

EXECUTIVE SUMMARY

The Economic Research Institute for ASEAN and East Asia (ERIA) has conducted a series of research projects to aid the formulation of the Comprehensive Asia Development Plan (CADP), in response to the request from the leaders of the East Asia Summit, as “a coherent master plan, which would contribute to coordinating, expediting, upgrading, and expanding sub-regional initiatives and promoting private participation”¹.

East Asia has been leading the world in sustained economic growth for the past three decades. The strength of the East Asian economies has resided in the unprecedented development of international production networks. After demonstrating strong recoveries from two massive economic crises and further upgrading of its combined economy, East Asia has now truly become the “Factory of the World.”

However, East Asia is now facing a big challenge. On the one hand, economic forces in the globalizing era require an even higher level of *de jure* and *de facto* economic integration than before. On the other hand, East Asia consists of countries and regions widely different in their development stages, with diversified historical, cultural, and political backgrounds. How to reconcile two objectives, i.e., deepening economic integration and narrowing development gaps, is an urgent issue for policy discussion in East Asia, and this is exactly what the CADP intends to address.

1. Conceptual framework of the CADP

The CADP provides a grand spatial design of economic infrastructure and industrial placement in ASEAN and East Asia, and aims to pursue both deepening economic integration and narrowing development gaps. Chapter 1 presents our novel conceptual framework, based on new waves of international trade theory: the extended fragmentation theory and new economic geography.

For example, the machinery industry, one of the most important driving forces of East Asian economies, typically consists of a number of production processes with different factor intensities. The fragmentation theory argues that firms can reduce the total cost of production by fragmenting their production process into several production

¹ “The Joint Press Statement of the East Asia Summit on the Global Economic and Financial Crisis” issued on June 3, 2009.

blocks and by relocating some of the production blocks to places where they can make the best use of location advantages. Therefore, the existence of various regions in terms of production conditions such as the wage level is one of the necessary conditions for fragmentation to happen. That is, the diversity of East Asia in terms of the level of economic development can be turned into a source of economic dynamism by facilitating fragmentation. In addition, service link costs, the cost of linking separately located production blocks, need to be low enough not to discourage fragmentation. Recent efforts to deepen *de jure* economic integration in East Asia have contributed to reducing service link costs and thereby to further expanding international production networks in the region.

However, lower trade cost does not automatically result in the dispersion of economic activities. Rather, according to the new economic geography theory, a reduction in trade cost generates two countervailing forces: agglomeration forces and dispersion forces. Agglomeration forces attract more and more economic activities into clusters. External economies of scale within geographical boundaries are generated in agglomerations due to vertical inter-firm production linkages for assemblers and parts and components producers, proximity to market for final goods producers, wholesalers, and retailers, and easy access to physical and human capital by all firms. On the other hand, dispersion forces make some economic activities move from agglomerations to peripheries. As agglomerations become bigger, congestion occurs in the form of wage hikes, land price surges, traffic jams, and pollution problems so that certain categories of economic activities start considering moving out of agglomerations. Differences in location advantages, such as low labor costs in peripheries, would provide more incentive for firms to relocate their production sites.

Controlling these two countervailing forces properly is the key for pursuing both deepening economic integration and narrowing development gaps. To achieve this goal, policies to enhance location advantages, which would work supplementary to a reduction in service link costs, are often required in order to attract economic activities to countries/regions at lower stages of development.

2. Assessment of the current East Asian economies

Chapter 2 presents quantitative evidence of the superior features, as well as uneven development, of international production networks in East Asia. International production networks in East Asia have become the most advanced and sophisticated in

the world and have been the source of dynamism for 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.

Some argue that international production networks can be the channels through which a negative macro shock in a country quickly spreads to other countries, as we observed in the recent global financial crisis. This argument is largely true, but this does not undermine the significance of international production networks. International production networks are resilient to such shocks and indeed did contribute to the quick recovery of East Asian economies after the global financial crisis.

The mechanics of fragmentation and agglomeration should be more aggressively utilized to further expand international production networks in order to pursue both deeper economic integration and narrower development gaps. Logistics and economic infrastructure is often the key in activating private dynamism for this purpose.

3. Three tiers of development strategies

Chapter 3 presents comprehensive development strategies, focusing on the development of logistics and economic infrastructure, for 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.

Infrastructure development is essential to the development strategy for Tier 1. Industrial agglomeration requires a spatial structure suitable for just-in-time systems, with highway networks, large-scale logistics infrastructure such as ports and airports, massive supply of electricity, energy, and water, and dispersed accommodation for workers. Furthermore, infrastructure development which favors the growth of a vigorous innovative society is also required. Favorable urban amenities as well as a basis for efficient industry must be realized in the metropolitan area. There need therefore to be an urban transport system, modern residential areas, measures to deal with pollution problems, a system of reproduction of human capital including universities, laboratories, and others, in order for highly-educated people to live in the

area.

Tier 2 includes countries/regions that intend to participate in production networks. Countries/regions that do not participate in quick and high-frequency production networks can utilize the mechanics of fragmentation to attract manufacturing activities. Taking advantage of fragmentation is actually the quickest way to initiate and promote industrialization in East Asia. Infrastructure development for Tier 2 should be concentrated on solving bottlenecks to attracting production blocks. Differences in development stages naturally generate certain location advantages such as the availability of low-cost unskilled labor and the access to some specific resources. Therefore, by removing bottlenecks, the threshold for participation in production networks can be cleared.

Tier 3 covers countries or regions that are located far from urban centers and often, but not necessarily, have small population size. In the case of ASEAN, mountainous areas in the Mekong region, islands in East Indonesia and the Southern Philippines, and others fall into this tier. For these areas, the traditional view has taken static comparative advantage for granted and has often recommended the development of primary industries conditional on the existing status of logistics infrastructure. Such a conservative view, however, does not lead to a break-through in the vicious cycle of small-scale logistics and retarded industrial development. Although these countries/regions may not attract quick high-frequency production networks in the short run, we can provide new perspectives for industrial development by ensuring reliable middle to long-distance logistics connection.

Three sub-regions, the Mekong, IMT+, and BIMP+, and the concept of industrial/economic corridors are presented in order to link three tiers with active interactions and feedbacks in the overall spatial structure of ASEAN and East Asia.

4. Economic assessment of the CADP: The Geographical Simulation Model

As discussed above, the CADP aims to provide a grand spatial design of economic infrastructure and industrial placement, with the claim that we can pursue both deepening economic integration and narrowing development gaps at the same time. The Geographical Simulation Model (IDE/ERIA-GSM), sharing common theoretical underpinnings with the CADP, can be a powerful device for verifying the claims of the CADP by quantifying the economic impacts of transport/logistics infrastructure development.

Key implications from the simulation analyses presented in Chapter 4 are as follows. First, both the direct and indirect effects of transport/logistics infrastructure development on industrialization and economic growth are enormous. Infrastructure development will indeed remove bottlenecks existing in the region and enable a wide range of regions at different stages of development to achieve strong economic growth. Second, further economic integration derived from transport/logistics infrastructure development will not expand or even reduce development gaps. Dispersion effects tending to relocate economic activities from core to periphery seem to be strong. Third, the economic effects of a single economic corridor can be either positive or negative across countries or provinces. To achieve balanced economic development, multiple economic corridors should be constructed at the same time, and various policy measures supplementary to transport/logistics infrastructure development should be implemented.

5. Financial project design and public-private partnership

Public-private partnership (PPP) is regarded as a key for infrastructure development. However, the economic rationale for PPP has not yet been well established, and thus the discussion over PPP is often confused. Chapter 5 argues the economic logic of PPP in infrastructure development, based on the public economics theory and presents basic elements and operational structures of PPP in a consistent logical framework. The chapter also provides perspectives for East Asian PPP in our vibrant East Asian economies.

6. Prospective Projects for Logistics and Economic Infrastructure

Development of physical infrastructure is one of the necessary conditions for realizing the CADP scenario of pursuing deeper economic integration and narrower development gaps. Infrastructure projects are usually formulated by national governments, donor countries' agencies including international development banks, and private companies. Chapter 6 presents a compiled list of prospective projects for logistics and economic infrastructure development, based on publicly available information. In addition, we classify prospective infrastructure projects in terms of sub-regions (Mekong, BIMP+, and IMT+), the three tiers of development, and their

priority in accordance with the conceptual framework of the CADP. The number of projects in the list is 695, and the estimated costs amount to US\$ 390 billion.

In parallel with the CADP, ERIA conducted the “Pre-F/S Pilot Project” as an individual project commissioned by the Government of Japan. The purpose of the project is (i) to encourage and accelerate the implementation of infrastructure projects in East Asia by conducting pre-feasibility studies for selected projects, (ii) to promote public-private partnership (PPP) for infrastructure development in East Asia by providing model cases, and (iii) to provide useful inputs to the CADP.