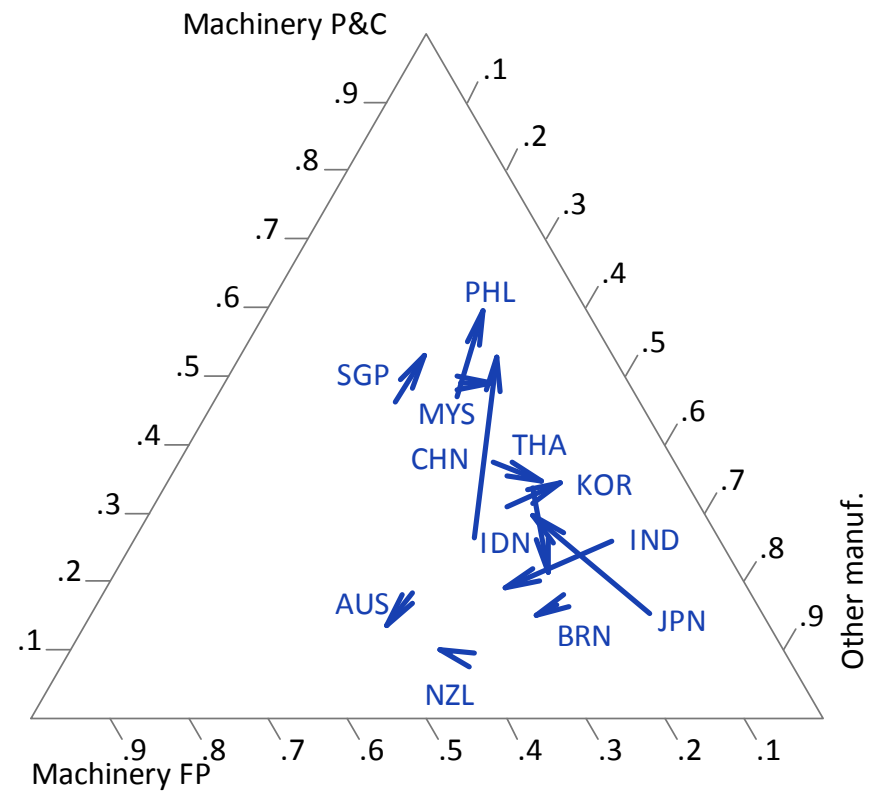
Source: Kimura and Obashi (2010).

Product composition of East Asia's trade in manufacturing goods: changes in 1994 to 2007

Intra-East Asian exports

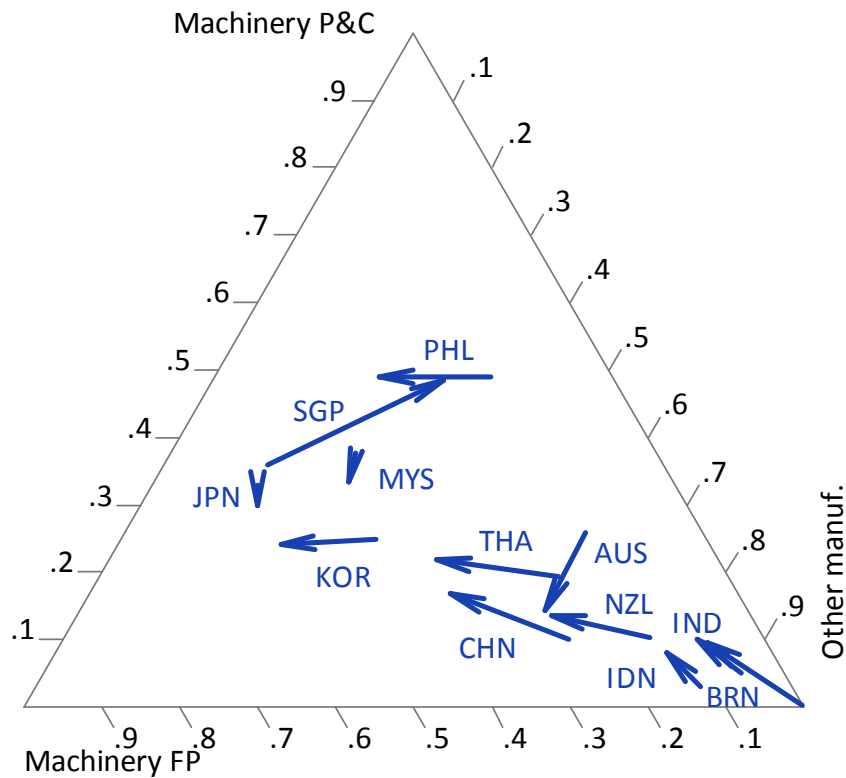


Intra-East Asian imports

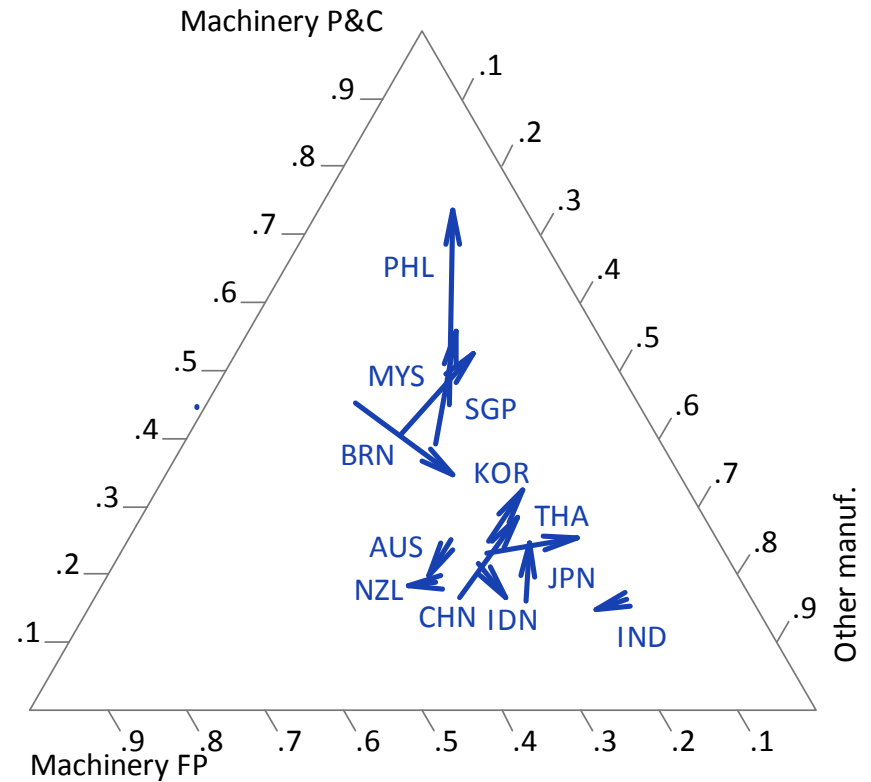


Product composition of East Asia's trade in manufacturing goods: changes in 1994 to 2007

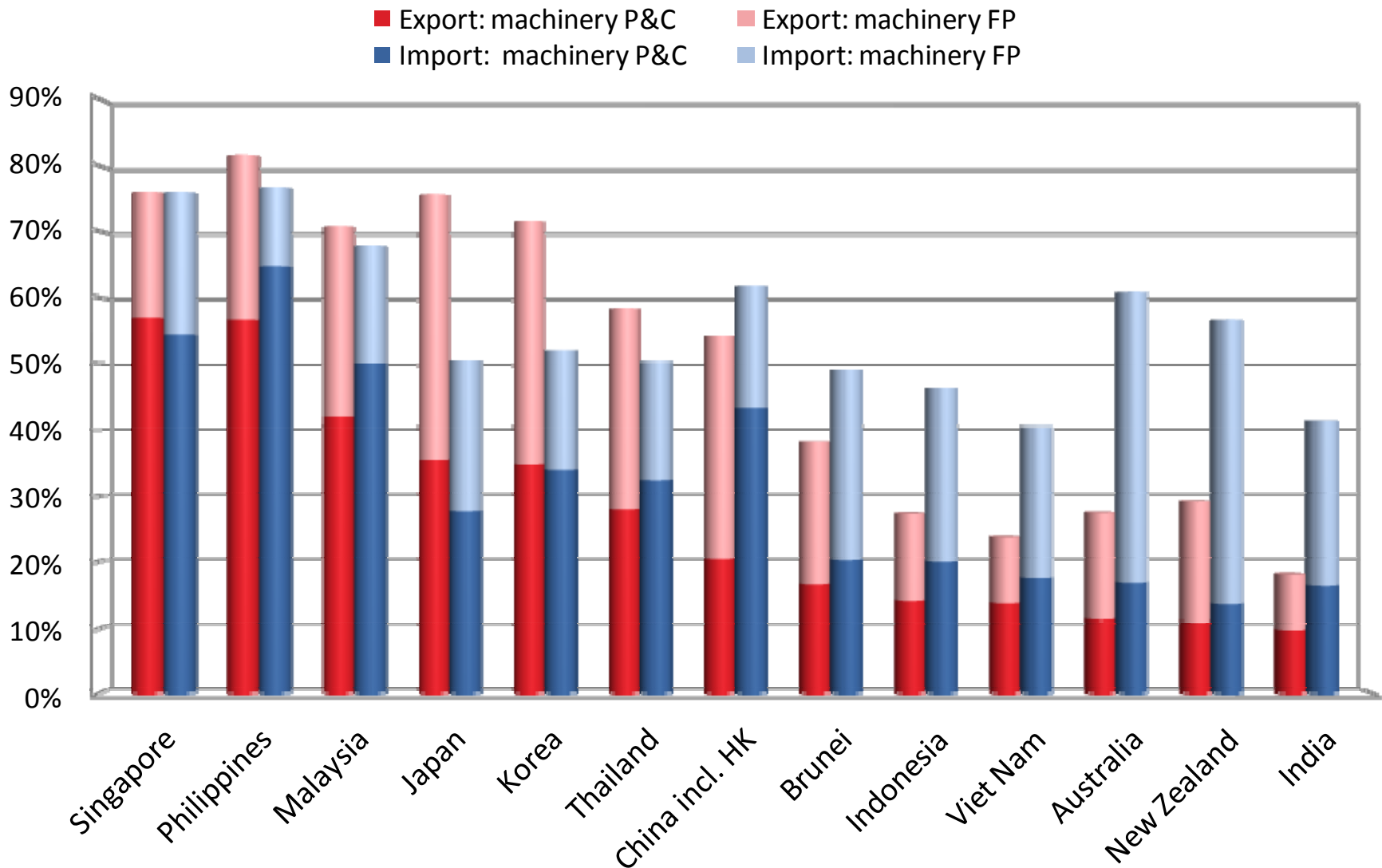
Extra-regional exports



Extra-regional imports

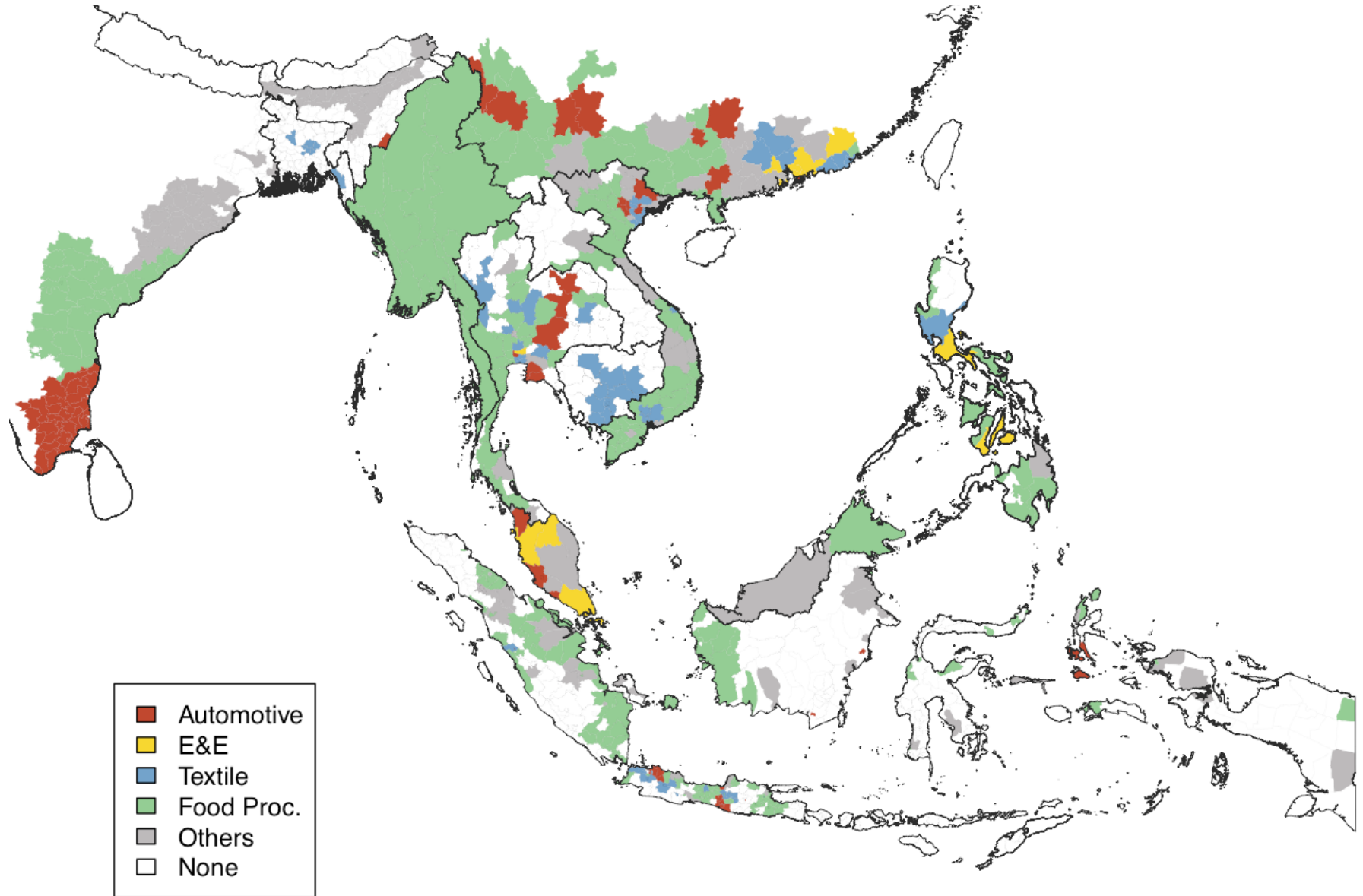


Shares of machineries in total exports/imports of manufacturing goods to the world in 2007

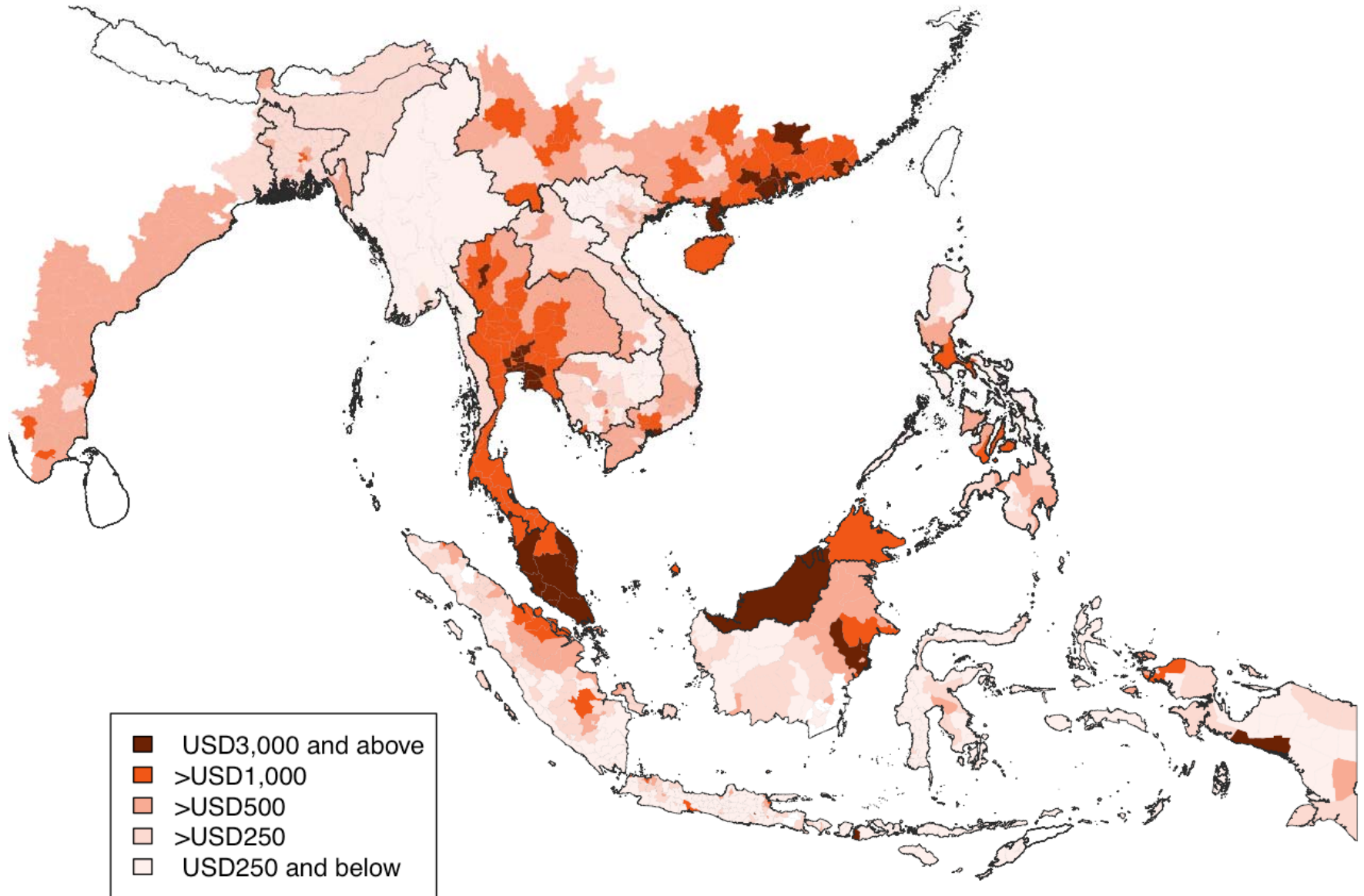


Source: Obashi, Ayako (2010). *International Production Networks in East Asia: An overview*. Forthcoming in ERIA Discussion Paper Series.

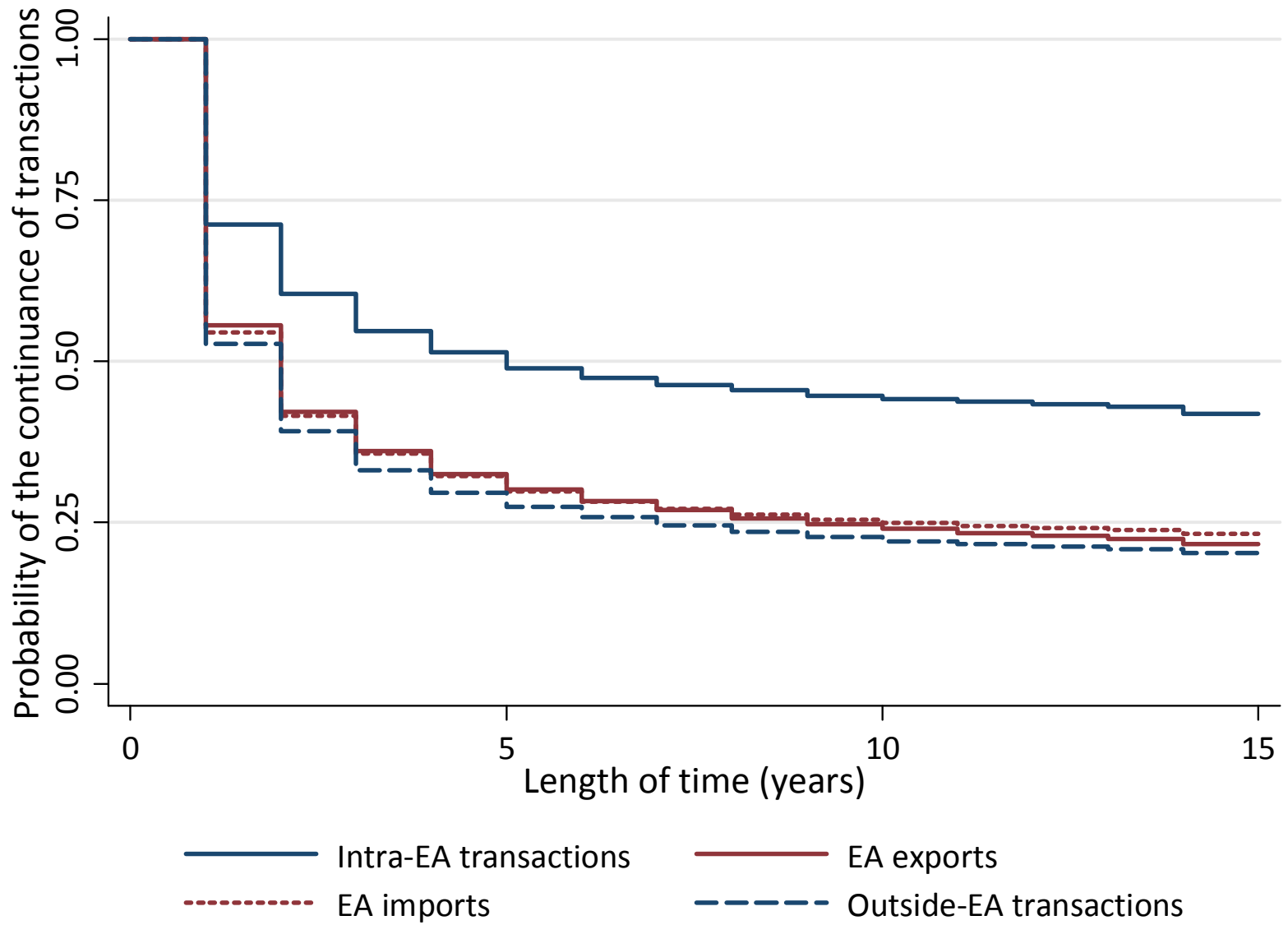
➤ Comparative advantage in manufacturing sector (2005)



➤ Nominal GRDP per-capita (2005)



➤ Stability of East Asian production networks



Trade index for machinery trade in East Asia (2008.9 = 100)

			China			ASEAN4		NIES4		Japan		
			2009.2	2009.7	2009.9	2009.2	2009.7	2009.2	2009.7	2009.2	2009.7	2009.9
(a) Machinery(HS84-92)												
EX	Parts	World	50	79	90	60	86	60	86	55	82	88
	Parts	East Asia	51	80	91	59	91	60	91	55	88	94
	Parts	US	54	82	85	57	67	61	76	54	72	80
	Parts	EU15	43	67	81	64	80	58	66	52	65	73
	Final	World	56	80	89	61	75	73	86	50	61	68
	Final	East Asia	60	84	90	60	81	79	92	64	78	90
	Final	US	54	86	92	58	80	67	83	42	65	72
	Final	EU15	53	70	86	58	65	66	70	52	62	64
IM	Parts	World	57	86	100	56	85	63	88	53	76	81
	Parts	East Asia	54	84	100	54	88	62	88	49	76	81
	Parts	US	69	91	92	63	87	66	80	64	77	82
	Parts	EU15	69	102	102	58	68	66	87	54	65	75
	Final	World	64	89	101	73	91	67	81	71	84	93
	Final	East Asia	56	89	96	69	85	63	80	71	97	97
	Final	US	80	85	107	72	99	73	76	85	58	90
	Final	EU15	73	90	106	101	119	75	75	57	66	84

Source: Ando, Mitsuyo (2010). *Global financial crisis and machinery trade in East Asia*. Forthcoming in ERIA Discussion Paper Series.

Contribution of each region to changes in machinery trade in East Asia

			China			ASEAN4			NIEs4			Japan		
			Share in world trade (2007.10-2008.9)	Drop (2008.9 - 2009.2)	Recover (2009.2 - 2009.7)	Share in world trade (2007.10-2008.9)	Drop (2008.9 - 2009.2)	Recover (2009.2 - 2009.7)	Share in world trade (2007.10-2008.9)	Drop (2008.9 - 2009.2)	Recover (2009.2 - 2009.7)	Share in world trade (2007.10-2008.9)	Drop (2008.9 - 2009.2)	Recover (2009.2 - 2009.7)
			Contribution ratio			Contribution ratio			Contribution ratio			Contribution ratio		
(a) Machinery (HS84-92)														
EX	Parts	East Asia	52.7	51.1	53.2	62.6	64.6	77.7	72.4	72.3	83.6	55.1	54.9	69.2
	Parts	US	12.6	10.8	11.3	11.7	12.4	4.3	8.1	7.4	4.2	17.3	17.6	11.5
	Parts	EU15	14.7	16.6	12.0	13.5	12.1	8.7	7.4	7.3	2.1	13.7	13.7	6.1
	Final	East Asia	30.4	27.5	30.5	37.9	39.0	54.5	32.7	24.3	32.1	21.7	14.7	24.1
	Final	US	21.7	22.8	29.0	22.5	21.9	31.4	16.8	21.0	21.4	25.5	26.9	46.5
	Final	EU15	21.7	22.6	14.9	15.2	15.9	6.9	17.4	19.2	4.2	15.6	13.6	12.4
IM	Parts	East Asia	81.2	87.2	83.2	71.6	73.0	81.6	74.6	78.1	80.7	63.2	70.4	76.9
	Parts	US	5.4	3.7	3.8	12.8	11.2	10.8	11.6	10.8	6.9	18.6	13.8	10.2
	Parts	EU15	10.1	7.1	11.1	11.0	12.3	4.8	9.5	8.2	7.7	12.7	11.3	6.0
	Final	East Asia	55.2	68.3	73.0	68.3	79.0	59.5	69.0	78.0	86.1	56.4	58.9	121.2
	Final	US	11.8	6.6	2.1	9.1	10.2	14.4	11.1	8.2	2.2	17.8	9.0	-37.8
	Final	EU15	27.1	19.9	18.1	15.8	-0.5	14.1	13.4	10.9	0.5	17.7	25.5	12.8

Note: Contribution ratios during the dropping period and recovering period express contribution ratios to the reduction in trade with the world during the period between September 2008 and February 2009 and contribution ratios to the increase in trade with the world during the period between February 2009 and July 2009, respectively. In the cases of underlined figures for the transport equipment, trade with the world increased during the dropping period and decreased during the recovering period.

Source: Ando, Mitsuyo (2010). *Global financial crisis and machinery trade in East Asia*. Forthcoming in ERIA Discussion Paper Series.

Three tiers of development strategies

- ❑ This chapter presents comprehensive development strategies, focusing on the development of logistics and economic infrastructure, by three tiers of development stages in terms of the degree of participation in production networks.
- ❑ Tier 1 focuses on countries/regions trying to step up from middle-income to fully developed countries/regions.
- ❑ Tier 2 includes countries/regions that intend to participate in production networks.
- ❑ Tier 3 refers to countries/regions in which the development of long-distance logistics infrastructure would provide new perspectives for industrial development.
- ❑ The concept of industrial/economic corridors links these three countries/regions with active interactions and feedbacks in the overall spatial structure of ASEAN and East Asia.

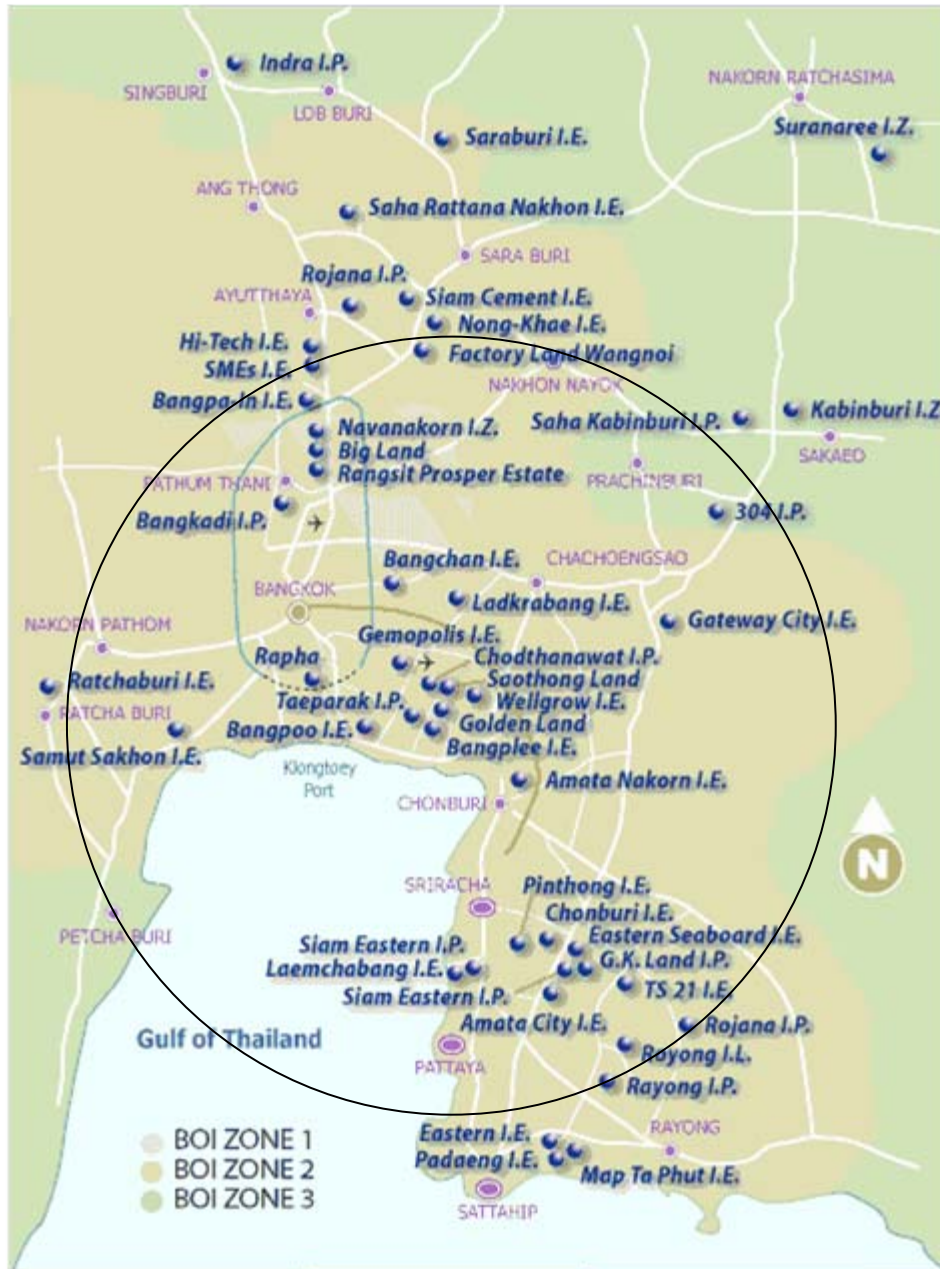
Tier 1: How to upgrade industrial agglomerations

- A path to step up from middle-income countries/regions to fully developed society
- Issues to be explored are
 - Exploring positive agglomeration effects
 - Development of SMEs (multinationals and locals) in industrial agglomerations
 - Making industrial agglomerations innovative
 - Responding to the expansion of middle-class population and the development of human capital
- Necessary logistics infrastructure and other economic infrastructure

➤ The 2x3 policy matrix for Tier 1

	Reduction in fixed costs to develop production/distribution networks	Reduction in service link costs connecting production blocks	Further costs reduction in production cost per se in production blocks
Fragmentation along the distance axis	Policies to reduce investment costs	Policies to overcome geographical distance and border effects	Policies to strengthen location advantages
	<ul style="list-style-type: none"> (i) improvement in stability, transparency, and predictability of investment-related policies; (ii) investment facilitation in FDI-hosting agencies and industrial estates; and (iii) liberalization and development in financial services related to capital investment. 	<ul style="list-style-type: none"> (i) reduction/removal of trade barriers such as tariffs; (ii) trade facilitation including simplification and improved efficiency in custom clearance/procedures; (iii) development of transport infrastructure and improved efficiency in transport and distribution services; (iv) development of telecommunication and ICT infrastructure; (v) improved efficiency in financial services related to operation and capital movements; and (vi) reduction in costs of coordination between remote places by facilitation of the movement of natural persons. 	<ul style="list-style-type: none"> (i) establishment of educational/occupational institutions for personnel training to secure various types of human resources; (ii) establishment of stable and elastic labor-related laws and institutions; (iii) establishment of efficient international and domestic financial services; (iv) reduction in costs of infrastructure services such as electricity and other energy, industrial estates services; (v) development of agglomeration to facilitate vertical production chains; (vi) establishment of economic institutions such as investment rule and intellectual property rights; and (vii) various trade and investment facilitation.
Fragmentation along the disintegration axis	Establishment of economic environment to reduce set-up costs of arm's length transactions	Development of institutional environment to reduce the cost of implementing arm's length transactions	Policies to strengthen competitiveness of potential business partners
	<ul style="list-style-type: none"> (i) establishment of economic system to allow co-existence of various business partners as well as making various types of contracts; (ii) various policies to reduce costs of information gathering on potential business partners; (iii) securing fairness, stability, and efficiency in contract; and (iv) establishment of stable and effective institutions to secure intellectual property rights. 	<ul style="list-style-type: none"> (i) policies to reduce monitoring cost of business partners; (ii) improvement in legal system and economic institutions to activate dispute settlement mechanism; and (iii) policies to promote technical innovations in modulation to further facilitate outsourcing. 	<ul style="list-style-type: none"> (i) hosting and fostering various types of business partners including foreign and indigenous firms; (ii) strengthening supporting industries; and (iii) various policies to promote the formation of agglomeration.

➤ Industrial agglomeration in Bangkok

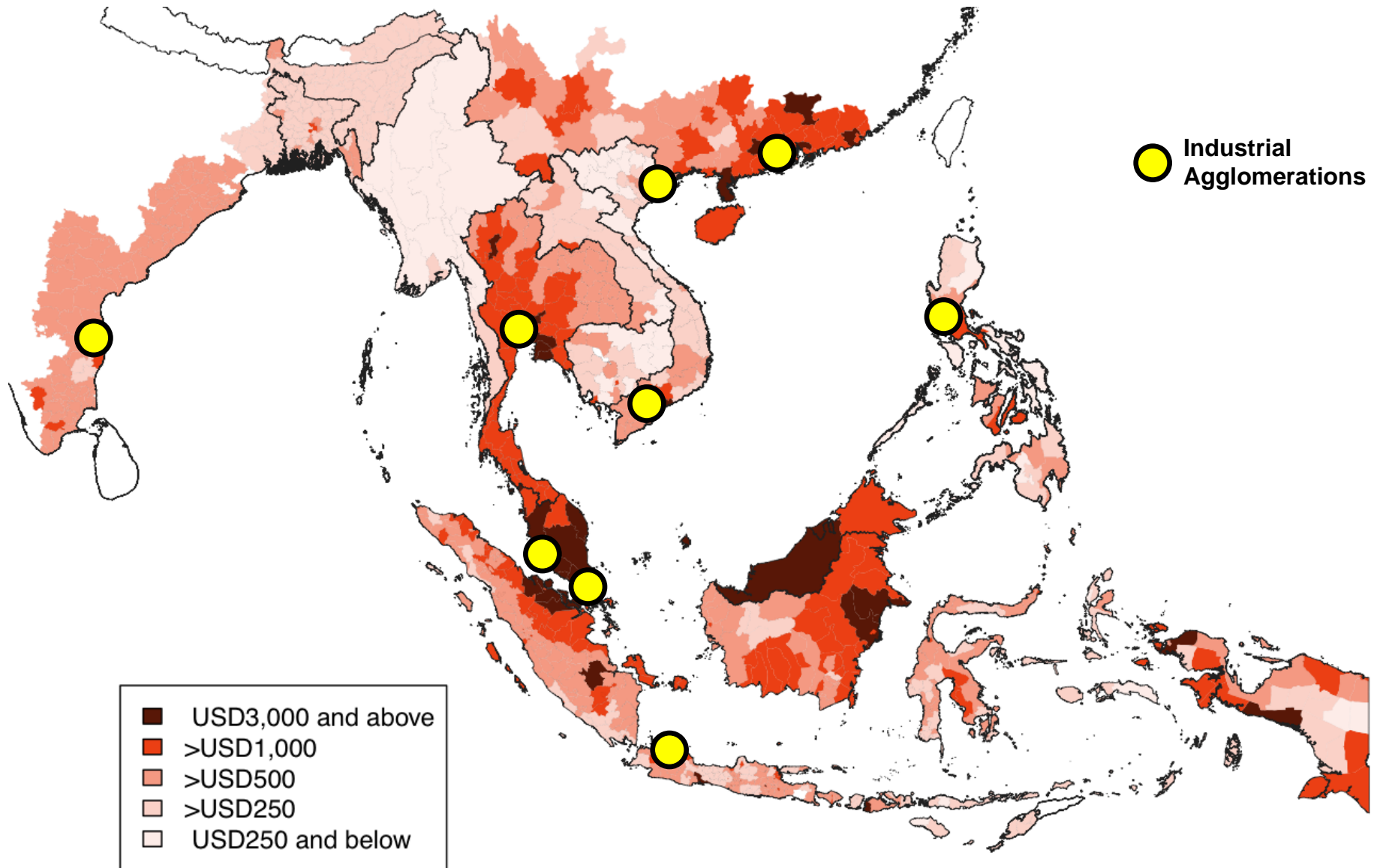


Note: The circle of 100km is added by the author.

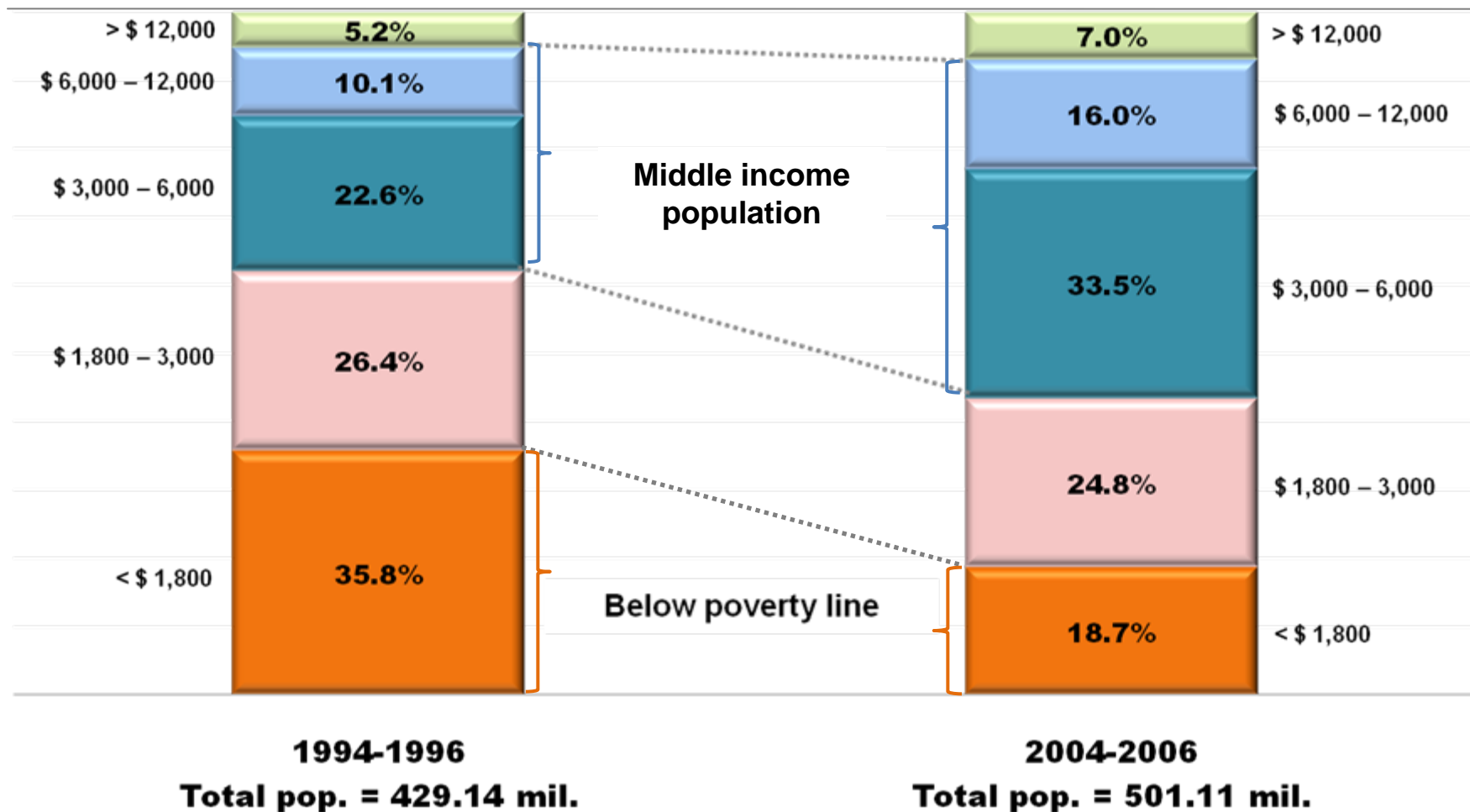
Original source: Board of Investment, Thailand.

Source: Kimura, Fukunari (2009). *The Spatial Structure of Production/Distribution Networks and Its Implication for Technology Transfers and Spillovers*, ERIA Discussion paper Series No.2009-02 (<http://www.eria.org>).

➤ Industrial agglomerations in East Asia



➤ Income distribution in ASEAN



Note: (1) Except Brunei, Myanmar, and Singapore. (2) In US dollars on the 2005 PPP basis. (3) For a family with 4 persons.
Data Source: The World Bank PovcalNet (<http://go.worldbank.org/NT2A1XUWP0>).

➤ Infrastructure Development in Tier 1

Logistics infrastructure	Other economic infrastructure	Urban and social infrastructure
<p>1. Road / bridges Highway system, bridges and bypass roads in and around metropolitan areas Access roads/bridges to gateway ports/airports</p> <p>2. Railways Urban public transport system (subway, LRT, MRT) and railways to connect urban and suburban areas</p> <p>3. Ports / maritime Sizable port facility to cater massive container transactions and specialized loading facilities</p> <p>Airports 4. Sizable airport facility to cater massive movements of passengers and freight</p>	<p>1. Industrial estates / special economic zones High-tech park with private initiatives</p> <p>2. Energy / power Stable and ample supply of electricity and energy for both industries and residences</p> <p>3. Telecommunication Infrastructure services for innovative society</p>	<p>1. Water and sanitation, medical and others Metropolitan and social infrastructure for urban amenity</p>

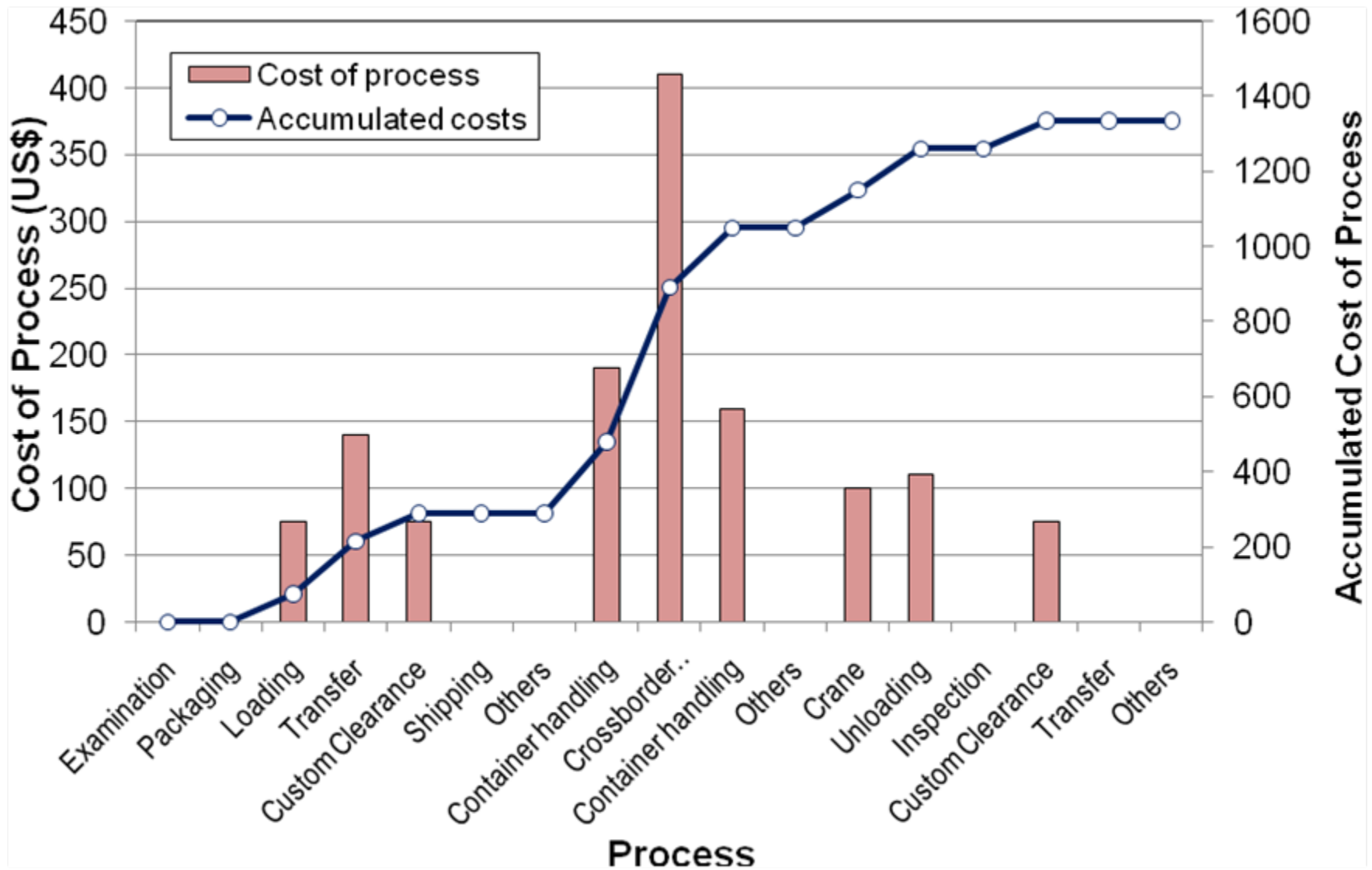
Tier 2: How to participate in production networks

- ❑ Utilize the mechanics of fragmentation and reduce three kinds of costs
 - Network set-up costs
 - Institutional arrangements for hosting foreign direct investment
 - Service link costs
 - Develop logistics infrastructure/services (cost, time, reliability) and promote trade liberalization/facilitation
 - Production costs per se
 - Starting from special economic zones, improve investment climate with proper economic infrastructure such as electricity supply
- ❑ Cities or border areas?
- ❑ Complementarity between soft and hard infrastructure
- ❑ An ERIA pilot study: the Mekong India Economic Corridor (MIEC) Project
- ❑ Necessary logistics infrastructure and other economic infrastructure

➤ The 2x3 policy matrix for Tier 2

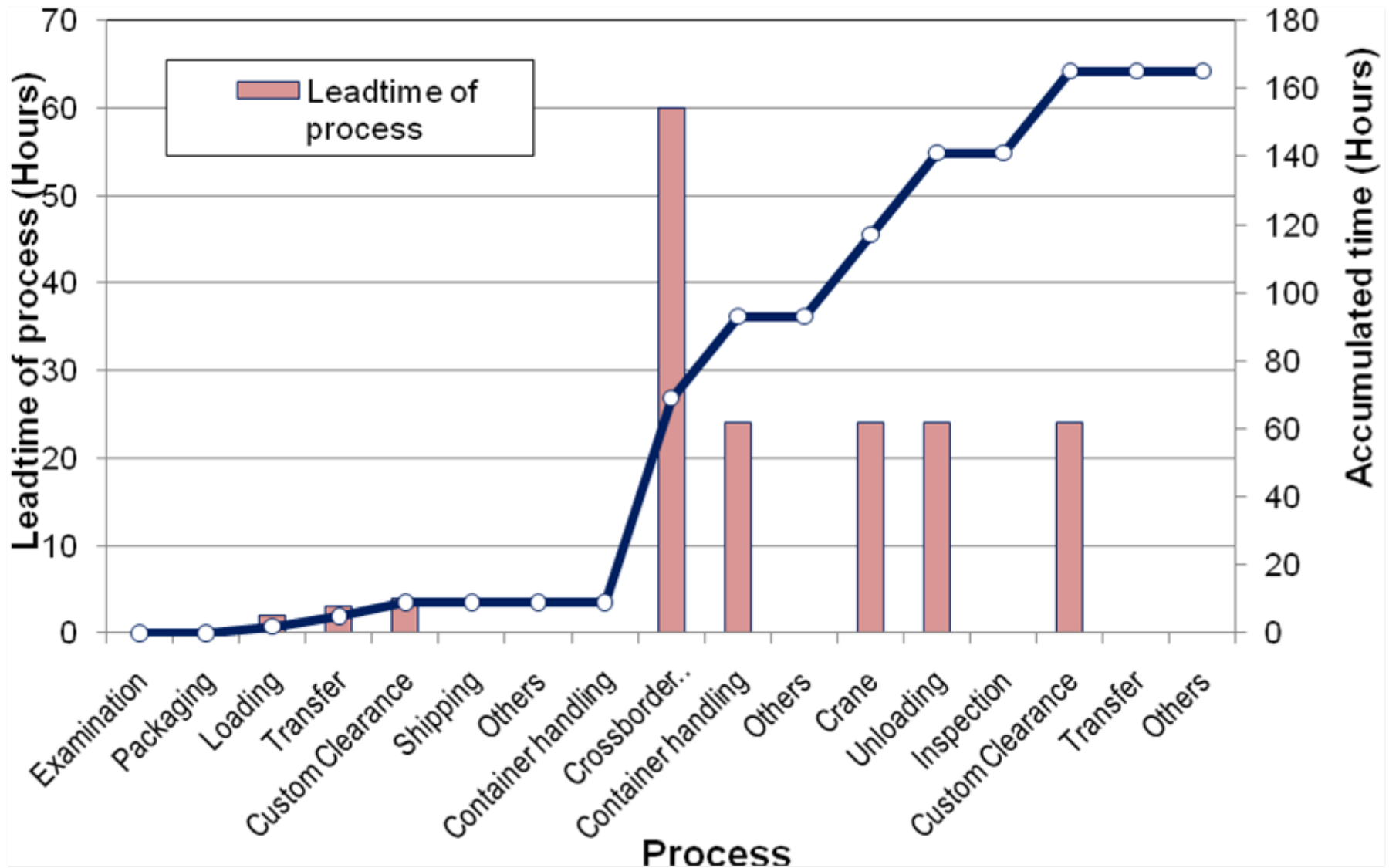
	Reduction in fixed costs to develop production/distribution networks	Reduction in service link costs connecting production blocks	Further costs reduction in production cost per se in production blocks
Fragmentation along the distance axis	Policies to reduce investment costs	Policies to overcome geographical distance and border effects	Policies to strengthen location advantages
	<ul style="list-style-type: none"> (i) improvement in stability, transparency, and predictability of investment-related policies; (ii) investment facilitation in FDI-hosting agencies and industrial estates; and (iii) liberalization and development in financial services related to capital investment. 	<ul style="list-style-type: none"> (i) reduction/removal of trade barriers such as tariffs; (ii) trade facilitation including simplification and improved efficiency in custom clearance/procedures; (iii) development of transport infrastructure and improved efficiency in transport and distribution services; (iv) development of telecommunication and ICT infrastructure; (v) improved efficiency in financial services related to operation and capital movements; and (vi) reduction in costs of coordination between remote places by facilitation of the movement of natural persons. 	<ul style="list-style-type: none"> (i) establishment of educational/occupational institutions for personnel training to secure various types of human resources; (ii) establishment of stable and elastic labor-related laws and institutions; (iii) establishment of efficient international and domestic financial services; (iv) reduction in costs of infrastructure services such as electricity and other energy, industrial estates services; (v) development of agglomeration to facilitate vertical production chains; (vi) establishment of economic institutions such as investment rule and intellectual property rights; and (vii) various trade and investment facilitation.
Fragmentation along the disintegration axis	Establishment of economic environment to reduce set-up costs of arm's length transactions	Development of institutional environment to reduce the cost of implementing arm's length transactions	Policies to strengthen competitiveness of potential business partners
	<ul style="list-style-type: none"> (i) establishment of economic system to allow co-existence of various business partners as well as making various types of contracts; (ii) various policies to reduce costs of information gathering on potential business partners; (iii) securing fairness, stability, and efficiency in contract; and (iv) establishment of stable and effective institutions to secure intellectual property rights. 	<ul style="list-style-type: none"> (i) policies to reduce monitoring cost of business partners; (ii) improvement in legal system and economic institutions to activate dispute settlement mechanism; and (iii) policies to promote technical innovations in modulation to further facilitate outsourcing. 	<ul style="list-style-type: none"> (i) hosting and fostering various types of business partners including foreign and indigenous firms; (ii) strengthening supporting industries; and (iii) various policies to promote the formation of agglomeration.

▶ The relation between processes and costs



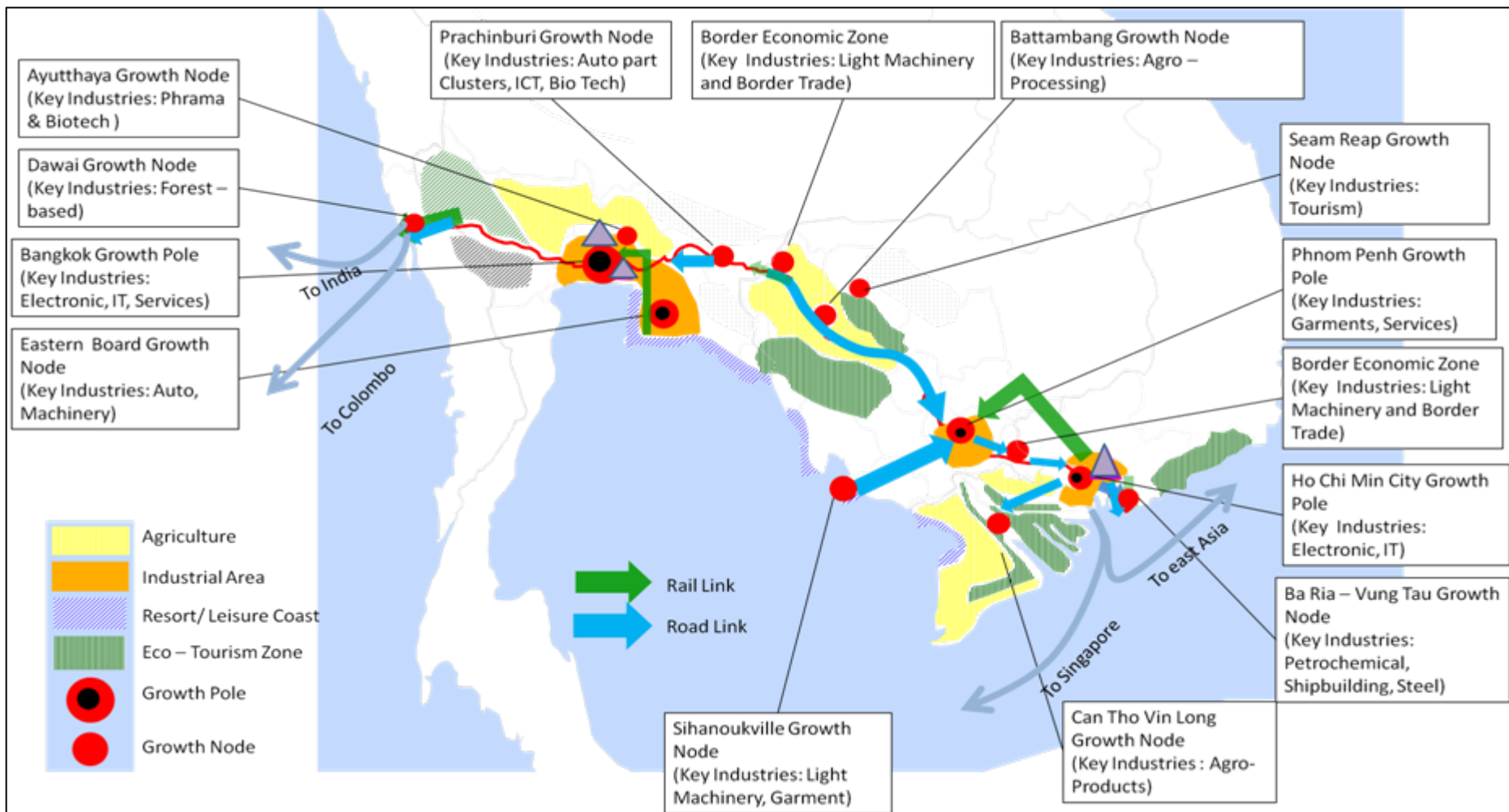
Source: JETRO (2009).

▶ The relation between processes and lead time

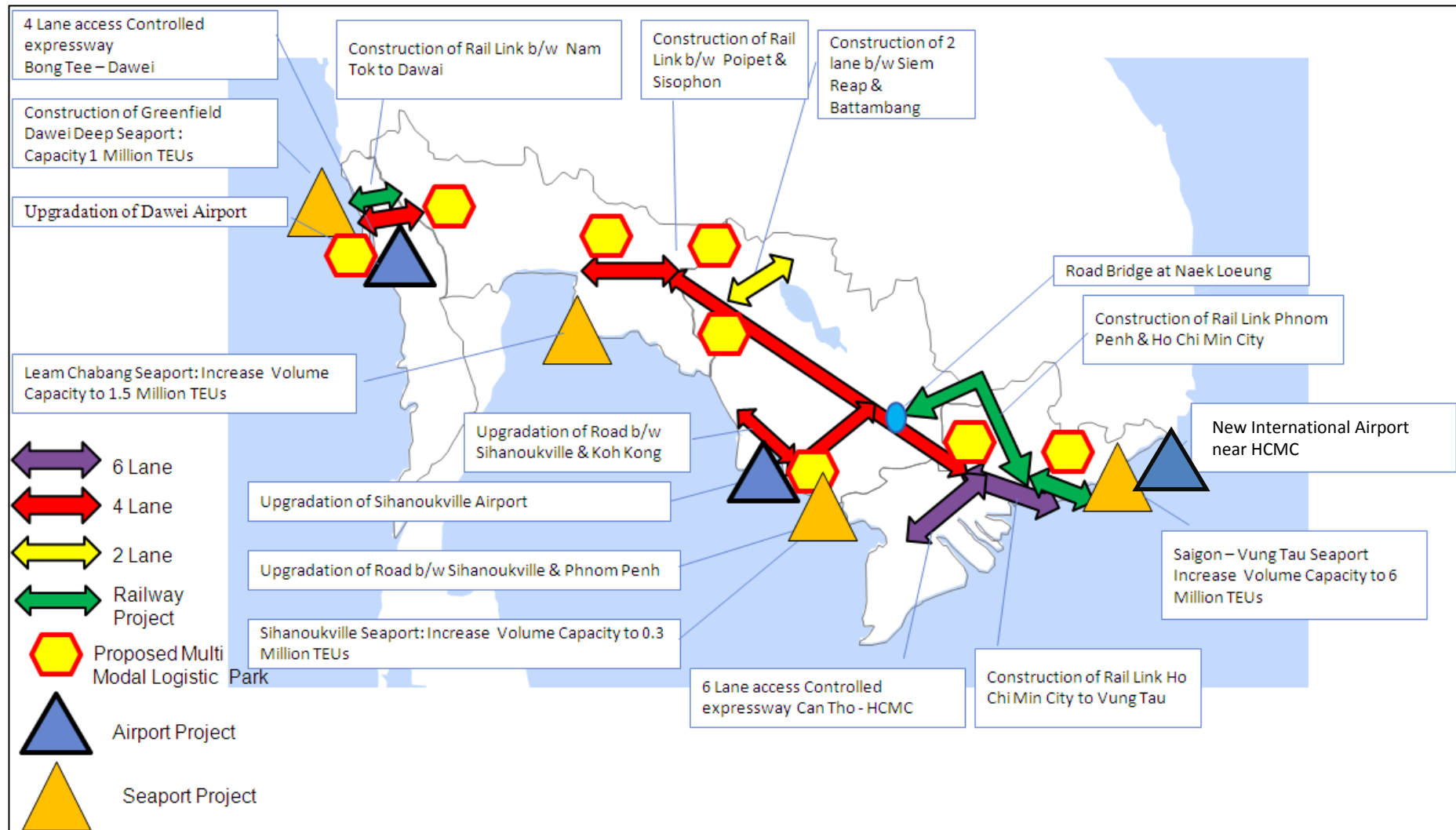


Source: JETRO (2009).

➤ Growth poles and growth nodes proposed by the ERIA-MIEC Project



➤ Transportation sector projects proposed by the ERIA-MIEC Project



Source: ERIA (2009). Mekong India Economic Corridor Development, ERIA Research Project Report 2008, No.4-2, Jakarta: ERIA (<http://www.eria.org>).

➤ Infrastructure Development in Tier 2

Logistics infrastructure	Other economic infrastructure	Urban and social infrastructure
<p>1. Road / bridges Middle-distance roads for connecting industrial centers, logistics hubs, and neighboring industrial agglomerations Sub-urban road system for avoiding congestions</p> <p>2. Railways Development of regional arterial railway networks</p> <p>3. Ports / maritime Upgrading major ports to enhance handling capacity</p> <p>4. Airports Upgrading major airports for both passengers and cargos</p>	<p>1. Industrial estates / special economic zones SEZs in border areas and population centers</p> <p>2. Energy / power Stable and ample supply of electricity and energy for industries</p> <p>3. Telecommunication Development / upgrading of trunk telecommunication networks</p>	<p>1. Water and sanitation, medical and others Improving water and sanitary conditions in urban areas</p>

Tier 3: Establishing a novel scope of industrial development

- ❑ The development of logistics infrastructure as a trigger
- ❑ New perspectives for industrial development with reliable logistics infrastructure
 - Primary resource-based industries such as agriculture and fishery
 - Tourism
 - Mining and agricultural plantation as staples
 - Labor-intensive manufacturing industries/production blocks
 - SMEs in cottage industries and primary sector
- ❑ Necessary logistics infrastructure and other economic infrastructure

➤ The 2x3 policy matrix for Tier 3

	Reduction in fixed costs to develop production/distribution networks	Reduction in service link costs connecting production blocks	Further costs reduction in production cost per se in production blocks
Fragmentation along the distance axis	Policies to reduce investment costs	Policies to overcome geographical distance and border effects	Policies to strengthen location advantages
	<ul style="list-style-type: none"> (i) improvement in stability, transparency, and predictability of investment-related policies; (ii) investment facilitation in FDI-hosting agencies and industrial estates; and (iii) liberalization and development in financial services related to capital investment. 	<ul style="list-style-type: none"> (i) reduction/removal of trade barriers such as tariffs; (ii) trade facilitation including simplification and improved efficiency in custom clearance/procedures; (iii) development of transport infrastructure and improved efficiency in transport and distribution services; (iv) development of telecommunication and ICT infrastructure; (v) improved efficiency in financial services related to operation and capital movements; and (vi) reduction in costs of coordination between remote places by facilitation of the movement of natural persons. 	<ul style="list-style-type: none"> (i) establishment of educational/occupational institutions for personnel training to secure various types of human resources; (ii) establishment of stable and elastic labor-related laws and institutions; (iii) establishment of efficient international and domestic financial services; (iv) reduction in costs of infrastructure services such as electricity and other energy, industrial estates services; (v) development of agglomeration to facilitate vertical production chains; (vi) establishment of economic institutions such as investment rule and intellectual property rights; and (vii) various trade and investment facilitation.
Fragmentation along the disintegration axis	Establishment of economic environment to reduce set-up costs of arm's length transactions	Development of institutional environment to reduce the cost of implementing arm's length transactions	Policies to strengthen competitiveness of potential business partners
	<ul style="list-style-type: none"> (i) establishment of economic system to allow co-existence of various business partners as well as making various types of contracts; (ii) various policies to reduce costs of information gathering on potential business partners; (iii) securing fairness, stability, and efficiency in contract; and (iv) establishment of stable and effective institutions to secure intellectual property rights. 	<ul style="list-style-type: none"> (i) policies to reduce monitoring cost of business partners; (ii) improvement in legal system and economic institutions to activate dispute settlement mechanism; and (iii) policies to promote technical innovations in modulation to further facilitate outsourcing. 	<ul style="list-style-type: none"> (i) hosting and fostering various types of business partners including foreign and indigenous firms; (ii) strengthening supporting industries; and (iii) various policies to promote the formation of agglomeration.

➤ Infrastructure Development in Tier 3

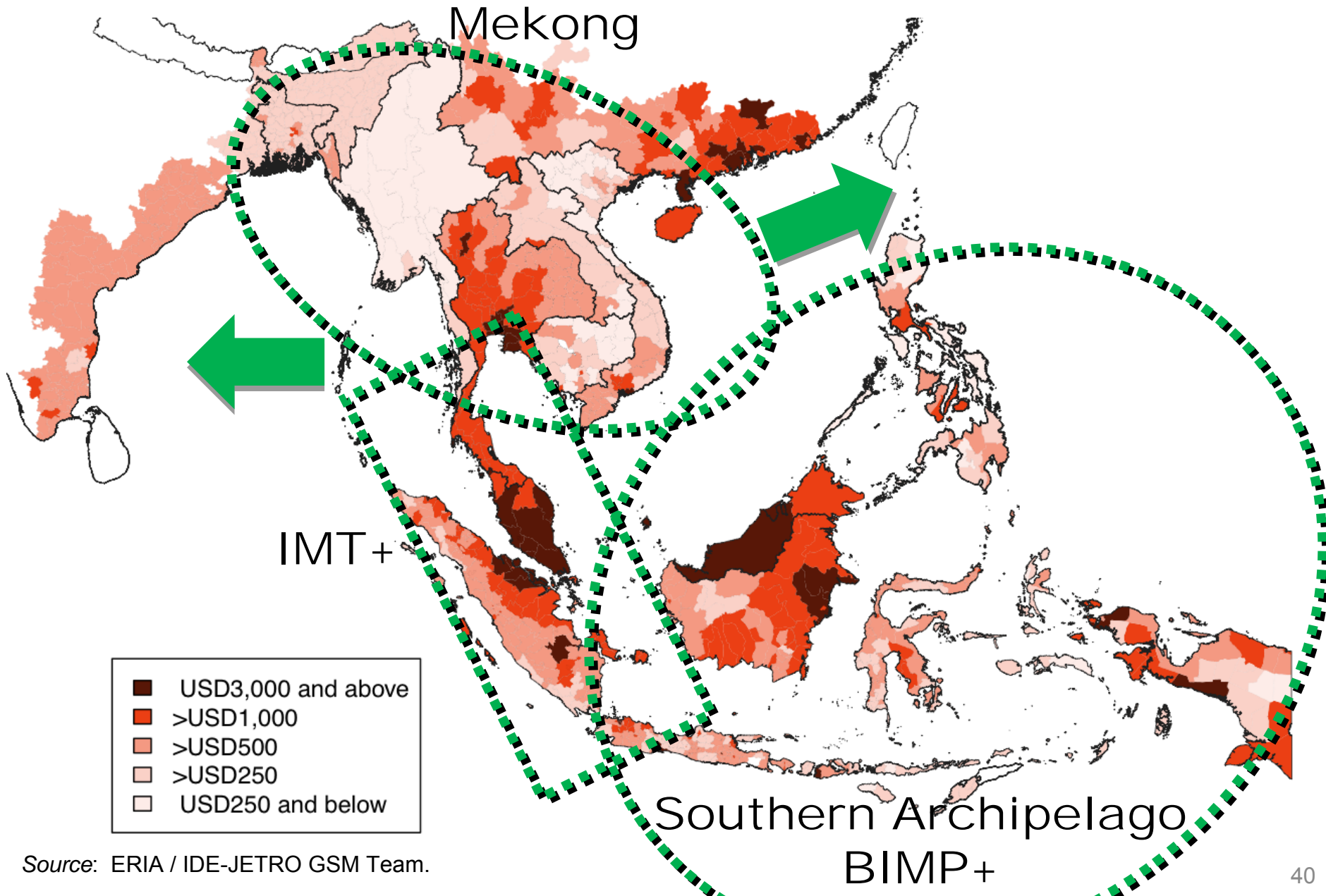
Logistics infrastructure	Other economic infrastructure	Urban and social infrastructure
<p>1. Road / bridges Long-distance road connection and rural road networks for various industrial development Sub-urban road system for avoiding congestions</p> <p>2. Railways Middle-distance railways for resource-based industries</p> <p>3. Ports / maritime Upgrading of local ports</p> <p>4. Airports Upgrading / development of local airports</p>	<p>1. Industrial estates / special economic zones Industrial estates in growth nodes</p> <p>2. Energy / power Development of power plants taking advantage of location advantages Local supply of electricity and energy</p> <p>3. Telecommunication Local telecommunication networks</p>	<p>1. Water and sanitation, medical and others Improving water and sanitary conditions</p>

➤ Interactions among three tiers

- ❑ Three sub-regions with Tiers 1, 2, and 3
 - Extended Mekong Sub-region
 - IMT+ Sub-region
 - BIMP+ Sub-region
- ❑ Industrial/economic corridors to stimulate interactions and feedbacks among three tiers

- ❑ Project feasibility in the context of macroeconomic management and fiscal feasibility
- ❑ Participation and ownership in development strategies
- ❑ Sustainability on environment and perishable resources

▶ Three sub-regions



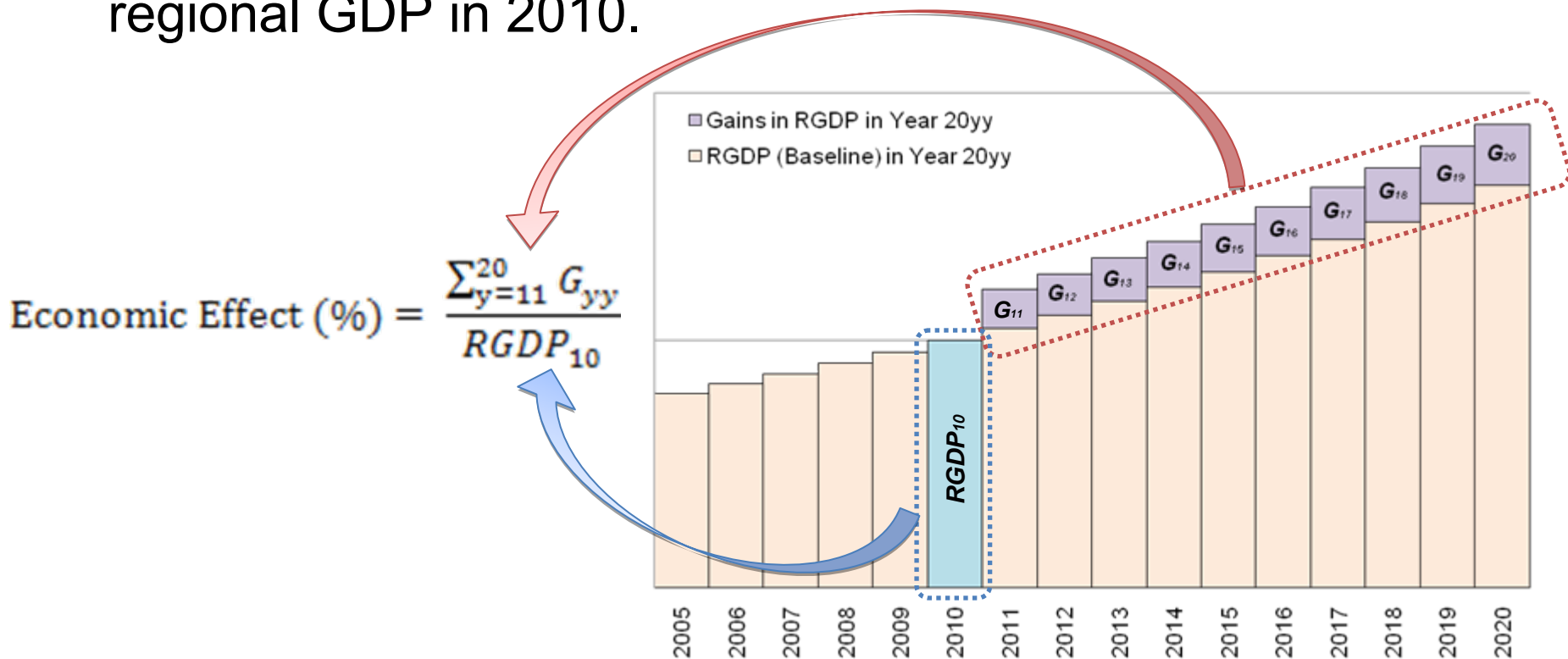
Source: ERIA / IDE-JETRO GSM Team.

Economic assessment of CADP: the Geographical Simulation Model

- ❑ This chapter provides the economic assessment of CADP by the Geographical Simulation Model (IDE/ERIA-GSM).
- ❑ The IDE/ERIA-GSM is an extended version of the Core-Periphery Model (Krugman, 1991), to incorporate multiple industrial sectors and intermediate goods.
- ❑ Various scenarios of transport cost reduction are simulated and compared with the baseline case, in terms of cumulative gains in regional GDP for 10 years (2010-2020).

➤ Measurement of economic effects

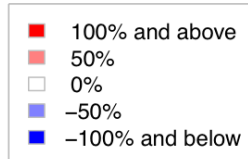
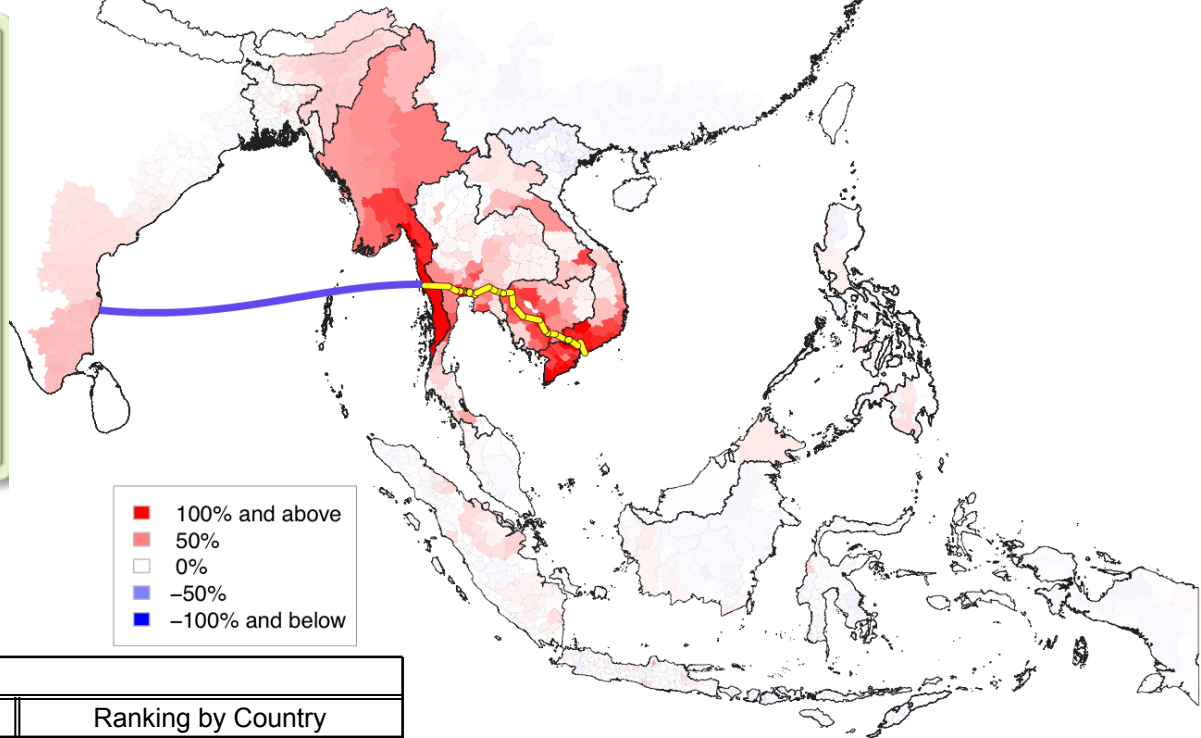
- The economic effect of an infrastructure project is measured as the percentage ratio of cumulative gains in regional GDP over 10 years (2011-2020), after the completion of the scenarios of infrastructure development and trade facilitation in 2010, vis-à-vis the baseline level of regional GDP in 2010.



Scenario 3c

Mekong India Economic Corridor (MIEC-III): Ho Chi Minh to Chennai

- Scenario 3b is implemented.
- Connect Dawei and Port Madras by a sea route that is equivalent to the other routes between internationally important ports.
- The average speed on the land part of MIEC is set at 60km/h.



MIEC-III

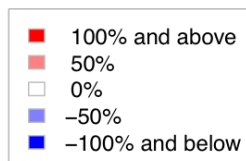
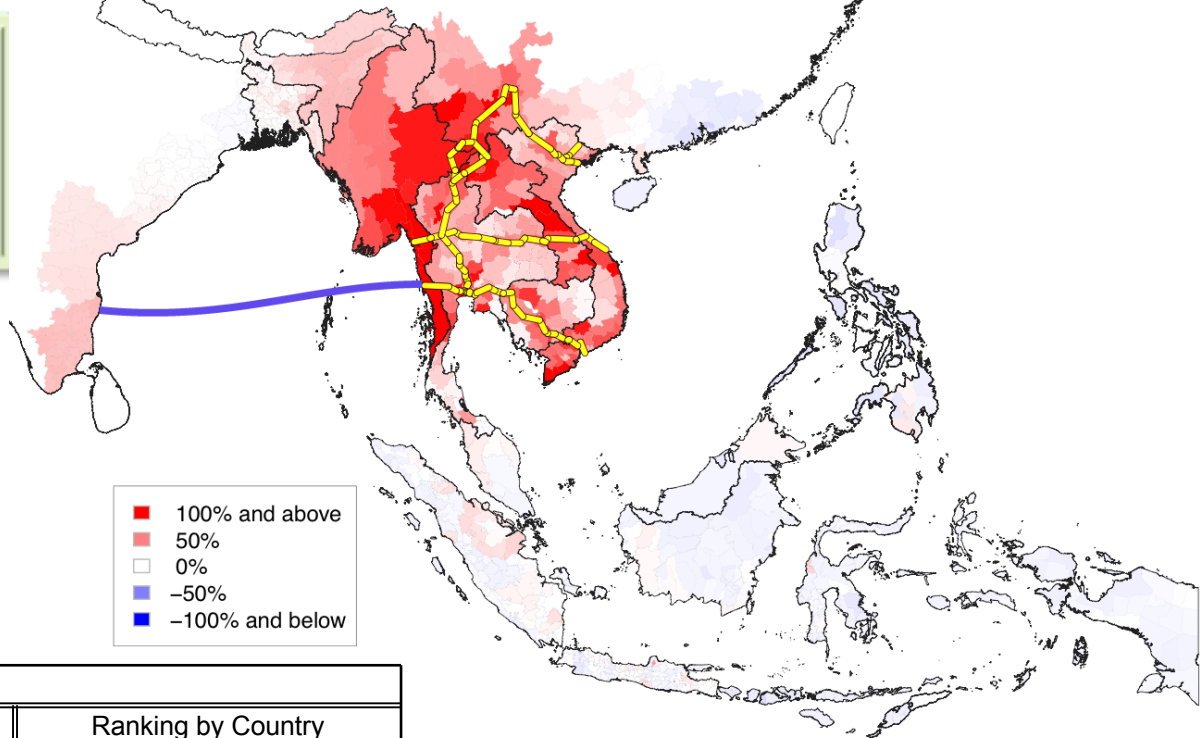
Ranking by Region			Ranking by Country	
Region	Country	Economic Effects	Country	Economic Effects
Taninthayi	Myanmar	272.9%	Cambodia	76.5%
Soc Trang	Vietnam	203.8%	Myanmar	66.0%
Ca Mau	Vietnam	191.5%	Vietnam	63.5%
Samut Sakhon	Thailand	157.8%	Thailand	38.8%
Bac Lieu	Vietnam	140.2%	Lao PDR	14.5%
Mon	Myanmar	114.8%	India	13.4%
Phnom Penh	Cambodia	112.0%	Bangladesh	4.6%
Long An	Vietnam	109.1%	Philippines	1.7%
Ba Ria-Vung Tau	Vietnam	105.6%	Indonesia	0.8%
Binh Phuoc	Vietnam	104.3%	Malaysia	0.4%
Number of regions with	100% or more	11	China	-2.0%
	50% to 100%	41	Brunei	-2.5%
	0% to 50%	488	Hong Kong	-2.9%
	Less than 0%	416	Macao	-3.3%
Total Economic Effect in 956 Regions		7.82%	Singapore	-3.5%

Source: IDE/ERIA-GSM Team.

Scenario 4

Three Economic Corridors in the Indochina Peninsular (3ECs)

■ Scenarios 1a, 2, and 3c are implemented.



3ECs

Ranking by Region

Ranking by Country

Region	Country	Economic Effects	Country	Economic Effects
Taninthayi	Myanmar	250.0%	Myanmar	82.1%
Khammouan	Laos	195.6%	Cambodia	54.7%
Samut Sakhon	Thailand	194.1%	Lao PDR	50.9%
Soc Trang	Vietnam	176.9%	Thailand	49.6%
Ca Mau	Vietnam	166.5%	Vietnam	49.3%
Xekong	Laos	163.6%	India	12.8%
Mon	Myanmar	142.6%	Bangladesh	7.3%
Lamphun	Thailand	129.9%	Malaysia	1.1%
Bokeo	Laos	127.5%	China	-1.9%
Bolikhamxai	Laos	120.0%	Indonesia	-2.1%
Number of regions with	100% or more	16	Philippines	-6.4%
	50% to 100%	66	Singapore	-7.8%
	0% to 50%	428	Brunei	-8.1%
	Less than 0%	446	Hong Kong	-13.9%
Total Economic Effects in 956 Regions		6.24%	Macao	-14.4%

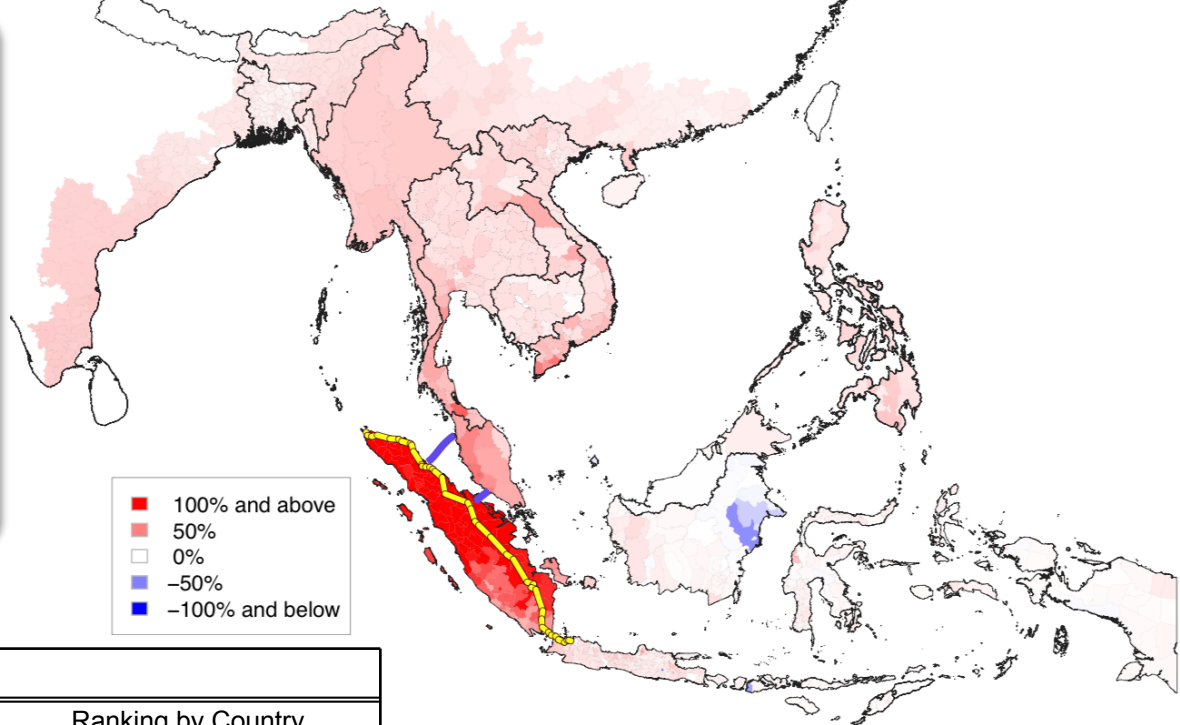
Source: IDE/ERIA-GSM Team.

Scenario 5

IMT+ Corridor

▣ The highway, on which vehicles can run at 60 km/h, starts at Bandar Ache and goes through the eastern part of Sumatra Island and ends at Jakarta. At the Sunda Strait, The speed of Ro-ro vessels connecting Bakaheuni and Merak are doubled to 39.4km.h, and the waiting time and cost are reduced to 1 hour and 50USD respectively.

▣ Port Belawan-Port Penang and Port Dumai-Port Malacca, are connected by RO-RO vessels.



IMT+

Ranking by Region

Ranking by Country

Region	Country	Economic Effects	Country	Economic Effects
Kota Lhokseumawe	Indonesia	470.6%	Malaysia	38.6%
Kota Pematang Siantar	Indonesia	328.3%	Myanmar	21.1%
Siak	Indonesia	325.3%	Indonesia	20.1%
Asahan	Indonesia	323.3%	Thailand	19.3%
Kota Medan	Indonesia	321.5%	Vietnam	19.3%
Kota Tanjungbalai	Indonesia	298.6%	Lao PDR	17.6%
Kota Binjai	Indonesia	297.4%	Singapore	17.3%
Rokanhilir	Indonesia	286.9%	India	16.2%
Deli Serdang	Indonesia	282.7%	Cambodia	15.7%
Bengkalis	Indonesia	282.4%	Philippines	12.0%
Number of regions with	100% or more	75	Hong Kong	11.1%
	50% to 100%	42	Macao	10.5%
	0% to 50%	803	China	8.4%
	Less than 0%	36	Bangladesh	7.4%
Total Economic Effects in 956 Regions		16.24%	Brunei	4.3%

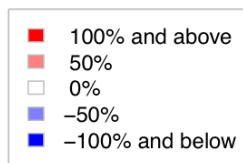
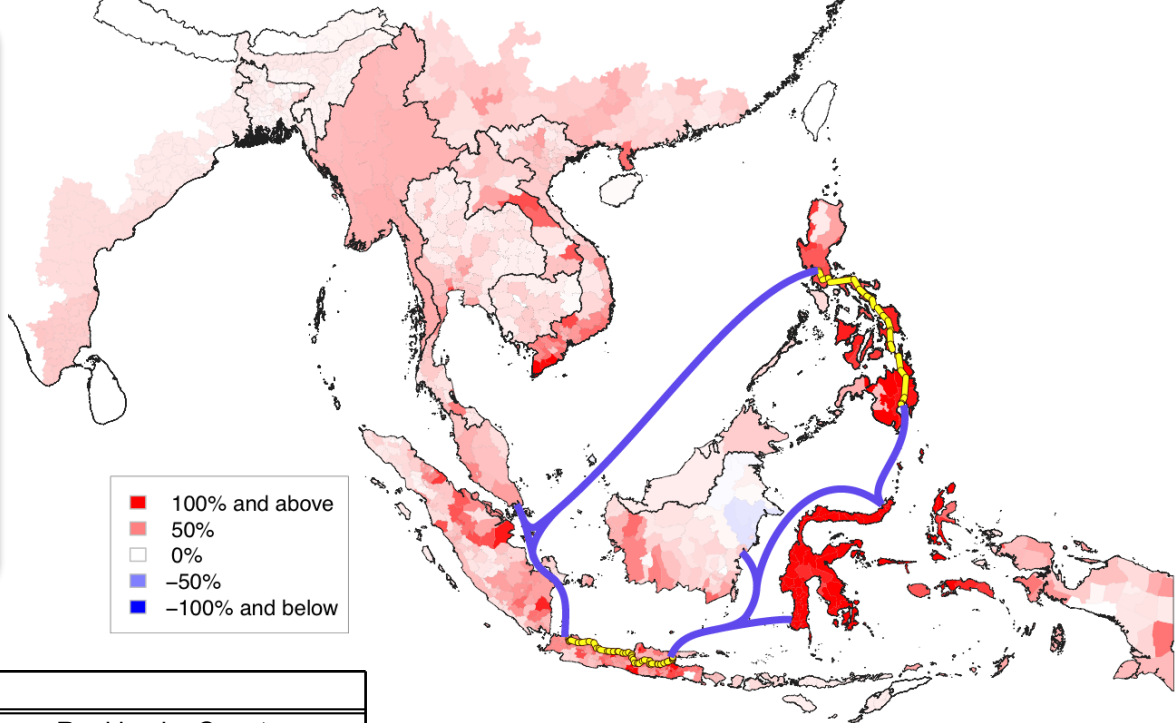
Source: IDE/ERIA-GSM Team.

Scenario 6

BIMP+ (Ring) Corridor

- ▣ The land routes of Jakarta-Surabaya, and Manila-Davao are upgraded, meaning cars can run on it at 60 km/h.
- ▣ The sea routes of Manila-Singapore-Jakarta are upgraded, meaning the average speed is set at 22.5km.h, 1.5 times of the other internationally important sea routes, and the time and money costs at the ports are reduced to the half of the baseline scenario.

To be continued



BIMP+ (Ring)				
Ranking by Region			Ranking by Country	
Region	Country	Economic Effects	Country	Economic Effects
Kota Kediri	Indonesia	655.5%	Indonesia	65.7%
Mamuju Utara	Indonesia	417.2%	Philippines	63.4%
Kota Bitung	Indonesia	370.2%	Vietnam	38.7%
Kota Makasar	Indonesia	361.4%	Myanmar	30.6%
Kudus	Indonesia	292.7%	Malaysia	28.1%
Minahasa Selatan	Indonesia	232.8%	Thailand	23.6%
Minahasa	Indonesia	230.1%	Lao PDR	22.5%
Bonebolango	Indonesia	223.7%	Singapore	18.7%
Kota Palu	Indonesia	214.9%	China	18.6%
Kota Kendari	Indonesia	212.9%	Cambodia	18.2%
Number of regions with	100% or more	79	India	13.9%
	50% to 100%	104	Hong Kong	10.7%
	0% to 50%	764	Macao	8.0%
	Less than 0%	9	Bangladesh	6.9%
			Brunei	5.8%
Total Economic Effects in 956 Regions		30.52%		

↘ *Continued.*

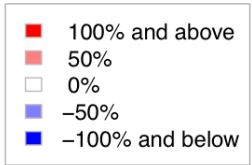
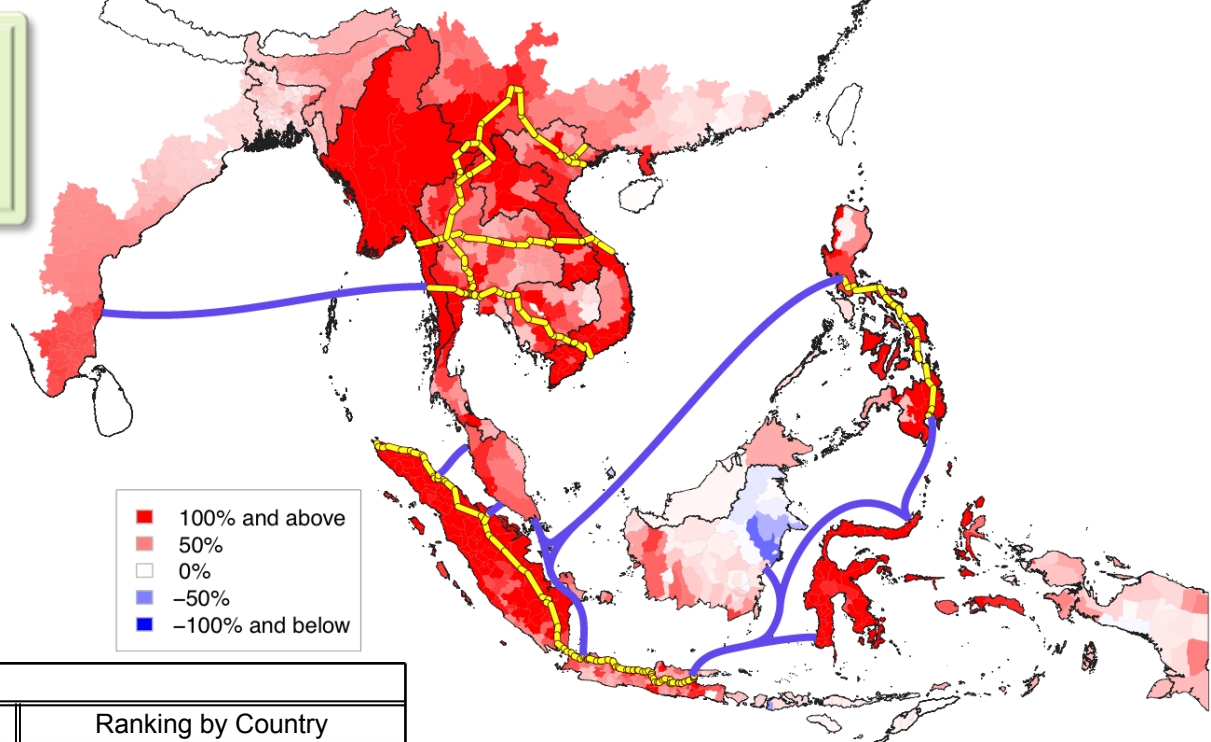
- ▣ The sea routes of Davao-Manado, Manado-Surabaya, Makassar-Surabaya and Balikpapan-Surabaya are also upgraded, meaning the speed is doubled and border costs (time and money) are reduced to the half of the baseline scenario.
- ▣ The speed of RO-RO vessels connecting three sea routes in the Philippines are doubled to 39.4km.h, and the waiting time and cost are reduced to 1 hour and 50USD respectively.

Source: IDE/ERIA-GSM Team.

Scenario 7

All Corridors

Scenarios 4, 5, and 6 are implemented.



All				
Ranking by Region			Ranking by Country	
Region	Country	Economic Effects	Country	Economic Effects
Kota Lhokseumawe	Indonesia	533.7%	Myanmar	145.8%
Asahan	Indonesia	485.8%	Vietnam	114.6%
Mamuju Utara	Indonesia	480.8%	Laos	99.3%
Kota Pematang Siantar	Indonesia	463.4%	Thailand	98.6%
Rokanhilir	Indonesia	432.8%	Cambodia	97.9%
Indragiri Hilir	Indonesia	419.2%	Indonesia	85.0%
Kota Binjai	Indonesia	411.4%	Philippines	73.4%
Kota Kediri	Indonesia	410.3%	Malaysia	64.4%
Kota Tanjungbalai	Indonesia	408.1%	India	45.6%
Soc Trang	Vietnam	404.4%	Singapore	29.2%
Number of regions with	100% or more	254	China	25.4%
	50% to 100%	239	Bangladesh	23.0%
	0% to 50%	446	Hong Kong	8.2%
	Less than 0%	17	Macao	4.1%
Total Economic Effects in 956 Regions		54.77%	Brunei	2.7%

Source: IDE/ERIA-GSM Team.

➤ Impacts of economic corridor developments on economic growth and narrowing development gaps (NDG)

		Growth Impact		NDG Impact
		Change in Average Annual Growth Rate: 2010-2020	% Difference in RGDP in 2020	% Change in Gini Coefficient
	EWEC	0.03 point	0.32%	-0.07%
	NSEC	0.01 point	0.14%	-0.13%
	MIEC(III)	0.13 point	1.19%	-0.23%
	3 Economic Corridors	0.13 point	1.23%	-0.38%
	IMT+	0.11 point	1.08%	-0.25%
	BIMP+	0.45 point	4.31%	0.08%
All Corridors		0.72 point	7.08%	-0.63%

- Development/improvement of economic corridors can bring in **higher economic growth** and **narrower development gaps** to the region.

Financial project design and public-private partnership

- ❑ The public-private partnership (PPP) is regarded as a key for infrastructure development. However, its economic rationale for PPP has not yet been thoroughly discussed, and thus the discussion over PPP is often confused.
- ❑ This chapter argues the economic logic of PPP in infrastructure development based on the public economics theory and presents basic elements and operational structure of PPP in a consistent logical framework.
- ❑ The chapter also provides perspectives for East Asian PPP in our vibrant East Asian economies.

□ Investment demand for infrastructure

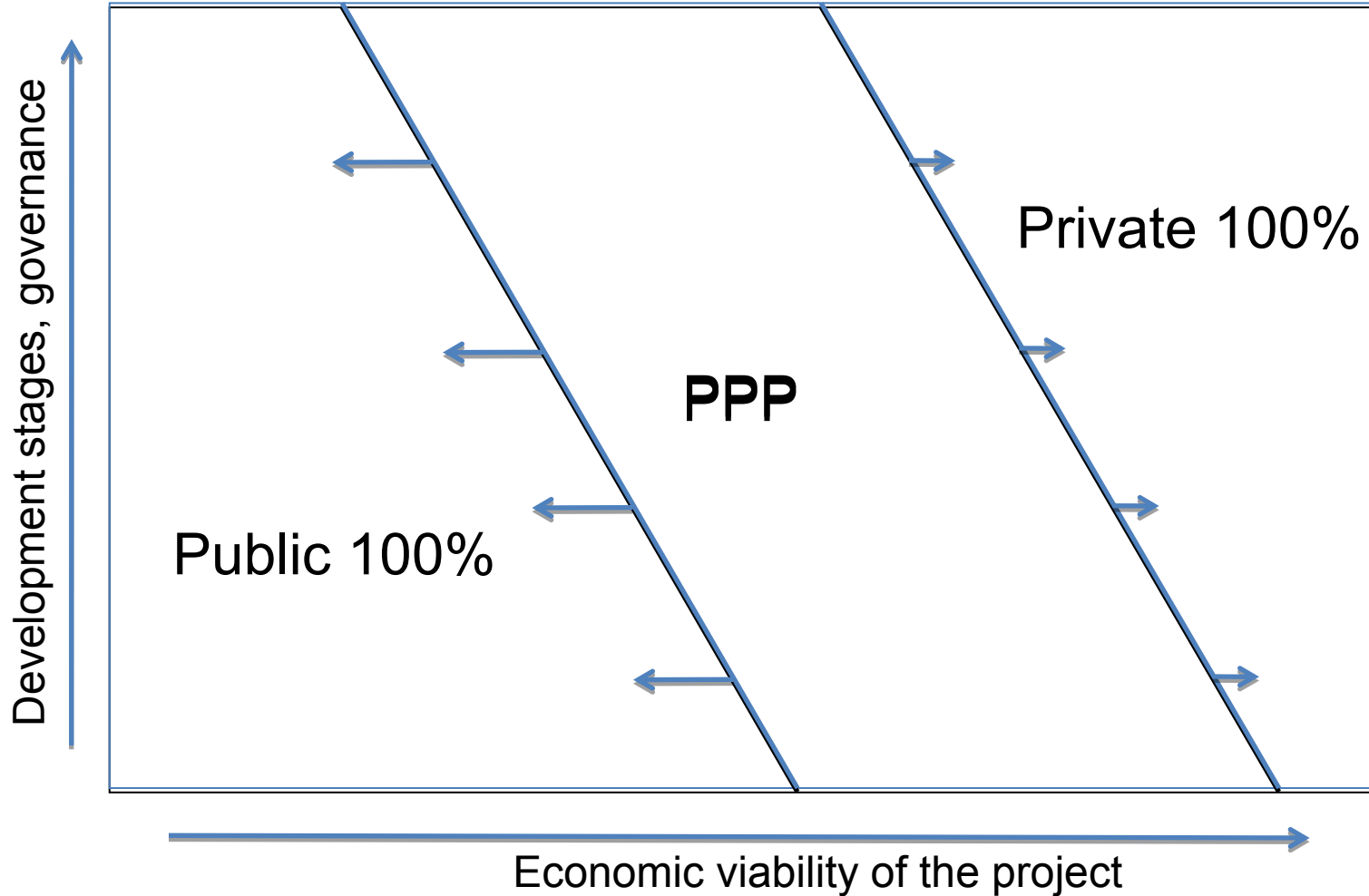
□ Theoretical foundation of PPP

- When is PPP relevant?
- Market failure and the role of government
- Economic viability of the project
- Additional gains from private incentives
- Price and non-price competitiveness of private counterparts

□ Toward designing Asian PPP

- Key elements, regulatory regime, funding/guarantee support, risk mitigation measures, enhancing predictability and certainty, facilitating PPP process, encouraging private participation

➤ Why is the public-private partnership needed?

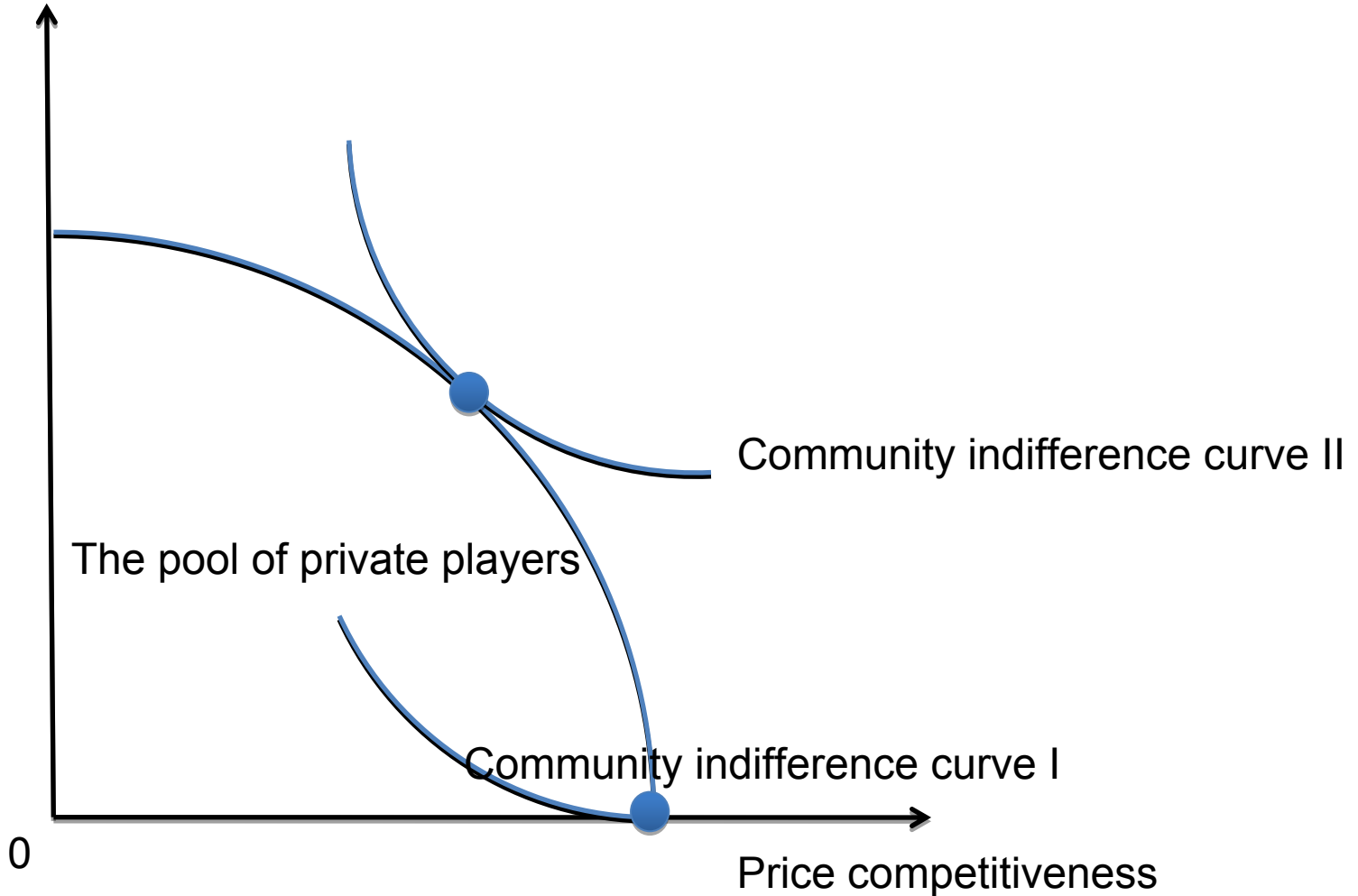


➤ Market failure with which government intervention is possibly justified

Market failure	Examples
Existence of economies of scale	At the firm or plant level At the industry or macro level In industrial agglomeration
Existence of positive or negative externalities	Social net benefits > project net benefits (e.g., infrastructure projects) Social net benefits < project net benefits (e.g., pollution industry)
Existence of public goods	Existence of goods with non-rivalry and non-excludability (e.g., rural access roads)
Existence of imperfect competition	Monopoly, oligopoly State monopoly
Existence of imperfect competition and/or uncertainty	Liquidity constraints (e.g., shortage of SME finance) Super large infrastructure projects

➤ Price and non-price competitiveness of private players in open bidding

Non-price competitiveness



Long list of prospective projects for logistics and economic infrastructure

- This chapter applies our three-tier framework of development strategies and presents a long list of prospective projects in logistics infrastructure, economic infrastructure, and others, with prioritizing them in our conceptual framework.

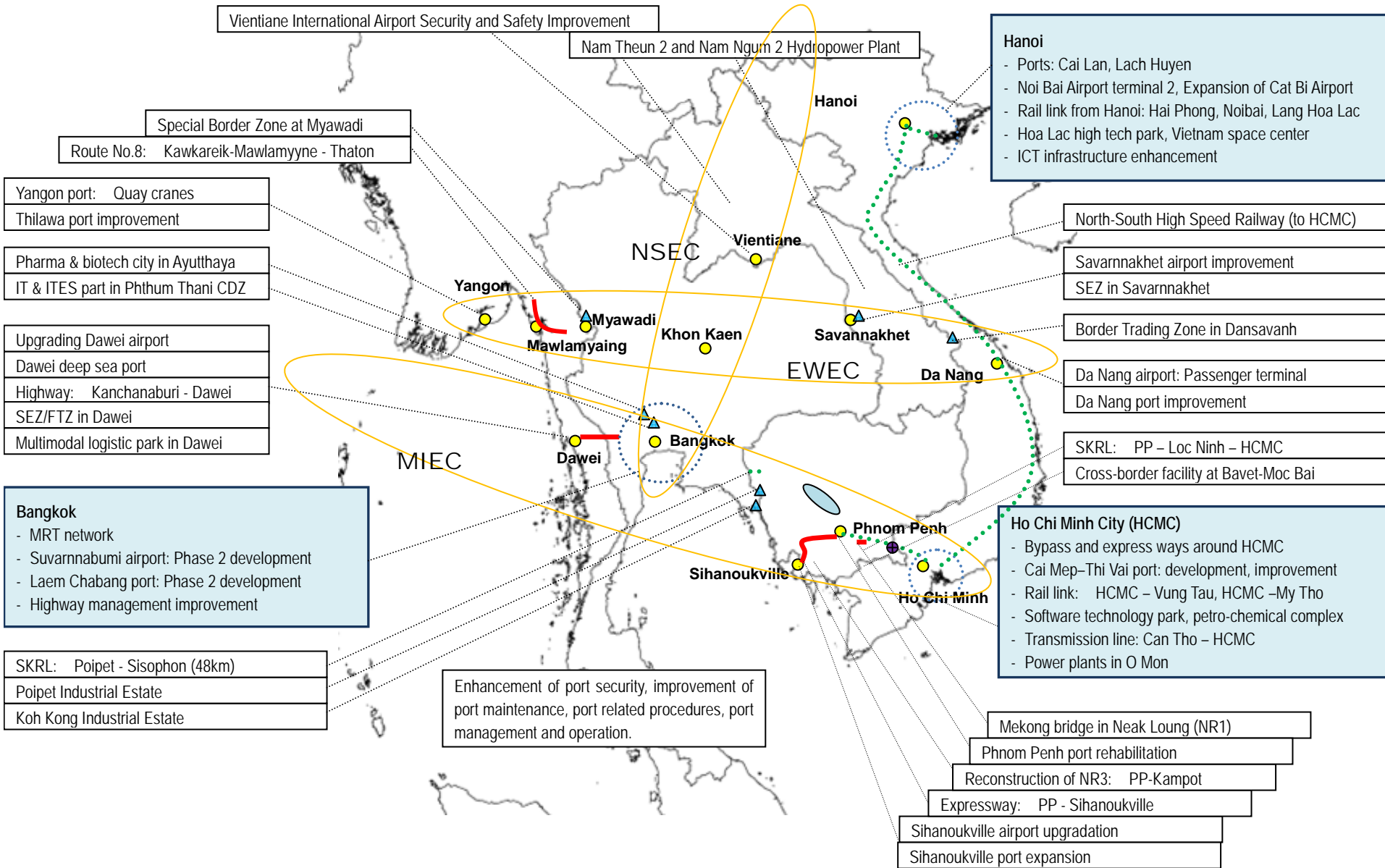
➤ Summary table: the number of listed projects

	Total	Mekong	BIMP+	IMT+	Brunei Darussalam	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam	China	India
Total	695	452	190	61	2	103	169	77	23	26	52	0	60	188	11	33
Priority																
Top Priority	170	113	51	14	1	15	33	1	3	8	25	0	26	57	1	18
Priority	166	87	56	23	0	19	53	6	7	6	17	0	7	48	1	10
Normal	359	252	83	24	1	69	83	70	13	12	10	0	27	83	9	5
Tier																
Tier 1	178	109	63	6	0	0	45	0	7	0	18	0	22	65	1	20
Tier 2	313	217	59	45	1	58	60	26	10	22	27	0	34	110	4	7
Tier 3	204	126	68	10	1	45	64	51	6	4	7	0	4	13	6	6
Type																
Public	541	358	146	45	2	95	121	71	21	25	45	0	54	125	11	17
PPP	154	94	44	16	0	8	48	6	2	1	7	0	6	63	0	16
Sector																
Logistics	443	279	128	44	2	60	106	55	13	18	46	0	39	100	8	18
: Road / Bridge	227	150	66	11	1	37	54	43	2	6	21	0	10	49	5	7
: Railway	66	51	6	9	0	6	9	3	5	2	0	0	19	19	0	4
: Port / Maritime	99	44	41	22	1	8	34	1	5	9	18	0	7	23	0	6
: Airport	36	28	6	2	0	6	4	7	1	1	3	0	2	8	3	1
Other Economic	201	146	45	10	0	32	45	22	7	8	3	0	21	78	3	9
: Industrial Estate / SEZ	56	56	0	0	0	8	0	7	0	3	0	0	8	28	0	4
: Energy / Power	135	80	45	10	0	17	45	13	7	3	3	0	11	47	2	5
: Telecommunication	12	11	1	0	0	8	1	2	0	2	0	0	2	3	1	0
Urban and Social	49	25	17	7	0	11	18	0	3	0	3	0	0	10	0	4
Others (Soft)	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2

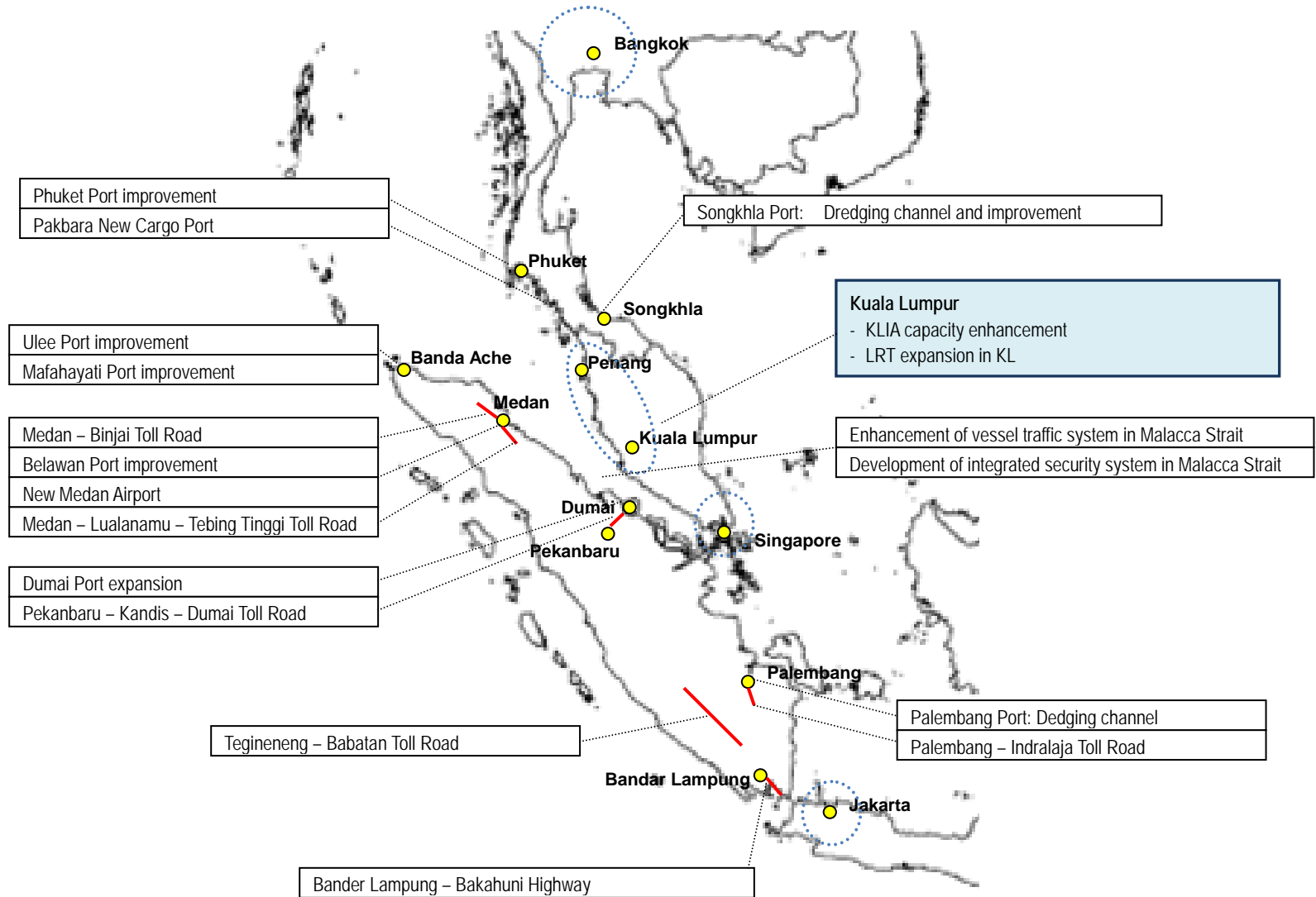
Summary table: cost estimates

	Mekong				BIMP+				IMT+				ALL Sub-regions			
	Public	PPP	Sub-total		Public	PPP	Sub-total		Public	PPP	Sub-total		Public	PPP	Sub-total	
Tier 1	Top Priority	139,205	36,721	175,926	Top Priority	41,088	15,206	56,294	Top Priority	272	0	272	Top Priority	180,565	51,927	232,492
	Priority	28,817	3,134	31,951	Priority	9,047	2,873	11,921	Priority	665	275	939	Priority	38,530	6,282	44,811
	Normal	271	0	271	Normal	1,148	2,075	3,223	Normal	279	0	279	Normal	1,698	2,075	3,773
	Sub-total	168,293	39,855	208,148	Sub-total	51,284	20,154	71,438	Sub-total	1,216	275	1,490	Sub-total	220,793	60,283	281,076
Tier 2	Top Priority	4,076	3,456	7,532	Top Priority	4,415	1,006	5,420	Top Priority	326	2,749	3,075	Top Priority	8,817	7,210	16,027
	Priority	6,154	3,553	9,707	Priority	5,557	690	6,247	Priority	1,501	818	2,319	Priority	13,211	5,061	18,272
	Normal	31,716	4,348	36,065	Normal	1,602	2,301	3,903	Normal	3,642	275	3,917	Normal	36,960	6,925	43,885
	Sub-total	41,946	11,357	53,303	Sub-total	11,573	3,997	15,570	Sub-total	5,469	3,842	9,311	Sub-total	58,988	19,196	78,184
Tier 3	Top Priority	0	0	0	Top Priority	0	0	0	Top Priority	0	0	0	Top Priority	0	0	0
	Priority	22	1,190	1,212	Priority	25	24	49	Priority	12	15	27	Priority	59	1,229	1,288
	Normal	15,277	1,683	16,960	Normal	8,929	2,469	11,398	Normal	821	0	821	Normal	25,028	4,152	29,180
	Sub-total	15,299	2,873	18,172	Sub-total	8,954	2,493	11,447	Sub-total	833	15	848	Sub-total	25,087	5,381	30,468
ALL Tiers	Top Priority	143,281	40,176	183,457	Top Priority	45,503	16,212	61,715	Top Priority	598	2,749	3,347	Top Priority	189,381	59,137	248,519
	Priority	34,992	7,877	42,870	Priority	14,629	3,587	18,216	Priority	2,178	1,108	3,285	Priority	51,799	12,572	64,371
	Normal	47,265	6,031	53,296	Normal	11,680	6,845	18,524	Normal	4,742	275	5,018	Normal	63,687	13,151	76,838
	Sub-total	225,538	54,085	279,623	Sub-total	71,811	26,644	98,456	Sub-total	7,518	4,132	11,650	Grand-total	304,867	84,861	389,728

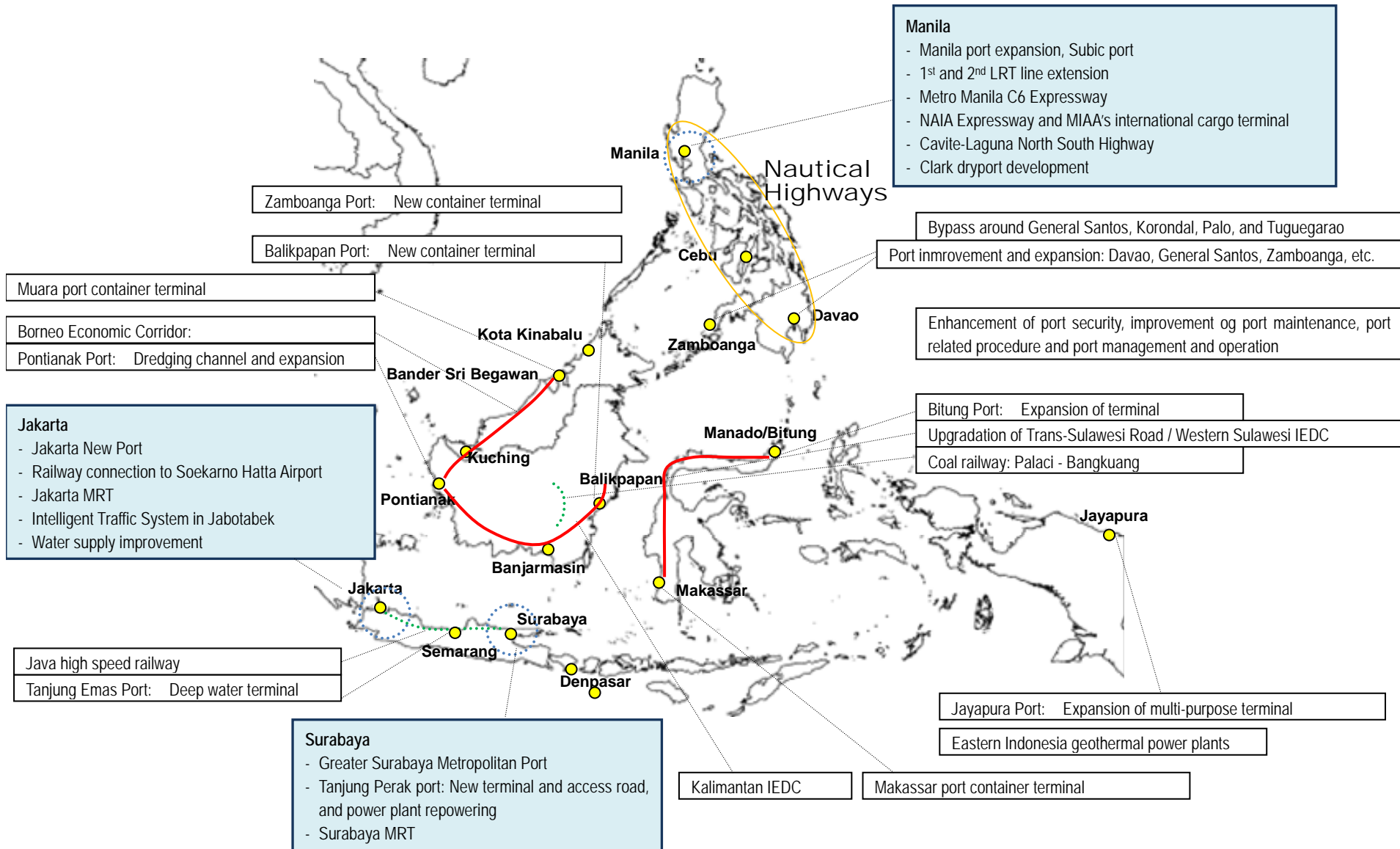
Selected prospective projects in Mekong sub-region



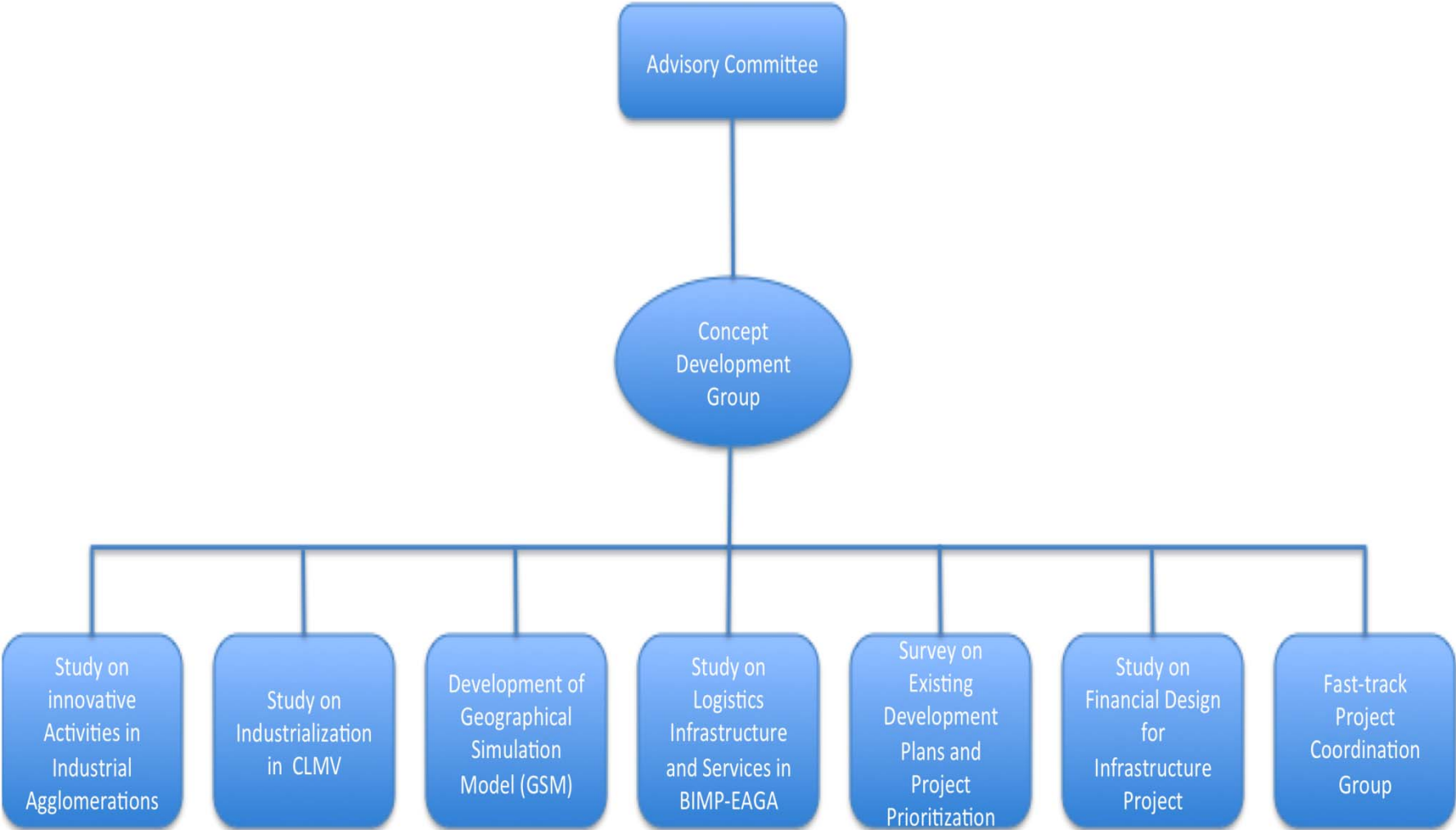
Selected prospective projects in IMT+ sub-region



Selected prospective projects in BIMP+ sub-region



Annexes: reports of supporting studies



THANK YOU VERY MUCH.