CHAPTER

1

Overview: Japanese Perspectives on Industrial Development and the Concept of Translative Adaptation

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1. Introduction

It is widely acknowledged that industrialization is key to structural transformation of economies. Dani Rodrik states that the manufacturing sector is 'the quintessential escalator for developing countries' (Rodrik 2016, 3). As witnessed among East Asian development experiences including in Japan, manufacturing has played an important role in generating inclusive and sustainable growth and achieving economic catch-up. This is why national leaders in many developing countries have embraced catch-up aspirations through industrialization. Avoiding middle-income traps, overcoming premature de-industrialization,[2] and achieving economic transformation in Africa are typical examples of a priority development agenda.

Furthermore, due to the advance of globalization and digital transformation along with the age of the Sustainable Development Goals (SDGs), the scope of industrial development has been widening in the twenty-first century (Aiginger and Rodrik 2020; Otsubo and Otchia 2020). There are diverse paths to industrialization including information and communication technology (ICT) and green industries (Altenburg and Assmann 2017; Aiginger and Rodrik 2020), 'servicification' of manufacturing (manufacturing-related services) (Helble and Shepherd 2019), 'industrialization of freshness' (Cramer and Sender 2019), and

[1] The author is grateful to Mr. Mitsuya Araki, Chief Editor of the International Development Journal, for his providing valuable information and insights of Japanese postwar development experiences.

[2] Dani Rodrik (2016) observes that there is a significant trend toward premature deindustrialization in developing countries and emerging economies in recent decades. Except for East Asia, the shares of industrial output and employment fall prematurely at levels of per capita income much lower than those at which developed economies started to deindustrialize.

'leapfrog' development. This implies that today the term 'industrial policy' can be applied more broadly (Stiglitz and Greenwald 2014; Otsubo and Otchia 2020) and that there is an even bigger potential to create productive and decent jobs, stimulate innovation, and enhance productivity across sectors. But, to make it a reality, developing countries need to enhance their policy capability (Ohno 2013b) and design and implement industrial policies adapted to today's interdependent and connected world, while taking account of country-specific conditions.

Industrial policy has been one of the most debated issues among academics. However, in recent years views have converged, and the nature of debates has shifted from theoretical and ideological controversies to the practical aspects of industrial policy. Now, the main question is *how* to apply industrial policy and *what* instruments to select, rather than *whether* to engage in it (Rodrik 2008; Lutkenhorst 2018). Nevertheless, there are limited studies that analyze practical aspects of industrial policies from developing countries' perspectives, especially how to formulate and implement them in ways that are country-specific and tailored to the current global context.

For two reasons, we believe that Japan can make useful intellectual contributions to the industrialization of developing countries by sharing its experiences of catch-up and development cooperation. First, Japan is the first non-Western industrializer, as the experiences of Meiji modernization and post-World War II economic development show. Based on the country's experiences, Japanese researchers, practitioners, and private sector have fostered distinctive perspectives and approaches to industrial development (Ohno 2013a). These include: (i) the importance of learning, selective adopting, and adapting advanced technologies and knowledge to Japanese culture and systems (*translative adaptation*); and (ii) real-sector concern with concrete thinking, field (*gemba*) orientation, and close partnership between government and the private sector, as were observed in its industrial policies. Second, such perspectives have been strongly reflected in Japanese industrial development cooperation. Japanese researchers and aid practitioners have been deeply engaged in supporting the industrialization of developing countries for many decades, including through intellectual cooperation. Particularly, the support to industrial policy formulation and implementation is the area where relatively few donors possess experience offering intellectual support.

As traditional development challenges continue while the new shape of industrial development is emerging, it is important to revisit the Japanese perspectives on industrial policy and its experiences offering policy support for industrial development in order to draw implications for today's developing countries. These could be also useful to the international development community supporting their endeavor.

As an overview of the entire report, this chapter introduces key concepts and the Japanese perspectives on industrial development and policy support. It is structured as follows. Section 2 reviews debates over industrial policy and points out recent converging views on the need to give attention to practical aspects of industrial policymaking. Section 3 discusses the importance of local learning in the process of industrialization by introducing the concept of *translative adaptation*, terminology used by Japanese anthropologist Keiji Maegawa (1994, 1998, 2000). Section 4 introduces Japanese perspectives on industrial development and development cooperation, fostered through its own catch-up experiences. Section 5 presents Japanese policy support for industrial development as one of the options for its intellectual cooperation. It then introduces the development thinking and policy engagement of two prominent intellectual leaders—Saburo Okita (1914-93), architect of Japan's postwar economic reconstruction program as planner and economist, and Shigeru Ishikawa (1918-2014), Japanese development economist known for the theory of underdevelopment of the market economy. The final section summarizes the remaining chapters.

2. Why Industrial Policy Now?

Despite the general recognition of the importance of industrial development, there have been protracted debates over the justification for and usefulness of industrial policy over the past decades. The debates were largely ideological, divided by two extreme views between proponents of the free market versus government-led economic development.

According to Stiglitz and Greenwald, who are proponents of industrial policy, this policy can be defined as 'any set of policies designed to encourage particular sectors or technologies' and 'any policy redirecting an economy's sectoral allocation where market incentives are misaligned with public objectives' (Stiglitz and Greenwald 2014, 22, 378). Lutkenhorst also defines industrial policy as 'deliberate measures taken by governments

to drive structural change in a desired direction' (Lutkenhorst 2018, 53). More recently, Aiginger and Rodrik (2020) discuss the broadening scope of industrial policy, including future- and welfare-oriented perspectives to address social and environmental challenges. Taking account of these definitions as well as extensive literature reviews conducted by Warwick (2013) and UNCTAD (2016),[3] we define industrial policy broadly as any type of intervention or government policy that attempts to improve the business environment or alter the structure of economic activity toward sectors, technologies, or tasks that are expected to offer better prospects for economic growth or societal welfare than would occur in the absence of such intervention.

Consistent with this definition, industrial policies can be classified into horizontal (or functional) and vertical (or selective) policies. The former aims at improving the general business environment and promoting specific activities across sectors, while the latter aims at propelling specific activities or sectors (UNCTAD 2016). Compared to horizontal industrial policy where fewer disagreements are observed, vertical industrial policy has often been a point of controversy as more interventionist. Nevertheless, in reality we find that distinction between functional and selective industrial policies are less relevant than the literature suggests. As Salazar-Xirinachs et al. (2014, 20) note, when applied practically 'even the most "general" policy measures favor some sectors over others.'

2.1. Evolution of industrial policy debates

For a long time, the World Bank and the International Monetary Fund (IMF) have been regarded as the advocates of neo-classical economic ideology, which are cautious about the government's role in industrial development. They assume that the government failures are more risky than the market failures and that the market mechanisms (if functioning) would emancipate the power of the private sector and promote industrial development. Therefore, the 1980s and 1990s saw aggressive implementation of structural adjustment operations in developing countries by the World Bank and the IMF. Based on a minimalist approach

[3] Also see Otsubo and Otchia (2020) for literature reviews on industrial policy debates. They summarize three streams of research: (i) studies on the definition, instruments, and the rational, and country experiences; (ii) studies on new and emerging issues related to industrial development; and (iii) those on industrial policy evaluation (in terms of evaluation methodologies and their application).

to the role of government in industrialization, these operations urged the governments in developing countries to implement privatization, de-regulation, and trade and financial sector liberalization.

However, these views—so called 'the Washington Consensus'—were challenged by various scholars. Among others, Amsden, Wade, and Chang argue that the neo-classical approach cannot explain the actual development outcome of East Asia where industrial policy has been accepted and practiced for long (Amsden 1989; Wade 1990; Chang 2002; Ohno 2013b). Chang also notes that not only high-performing economies of East Asia such as South Korea and Taiwan, but also many of the advanced countries including the original 'late comers' such as Germany, Japan, and even the United States historically adopted industrial policy, and that today's developing countries should be given more policy space for industrial catch-up (Chang 2002). Shigeru Ishikawa also argued forcefully that the Washington Consensus did not acknowledge the possibility of underdeveloped market economies prevalent in low-income developing countries, and that this was why structural adjustment operations were less successful in Sub-Saharan Africa than East Asia (Ishikawa 1991, 1996; see also section 6.2).

At the urge of the Japanese government, the World Bank published a report on *The East Asian Miracle* (World Bank 1993). While recognizing the need for selective intervention policies implemented by the governments of high performing economies in East Asia (Japan, South Korea, and Taiwan), the report cautiously concluded that it was difficult to apply these policies in developing countries with poor institutional capacity and that developing countries should focus on policies that get basic conditions right, in combination with export promotion policies (Ohno 2013a).

While the World Bank maintained this stance for some time, the latest decade has seen notable changes in industrial policy debates. By the late 1990s, ideological debates over the two extremes—free market versus state-led growth—appeared to have faded away. When Joseph Stiglitz assumed the position of Chief Economist of the World Bank (1997-2000), he stressed the important role of the government and warned against excessive globalization. Justin Lin, who also served as Chief Economist (2008-12), proposed the theory of new structural economics, regarding industrial policy as an instrument for structural transformation of the

economy (Lin 2011). Furthermore, the global financial crisis in 2008 highlighted the risks of excessive reliance on market mechanisms and financial liberalization, and reminded us of the role of public policies in ensuring sustainable and inclusive development. The recent COVID-19 pandemic also confirms the importance of industry as a provider of essential supplies and secure workplaces.

2.2. From theoretical debates to practice

As of now, the focus of the debates has shifted from ideological and theoretical aspects to practice (Rodrik 2008). The main issue of interest has moved from the question of '*if* to engage in industrial policy to *how* to apply it and what instruments to select' (Lutkenhorst 2018, 53). Compared to earlier debates around the potentials and the perils of industrial policy, today's discourse focuses more on the appropriateness of different methodologies as exemplified in Lin and Chang (2009).

In fact, leading economists have proposed various methodologies for industrial promotion, such as growth diagnostics (or the 'HRV' model named after the Harvard professors who pioneered it, Hausmann, Rodrik, and Velasco), and the Growth Identification and Facilitation Framework (GIF, as proposed by Lin). Additional various terminology has been employed such as learning, industrial, and technology policies (LIT) (Norman and Stiglitz 2015) and Technology and Innovation Policy (TIP) (Cherif and Hasanov 2019) to soften the negative image associated with industrial policy.[4] Other scholars such as Kenichi Ohno recommend proactive industrial policies and urge the governments of latecomer countries to enhance their policy capabilities through the step-by-step learning of international practices from comparative perspectives (Ohno 2013b).

For example, growth diagnostics is a systematic decision-tree methodology for undertaking country diagnosis and identifying the most binding constraints to growth (Hausmann et al. 2005). This focus on a limited number of key binding constraints to growth specific to each country is a major departure from the traditional approach of directing the Washington

[4] It is interesting to note that the recent IMF working paper discusses industrial policy, using the terminology Technology and Innovation Policy (TIP) and even phrasing it as True Industrial Policy (Cherif and Hasanov 2019).

Consensus-style reforms in all countries. Yet, growth diagnostics has several weaknesses. First, it is driven by economic analysis, with limited attention to the political feasibility of proposed measures. Its prime concern is to identify '*what should be done*' to initiate growth—against international standards or best practices as benchmarks—rather than '*what can be done*' given the existing political and institutional constraints. Second, even if country-specific constraints are identified by this methodology (for example, bad infrastructure, low human capital, low domestic saving, property rights), they remain too general to be informative. Such findings may not be necessarily new to policymakers in developing countries. Consequently, growth diagnostics may not serve as practical guidelines for the formulation of country-specific growth strategies, leaving the task to the self-discovery of individual countries (Felipe and Usui 2008; Ohno and Ohno 2013).

Lin proposes GIF as a method to identify any latent comparative advantage industries and support their growth. GIF is based on his theory of new structural economics, and its conceptual basis is rooted in historical experience. Lin argues that in the catching-up stage, successful countries in general have targeted the industries in countries with a similar endowment structure and somewhat higher per capita income (Lin 2017)—typically, with a per capita income not much higher than twice the level of the country at hand. But, there are also views that GIF is too mechanical to be practically applied in actual industrial policy making (Ohno 2013b).

On this point, there are well-known Lin-Chang debates over GIF. While both are strong proponents of industrial policies, Ha-Joon Chang challenges Lin, by presenting a somewhat different interpretation of 'comparative advantage.' He contends that confining the policy scope to the extrapolation of past heritage (trends) is too narrow to accelerate technological upgrades or structural transformation. He argues that in order to catch up in income and technology, a latecomer country must create new comparative advantages, not just follow obvious ones. In this way, 'Lin cautions against careless choice of industries while Chang stresses creativity and risk-taking in policymaking' (Ohno 2013b, 35).

2.3. *Reality on the ground—rising interest in industrial policy by developing countries*

In reality, many countries beyond East Asia are increasingly interested in industrial development and even prioritized it in respective development strategies. In Africa, the African Union (AU) proclaimed that 'No country or region in the world has achieved prosperity and a decent socio-industrial life for its citizens without the development of a robust industrial sector' (AU et al. 2008, 1). The Strategy for the Implementation of the Plan of Action for the Accelerated Industrial Development of Africa (AIDA), formulated by the AU in collaboration with the United Nations Industrial Development Organization (UNIDO) and the United Nations Economic Commissions for Africa (UNECA), is a typical example of this endeavor. Moreover, *The African Union Agenda 2063: The Africa We Want* (Agenda 2063) shows the continent's aspiration for becoming a prosperous Africa, based on inclusive growth and sustainable development (AU 2013). Regarding economic transformation as one of the priority goals, *The Agenda 2063* emphasizes the importance of sustainable and inclusive growth, STI-driven manufacturing/ industrialization and value addition, and economic diversification and resilience. It also proposes regional industrialization hubs linked to the global value chains (AU 2013).

Ethiopia is a notable case in this regard. Although it is one of poorest countries in Sub-Saharan Africa, Ethiopia has sustained an economic growth of 10 per cent on average over the recent decade. The government has placed high priority on structural transformation and made conscious policy efforts in promoting industrialization. Arkebe Oqubay, senior policymaker and economist in Ethiopia, in his book *Made in Africa* (Oqubay 2015), analyzes how the Ethiopian government proactively designed and implemented industrial policy in three sectors (cement, floriculture, and leather footwear and apparel) through trial and error, giving attention to sector-specific details such as industrial structure, role of industry associations, and global value chains.

Now that many countries have been interested in industrial policy, the key question becomes the right way to develop it (Cherif and Hasanov 2019). So, the main issue is on the practical aspects of industrial policy, namely, its process and policy content. These include: (i) the process of setting industrial vision and strategies, and formulating and implementing policy measures; and (ii) the policy content, such as priority industries, a

mix of vertical and horizontal policy measures and their sequencing, and institutional arrangements, based on the deep understanding of the actual situation in the private sector. The debate on the proper role of government, for example, cannot be resolved in the theoretical realm alone because theory and practice are intertwined. For example, if there exist effective channels of public-private partnership, government and private firms can come to trust each other and constantly share information on global and domestic situations as well as strengths and weaknesses of local industries (Ohno 2013b, 34). Under such circumstance, government and the private sector can collaborate toward 'creating winners' for development under a shared industrial vision instead of 'picking winners' directed by the government (UNCTAD 2016). Many industrial policies have failed not due to the lack of theoretical justification but largely because of crude and inappropriate application. What the governments of developing countries need is 'hands-on instruction on how to design and execute concrete policies rather than a theoretical debate on the justification or desirability of industrial policy' (Ohno 2013b, xi-xii).

2.4. Contemporary issues on industrial policy

The landscape of industrial development has become much more complex in the globalized world of the twenty-first century. Three mega trends are particularly worth noting (see also Chapter 10). The first is the expansion of global value chains (GVCs). The advances in communication technology and reduced logistic costs have enabled the fragmentation and geographic dispersion of individual segments of a production process while still allowing for sufficient control and coordination (Baldwin 2011; AfDB et al. 2014). This fragmentation provides opportunities for developing countries to participate in GVCs without nurturing a full-set of national industries in key sectors (Baldwin 2011) or outside the 'Flying Geese pattern' of regional production networks.

Second, the digital revolution is changing the shape of industrialization. Digital technology is transforming the process of manufacturing, enhancing efficiency and connectivity of various industrial activities through Internet of Things (IoT), and driving innovation. It also contributes to creating new businesses, typically the modern service sectors with high productivity such as ICT, financial services, and business services. As a result, manufacturing and the other sectors are becoming interdependent and mutually reinforcing (Helble and Shepherd 2019). Digital technology

also enables the emergence of start-ups, which may lead to 'leapfrog' development.

Third, there is an increased focus on societal and environmental challenges, as well as the private sector's role in providing innovative solutions for sustainable and inclusive development in the age of the Sustainable Development Goals (SDGs). Unlike the Millennium Development Goals (MDGs) which focused on poverty reduction, the SDGs include the goals related to industry, innovation, and economic growth, emphasizing such values as inclusiveness and environmental sustainability. The SDGs also regard the private sector as a key actor in achieving 17 goals through the provision of business solutions for global challenges. This global trend could importantly affect the structure of overall economic activity toward inclusive and sustainable industrialization. In this regard, Aiginger and Rodrik (2020) suggest the greening of industrial policy and new forms of industrial policy steered by employment concerns.

The COVID-19 pandemic which broke out in early 2020 has strengthened a case for inclusive, sustainable, and resilient industrial development toward 'building back better' recovery. The COVID-19 crisis has also provided an opportunity to consider the role of industrial policy from economic security perspectives in both advanced and developing countries.

These mega trends suggest that developing countries today have enhanced opportunities to industrialize, through GVC participation, the creation of leapfrog technologies, and new business models emphasizing sustainability. At the same time, they face significant challenges. In a world of GVCs, global competition is becoming even more fierce. Also, as lead firms come to occupy a key role in determining the nature of global production networks, it becomes all the more important to upgrade the capacity of host governments to deliberately exercise GVC-oriented industrial policies (Gereffi and Sturgeon 2013). These could cover such measures as the targeted attraction of foreign direct investment (FDI) and foreign buyers, local enterprise capacity building, technology transfer (including linkage development between FDI and local enterprises), efficient logistics, and industrial human resource development (JICA and GRIPS 2016). Furthermore, to make best use of digital technologies and facilitate GVC participation, skill development among the workforce and the future generation is absolutely necessary. It is important to build

effective education and training systems suitable for the digital age (World bank 2016).

For these reasons, we argue that there is a strengthened case for industrial policy in today's developing countries. As Cimoli et al. (2009, 542) state, 'more interdependent economies are likely to require more and more sophisticated measures of policy intervention by the weaker economies.' It is all the more important and necessary for developing countries to enhance their policy capability, by learning the practical aspects of industrial policymaking.

3. Methodology Matters: Learning and Translative Adaptation in Industrial Policymaking

Once the need for industrial policy is accepted in today's context, we should focus on its practical aspects, namely: (i) setting vision and strategic direction; (ii) designing industrial policy instruments; and (iii) establishing a proper process of industrial policymaking. The first two aspects require an analysis of the international environment surrounding a particular country, an understanding of peculiar features of its society and economy, as well as an analysis and elucidation of the conditions newly facing the country at that point in time. This is how the Japanese government designed its postwar economic recovery program right after the World War II (1945-46) (see Section 4), as well as its industrial policy for the high-growth era of the 1960-70s (see Chapter 4). It also applies to the Chinese Communist Party's decision to adopt and implement its open-door reform policy in the late 1970s (Lin and Zhang 2019). The third aspect requires effective channels of public-private partnership, as explained earlier. It is important to 'design a setting in which private and public actors come together to solve problems in the productive sphere, each side learning about the opportunities and constraints faced by the other' (Rodrik 2004, 3).

These underscore the need for developing countries to build an internal mechanism that continuously absorbs external knowledge and adapts to the local context, so that they can design and implement country-owned development strategies (i.e. industrial policy). We should give more attention to how to develop the government's capacity for industrial policymaking, as well as private sector's response capacity, instead of using capacity constraints as an excuse for denying industrial policy.

Here, we would like to introduce the concept of *translative adaptation* and highlight the importance of building mechanisms that facilitate local learning.

3.1. Translative adaptation as dynamic interaction between foreign and local systems

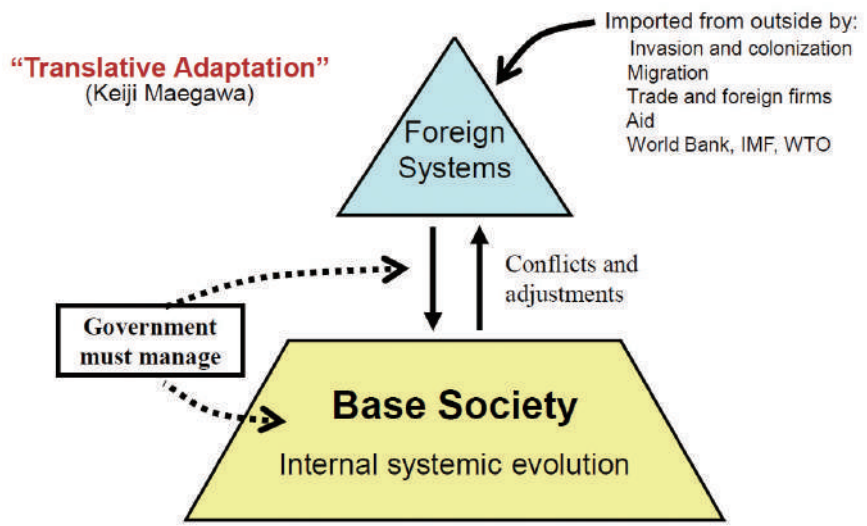
Translative adaptation is the concept presented by Keiji Maegawa, Japanese economic anthropologist. It refers to the process of systemic merger and the resultant dynamic interaction between a dominant foreign system and a local society. As cited below, it is about the adaptive acceptance of advanced systems and new culture by latecomer countries—often introduced from abroad through foreign aid and globalization—in the process of modernization. In this process, dynamic interaction between foreign and local systems takes place, where foreign elements would be reinterpreted and adjusted to the existing value structure and local institutions (Maegawa 1994, 1998, 2000).

> [M]any nations and societies have adopted Western institutions and objects from without in order to survive (or by their own choice). However, it is important to recognize that they did not accept Western inventions in their original forms. Any item in one culture will change its meaning when transplanted to another culture, as seen widely in ethnography around the world. [...] The essence of what has been called 'modernization' is the adaptive acceptance of Western civilization under the persistent form of the existing culture. That is, actors in the existing system have adapted to the new system by reinterpreting each element of Western culture (i.e., 'civilization') in their own value structure, modifying yet maintaining the existing institutions. I shall call this 'translative adaptation.' (Maegawa 1994, English translation pp.174-75; underline by the author)

It is important to note that translative adaptation attaches high importance to indigenous perspectives and local learning. Development is an interactive process incorporating both 'foreign' and 'indigenous' elements (Iwasaki 1996; Ohno 2000). On the one hand, latecomer countries face the need to acquire the 'foreign' elements—such as modern technology,

knowledge, and organizational structure—in such forms as aid, trade, and investment by the private sector. On the other hand, each country has 'indigenous' elements—such as values and social institutions unique to that country—that regulate and determine the effectiveness of imported items because the 'economy is embedded in society' (Polanyi 1944, 57). It is often the case that a dominant foreign system imposes its norms and rules on a local society and that the latter may be forced to accept them in the face of external pressure. Nevertheless, there are examples, such as in Meiji Japan, where policymakers successfully managed the development process by selectively adopting foreign elements while retaining the basic structure of the indigenous society. In Japanese, we describe such an attempt as *Wakon Yozai* (Japanese sprit with Western learning).

Shigeru Ishikawa, a Japanese development economist, presents a similar perspective in his research without using the term 'translative.' Ishikawa stresses the importance of understanding the initial conditions within respective developing countries, including the stages of market development, and suggests the need to foster the will and capability within these countries to 'adapt' policy prescriptions advised by foreign donors to local reality (Ishikawa 1991). He emphasizes the critical role of the government in this undertaking. The perspectives of Maegawa and Ishikawa are illustrated in Figure 1.1.



Source: Adapted from Figure 1.2 in Kenichi Ohno (1998), p.14.

Figure 1.1. Development Process as Systemic Interaction

3.2. Importance of indigenous learning

Stiglitz stresses knowledge as the most important source of growth, with reference to the seminal works by Robert Solow and Kenneth Arrow. As *Creating a Learning Society* (Stiglitz and Greenwald 2014) stresses, development entails learning how to learn. What separates developed from developing countries is not just a gap in resources, but a gap in knowledge. About learning, Stiglitz emphasizes two points: (i) the importance of indigenous learning; and (ii) the role of industrial policy to promote the learning process and create a learning society. He argues that industrial policies are not about picking winners but about correcting market failures in general, and creating a learning society in particular (Stiglitz and Greenwald 2014).

First, the acquisition and diffusion of knowledge must be done via indigenous learning through society-wide efforts. This is because '[a] critical aspect of "learning" is that it takes place locally and must adapt to local differences in culture and economic practice' (Stiglitz and Greenwald 2014, 375). Therefore, 'learning' prescriptions that work in some environments will not work in others (Stiglitz and Greenwald 2014). Second, manufacturing typically has greater learning spillovers than other sectors, and this is why industrial policy can be justified for promoting indigenous learning. Stiglitz emphasizes the vital role of industrial policy in creating a learning society. In this regard, he is critical about The Washington Consensus policies, derived from excessive reliance on the neoclassical model, because they paid no attention to learning. In focusing exclusively on static efficiency, these policies may have actually resulted in growth and standards of living that were lower than they otherwise would have been. Stiglitz concludes that the dynamic nature and effects of learning can outweigh short-term static losses in efficiency. These perspectives are clearly articulated as follows:

> [A]ll countries have an industrial policy, but the industrial policy which is chosen by developed countries is chosen to advance their own economies, or special interests in their own economy. Even if it were easy to borrow their ideas from the developed countries, or special interests in their own economies and even if it is possible to design industrial policies that enhance the flow of knowledge from developed to developing countries, strengthening cross-border flows

> of knowledge should not be the only focus of developing country industrial policy. [...] This highlights a difference between developed and developing countries, and a reason why it is important that developing countries have their own innovation policies and an industrial policy which promotes indigenous learning. (Stiglitz and Greenwald 2014, 377; underline by the author)

Such an indigenous learning process is a key element of Maegawa's translative adaptation (Maegawa 1994, 1998, 2000). Knowledge relevant to human capital accumulation cannot be bought off-the-shelf because improvement requires internalization of foreign knowledge by local residents (Ohno 2000).[5] International best practices—whether they are a Technical and Vocational Education and Training (TVET) system or a quality and productivity improvement approach (*Kaizen*)—have little impact unless they are effectively put to use in the local context. For example, Chakroun (2010) and Steiner-Khamsi (2006, 2014) express concern about policy borrowing and lending, as merely transferring policies from one political system to another, in the context of vocational education and training (VET) reforms. They attach greater importance on policy learning, putting strong emphasis on the development of national capacities to lead the design and implementation of reforms, by the act of local adaptation, modification, or reframing of an imported reform.

These discussions have important implications for the approach to development cooperation. Development cooperation must be provided in such a way as to facilitate the learning process by recipient partners. Donors should duly recognize that '[t]here is no "best practice" that any country can adopt that will guarantee success' (Oqubay and Ohno 2019, 3). They should have a deep understanding of uniqueness of respective partner countries and provide tailor-made advice in the process of knowledge and technology transfer. This goes beyond just sharing the best practice 'off-the-shelf' between donors and partner countries. There is a need to establish the deeper intellectual partnerships through interactive

[5] Andrew, Pritchett, and Woolcock (2017) also argue that merely transplanting a best practice model is counterproductive to state capacity building, by using the concept of 'isomorphic mimicry' (which is 'looks like' substitutes for 'does'). In the context of development cooperation, this refers to the situation where developing countries are encouraged to conform the agenda set by the international community and adopt global best practice whether or not they are adapted to the local context.

dialogue.

Here, we would like to emphasize the critical importance of country ownership on policy ideas and content. Respecting country ownership has been a central agenda among the international aid community as an effort to enhance aid effectiveness (OECD 2005). However, there are cases where donors expect that ownership is a political commitment by recipient countries to donor preferences (Fraser and Whitfield 2008). We argue that this is not the case. True ownership should mean the capacity of a developing country to choose from alternative policy prescriptions. When a country decides to rely on external advice or foreign models, policy makers must conduct a thorough assessment of alternatives and carefully adapt the policy content and sequencing to the country-specific context in the design and implementation stage (Ohno and Ohno 2008).

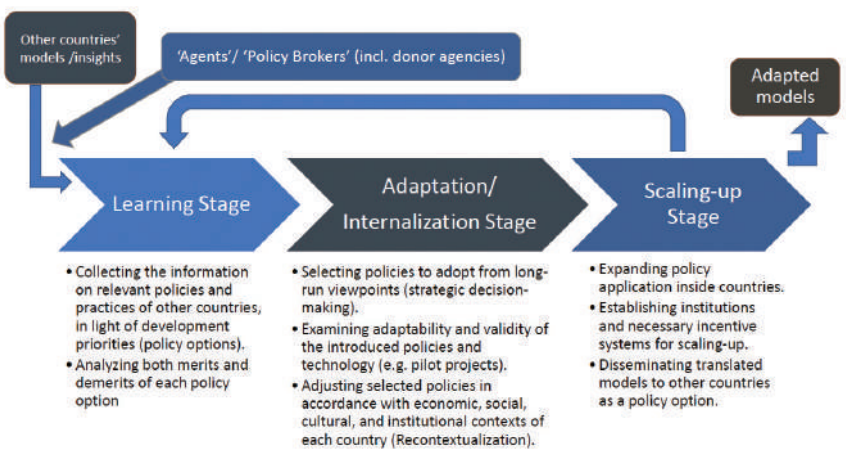
3.3. Three-stages of technology transfer and learning

Then, a key question is what are the conditions and mechanism that enable a latecomer country to absorb foreign elements effectively without losing the local value structure, and how can the country in question learn appropriate methods and procedures for merging domestic and foreign elements. Here, we argue that the detailed analysis of the process of translative adaptation and learning is needed, especially concerning: (i) how developing countries can acquire capabilities of indigenous learning; and (ii) how external partners, such as donor agencies, can facilitate and promote indigenous learning of developing countries.

In this regard, Kikuchi (2011) introduces a useful framework for understanding the process of technology transfer from advanced to developing countries. For developing countries, this can be regarded as the process of indigenous learning and adaptation of foreign technology, both soft and hard. Kikuchi's framework involves a three-staged process of technology transfer, based on the Japanese postwar experience of learning production management technology (which later was called *Kaizen*) from the United States and Europe and diffusing it after localization. These stages are: (i) learning new technology from advanced countries; (ii) examining the adaptability and validity of the introduced technology in Japan; and (iii) diffusing the technology at full-scale.

While focusing on the stages of learning specific technologies, Kikuchi's

framework can be applied to the policy learning process. Figure 1.2 shows our proposed three-stages that enable translative adaptation and local learning of industrial policymaking and implementation, building on Kikuchi's framework and the aforementioned views articulated in the existing literature (Stone 2001; Steiner-Khamisi 2006, 2014; Chakroun 2010). More specifically, the government is expected to: (i) collect the information on relevant policies and practices from other countries and analyze the merits and demerits of each policy option (learning stage); (ii) select what policies to adopt, examine the adaptability of the introduced policies, and adapt them to its own country-context (adaptation/ internalization stage); and expand policy application nationwide and if successful, even disseminate these experiences to other countries as a policy option (scaling-up stage).



Source: Adapted from Junichi Mori's presentation at the 31st JASID Conference (Dec.6, 2020), which is based on Kikuchi (2011), Stone (2001), Steiner Khamsi (2006, 2014), and Chakroun (2010).

Figure 1.2. Three-stage Process of Policy Learning and Translative Adaptation

In fact, successful cases of Japanese industrial development cooperation can be analyzed using this framework. The Productivity Development Project in Singapore (1983-90) and the Quality and Productivity Improvement Project in Ethiopia (so called *Kaizen* project, 2009-present), supported by the Japan International Cooperation Agency (JICA), are good examples. Over many years JICA has assisted in enhancing firm capability in developing countries by transferring Japanese methods for

quality and productivity improvement. Both Singapore and Ethiopia received JICA support to introduce *Kaizen*. However, these countries took initiatives to modify and adapt the Japanese methods to their country-specific circumstances rather than simply copying them.[6] The Technology Promotion Association (Thailand-Japan) (TPA), a non-profit organization (NPO) that supports industrial human resource development, is another brilliant example. TPA was established in 1973 to promote industrial development in Thailand, at the initiative of Thai students who graduated from Japanese universities and ex-trainees of the Association for Overseas Technical Cooperation and Sustainable Partnerships (AOTS). TPA has developed in four stages: (i) 'technology transfer': learning from Japanese experts; (ii) 'technology promotion': nurturing Thai experts while reducing dependence on Japanese experts; (iii) 'technology diffusion': building the capacity of local companies through training and consulting activities; and (iv) 'technology education': the establishment of Thai-Nichi Institute of Technology (TNI) as a university specialized in Japanese-style manufacturing by the Thai people for the Thai people (Ohno 2017).[7]

3.4. Learning and translative adaptation in industrial policymaking

In sum, in the context of development, translative adaptation can be understood as the process of global integration by a latecomer country while maintaining strong country ownership over policy content, institutions, technology choices, social systems, and values. It is also the process of industrial catch up—acquiring foreign knowledge and technology, adapting to country-specific circumstances, scaling up, and eventually institutionalizing them.

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[6] For details, see Volume II (quality and productivity improvement) of this research project (Jin and Ohno 2022) regarding the Singaporean and African experiences of introducing *Kaizen*. *Kaizen* is a Japanese management approach of continuous improvement to achieve enhanced quality and productivity. It was originally developed during the postwar period in Japan, where it supported the high growth of the Japanese manufacturing sector. It is a participatory approach that places importance on human resource development. (JICA website: https://www.jica.go.jp/english/news/field/2018/180625_01.html.)

[7] Additional information on TPA was provided by the presentation by Hiroyuki Yoneda, former Executive Director of Japan-Thailand Economic Cooperation Society (JTECS), 'JTECS-TPA-TNI model: Introducing a successful case of Japanese technical cooperation,' July 2016 as part of the Research Project 'Building Strategic Network with Asian Human Resources Familiar with Japanese *Monozukuri*,' supported by Asia Pacific Research Institute (APIR).

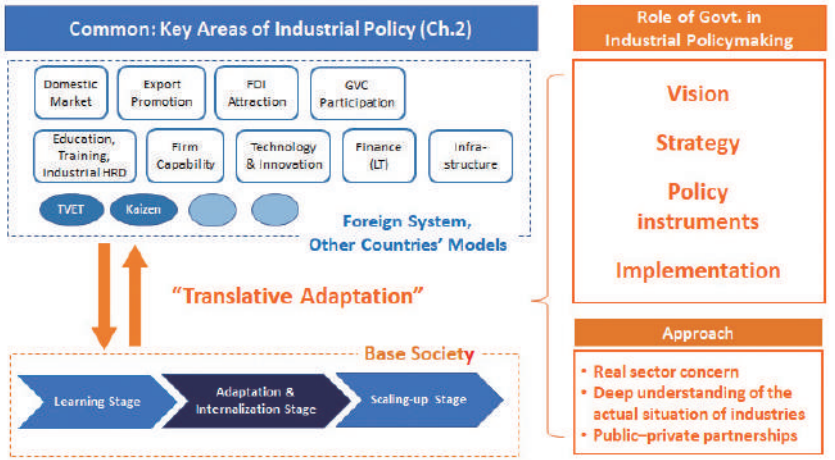
As the above discussions suggest, translative adaptation does not naturally occur as a result of market mechanisms. To succeed, the process must be managed with careful deliberation and trial and error. Mindsets and institutions that facilitate a smooth systemic merger must be designed and installed. The government has a critical role to play in establishing the systemic aspect of learning—as a learner (policy learning) and a facilitator of learning by the private sector (technology learning)—with a thorough understanding of each country's situation and surrounding external environment (Oqubay and Ohno 2019).

The key ingredients of translative adaptation and effective local learning can be summarized as follows. The first three points are those that developing countries must be mindful of, while the last is for donors who are urged to rethink their role in development cooperation.

- Attention to the uniqueness of each country and society by understanding country-specific circumstances (e.g., resource endowments, stages of development, social structure, and values), and envisioning and designing diverse paths to development;
- Country ownership that promotes the proactive role of government (policy learning) and private sector development (technology learning);
- Process orientation with room for trial and error to establish systems that properly correspond to the stages of learning, adaptation and internalization, and scaling-up; and
- Rethinking the role of development cooperation, giving due consideration to the above three aspects to facilitate translative adaptation and effective learning of partner countries.

Figure 1.3 provides a framework for considering the translative adaptation and local learning process in the context of industrial policymaking.

Provided that industrialization is a national goal, the government is expected to assume three roles when designing and implementing industrial policies: (i) presenting overall vision and strategic direction of the country's industrialization; (ii) designing and implementing policy instruments; and (iii) establishing a proper process of industrial policy formulation and implementation, through close partnership with the private sector. The industrial vision determines strategic direction and priorities, and specific policy instruments are prepared and applied either



Source: Elaborated by the author.

Figure 1.3. Translative Adaptation in Industrial Policymaking

horizontally across industrial sectors or vertically for selected sectors.

First, there are nine areas of industrial policy: (i) education, training, and industrial human resource development; (ii) firm capability, (iii) technology and innovation; (iv) finance; (v) infrastructure; (vi) domestic markets; (vii) export promotion; (viii) FDI attraction; and (ix) GVC participation. As analyzed in Chapter 2, foreign experts and donors generally accept and recommend these areas as key components of industrial policy packages for developing countries.[8] In each area, relevant policy instruments can be designed (for example, TVET, *Kaizen*, or industrial zones). If applied across sectors, they can serve as horizontal industrial policies. If targeted at selected sectors or industries, they can function as vertical industrial policies.

Second, it is often the case that developing countries receive advice from foreign experts and donors on these industrial policy instruments or a broader policy package. Some of them may be models copied from advanced countries or emerging economies. Here, it is important to ensure that the introduction of knowledge, technology, and institutions based on

[8] See Chapter 2, which discusses types of industrial policies, key areas, and the process of their formulation and implementation, based on the existing literature (such as Crespi et. al 2014; Andreoni 2017; Ohno 2013b).

foreign advice be accompanied by the process of indigenous learning with translative adaptation in respective countries. This requires an internal mechanism within a country that absorbs foreign knowledge and adapts to the local context and scaling-up, as indicated by Figure 1.2 of three-stage process of policy learning. While such a process of indigenous learning should take place in both the public and private sectors, the government's role is critical in supporting the learning of the private sector, especially in the early stage of development where the private sector is often weak.

Third, it should be noted that in the case of a latecomer, the government itself is learning industrial policymaking. Although Meiji Japan is often hailed as a successful case of industrial catch-up, leaders there made many mistakes and corrected them through trial and error, until they finally developed and concretized their nationally-owned industrialization vision (see Chapter 5). Furthermore, to be effective in setting industrialization vision, strategies, and specific policy instruments, the governments of developing countries must possess strong interest in the real economy, deep knowledge of the actual situation of industries, and mechanisms for communicating with the private sector. The experiences during the Japanese postwar economic reconstruction and high-growth eras clearly show how economic technocrats at that time worked proactively in all these aspects and supported national leaders (see Section 5 and Chapter 4).

Bearing these points in mind, in the remaining chapters of this volume, we analyze diverse country cases of industrial policies in terms of their scope, method for policy formulation and implementation, and learning experiences. We also present examples of Japanese industrial policy support as a possible way to facilitate local learning and translative adaptation in developing countries.

4. Revisiting Japanese Experiences of Industrial Development and Development Cooperation

In this section, we examine key features of the Japanese approach to industrial development and development cooperation from a comparative perspective suggested by Yanagihara (1998). We also discuss diverse approaches to development cooperation among donors and consider their implications for the learning and translative adaptation processes by partner countries.

4.1. Framework vs. ingredients approach to economic development

Yanagihara makes an interesting comparison between the Japanese and Western approaches to economic development (Yanagihara 1998). According to him, there are two contrasting ways of understanding and analyzing economic development. One focuses on the 'framework' of an economic system and its management; the other focuses on an economy as the sum total of its 'ingredients' or component parts. The 'framework' represents rules of the game according to which economic agents make decisions and take action in a given economy. In contrast, the 'ingredients' approach refers to tangible organizational units such as firms, official bureaus, and industrial projects and their aggregations such as industries, sectors, and regions. The ingredients approach conceives of the economy as a collection of these components. It takes a deep interest in how individual players are doing in the field and the outcome of each game. As general tendency, the 'framework' approach is prevalent in Western (especially Anglo-Saxon) donors, while the 'ingredients' approach is more common in Japan and East Asia (Ohno 2013a, 146).

It is possible to draw an analogy between the two contrasting approaches and the debates over industrial policy. The 'framework' approach supports a small government, limiting its role to the regulatory framework for the market mechanism, while the 'ingredients' approach supports a more proactive role of the government, giving attention to key sectors and actors within the economy. These differences are typically observed in industrial policy debates as explained in the previous section.

The Japanese approach to industrial development is unique in its real sector concern, where project details and concrete methods matter. Japanese development cooperation exhibits a profound interest in individual sectors and concrete projects at *gemba*—a place where real action takes place such as factories and crop fields. While the Western or Anglo-Saxon approach, as typically exhibited by the World Bank, the UK, and the US, has a strong focus on overall fairness and the improvement of the investment climate such as Ease of Doing Business (Ohno 2013), Japanese development cooperation tends to pay greater attention to technology, labor cost and quality, demand trends, product mixes, industrial structure, marketing and logistics efficiency, and the like, in the concrete context of targeted sectors and regions. Training factory workers for *Kaizen* (Japanese-style

quality and productivity improvement), laying out capital equipment efficiently, and matching crop species with particular soil are among things that are seriously discussed (Ohno and Ohno 2013; Ohno 2013a).

Certainly, Japan's approach to development cooperation shares many commonalities with the Western approach. Both approaches are necessary, and they are complementary and mutually reinforcing. Nevertheless, as a matter of emphasis, the Western donors tend to focus on the policy and institutional framework, such as market functions, principles of government interventions and budgets and public investment, empowerment and participation monitoring, administrative efficiency, and accountability. Japan is more interested in the real sector, with attention to the abilities and problems of individual firms in the private sector that play a key role in the market economy, the structure economy, as well as human, technological, production, and logistical details of individual industrial sectors and regions in recipient countries (Ohno 2013a). Let us think about a football game. To realize a fair game, clearly defined rules and referees facilitating a level-playing field must be put in place. At the same time, individual players must be coached in a tailor-made way so as to maximize their talents. The two approaches are complementary.

4.2. Normative vs. hands-on approach in development cooperation

Another perspective which distinguishes Japan from other donors is their practical approach to development cooperation. Broadly speaking, the practice of development cooperation can be classified in two ways. One is a normative approach and the other is a hands-on approach. The former focuses on advising international best practices formed in developed counties as norms (Steiner-Khamsi 2014). This approach sets benchmarks and ranks developing countries against them. For example, the Doing Business Indicators and the Worldwide Governance Indicators extract desirable attributes of business-friendly government and governance from the Western best practices.[9] While Growth Diagnostics, which look for unique binding constraints to growth in each country, may be an important departure from the Washington Consensus approach, its logic

[9] See the World Bank's websites: https://www.doingbusiness.org/en/doingbusiness, https://info.worldbank.org/governance/wgi/.

tree still tries to find a country's weakness against international norms.

The latter, hands-on approach emphasizes field-orientation and joint work side-by-side with developing country counterparts so they can learn skills and technology through on-the-job training (OJT). This approach allows for real-sector pragmatism, more flexibility, and easier adaptation to the local context. The hands-on approach supports step-by-step learning among the counterparts, by solving specific problems toward achieving concrete goals, for example building a large industrial zone with deep seaports, raising car production to 1 million units per year, producing a certain number of ICT engineers, etc. It is in sharp contrast to the 'Doing Business' or 'Good Governance' approach that try to improve the business climate or governance scores generally with no specific goals.

The advantage of a normative approach is the provision of context-free 'explicit knowledge' (Nonaka and Takeuchi 1995).[10] Policymakers in developing countries may feel easier and are quicker to learn standardized solutions or best practices 'off-the-shelf.' On the other hand, a hands-on approach stresses the sharing of context-specific 'tacit knowledge' (Nonaka and Takeuchi 1995) with counterparts through joint work and interactive communications on the ground. While the practices and experiences of advanced countries may be explained to the counterparts for reference, they are not presented as packaged solutions. The counterparts are encouraged to develop their own policies or systems, based on a concrete assessment of the local context. In other words, this approach values the policy learning process of counterparts over the delivery of ready-made answers.

4.3. Dynamic capacity development as a way to facilitate translative adaptation

Real-sector concern (the 'ingredients' approach), field-orientation, and joint work (the 'hands-on' approach) are inter-related features of Japanese development cooperation. This development cooperation approach supports dynamic capacity development of partner countries by

[10] Explicit knowledge is oriented toward a context-free theory, while tacit knowledge is created in a specific, practical context. The latter is related to the type of knowledge unique to Japan and the East. Sharing tacit knowledge between individuals is an analog communication process that requires 'simultaneous processing' of the complexities of issues shared by all individuals. See Nonaka and Takeuchi (1995) for the details.

facilitating the process of learning and translative adaptation. By contrast, the normative approach runs the risk of encouraging policy borrowing as it offers off-the-shelf packaged solutions as international standards (Chakroun 2010; Steiner-Khamsi 2006, 2014).

Field-orientation and joint work provide ample opportunities for government leaders and policy makers to interact and formulate policies over an extended period. Backed by the knowledge of country-specific contexts from ground perspectives, these help to establish concrete goals that are both desirable and feasible for each country. Instead of comparing countries across the board to rank them, or finding weaknesses in individual countries relative to global norms, the dynamic capacity development approach tries to identify possible future paths unique to each country. Concrete action plans are prepared to realize such growth potentials that may designate specific industries or areas to be developed, or a time-bound plan to build human capital, power, transport, and telecommunication networks that are needed to develop them (Ohno 2013a, 156).

Nevertheless, we should also recognize constraints of the dynamic capacity development approach. This approach demands much patience and persistence from counterparts because they are encouraged to find their own tailor-made solutions through joint work with foreign experts. Learning tacit knowledge from foreigners usually takes more time compared to learning well-documented explicit knowledge. Moreover, foreign donors must be equally patient. If donor agencies demand only quick results, foreign experts and consultants may not be motivated to adopt this approach. Another prerequisite is strong policy ownership. If counterparts are not willing to go through intensive policy learning processes, this approach will fail.

4.4. Relevance of East Asian development experience—from a translative adaptation perspective

Replicability of the East Asian development model is one of the frequently asked questions by policymakers and researchers in developing countries (Newfarmer et al. 2019; Lutkenhorst 2018). It is generally understood that East Asian economic success is attributable to an export-led, manufacturing-centered development model. This is a development model based on regional production networks among economies with

different levels of industrialization ranging from labor-intensive to capital or knowledge-intensive manufacturing (the Flying Geese pattern of development). As discussed earlier, in a contemporary world, developing countries can consider industrial policy options more broadly, with attention to interplays among the ongoing mega trends. If so, are East Asian (including Japanese) development experiences still useful and/or relevant to developing countries today?

Our answer to this question is affirmative, for two reasons. First, what matters most is the methodology for industrial policy formulation and implementation and the capacity for local learning, rather than the replicability of a particular development model. While the Flying Geese pattern of development yielded effective results in East Asia in the late twentieth century, this should not be considered a 'one-size-fits-all' policy for industrial development. Translative adaptation requires that 'any policy must be crafted and executed in the context of a particular age, society, and international environment' (Ohno 2013b, 25). Stiglitz also argues that 'deconstructing' the success of the export-led manufacturing model is essential for developing new strategies of structural transformation.[11]

Second, as the cases of Malaysia, Brazil, and Chile show (Chapters 2 and 3), even in the previous century, industrial policies were applied not only in the manufacturing sector, but also in non-traditional agriculture or fishery sectors. There are diverse paths to industrial development which do not rely narrowly on manufacturing.

On this point, the key message of a Japanese official policy study can also be cited (JBIC and JICA 2008). This was The Report of the Stocktaking Work on the Economic Development in Africa and the Asian Growth Experience, published in 2008 for African countries and the international community at the occasion of the Fourth Tokyo International Conference for African Development (TICAD IV). The report stresses the diversity of industrial development strategies adopted in Asian countries, with reference to cases for natural resource-rich countries (Indonesia, Malaysia), resource-poor countries (Thailand), and ICT development as a new comparative advantage (India).

[11] Remarks made by Joseph Stiglitz at the side event 'Quality Growth in Africa: Towards Sustainable and Resilient Development' for the Seventh Tokyo International Conference on African Development (TICAD 7) held in Yokohama on August 29, 2019.

> While sharing these commonalities [stated above], the Asian experience of industrialization also exhibits substantial diversity depending on time and place. Each country adopted an industrialization strategy tailored to the economic environment at the time and corresponding to its own comparative advantage. (JBIC and JICA 2008, 6)

5. Development Policy Support: An Approach to Facilitate Translative Adaptation

Development policy support is one type of Japanese intellectual cooperation through which they provide hands-on policy advice on the priority development agendas of partner countries. It is often implemented in combination with policy dialogue with national leaders and key policymakers to share relevant knowledge in an interactive way. Development policy support is not one-time advice, but rather usually lasts over a few to several years. Its scope varies depending on the needs and requests from partner countries, but in most cases, industrial development is included as a key priority area (see Table 1.1). The objective and nature of development policy support differ according to the prevailing situation of the country, ranging from the formulation and implementation of development (or industrial) policies to systemic transition to the market economy, emergency crisis response, and others. As shown in Chapters 6-9, such development policy support and policy dialogue, if properly conducted, can facilitate local learning by policymakers in developing countries who are keen to acquire foreign knowledge and technologies with strong policy ownership.

5.1. Development policy support with policy dialogue: a Japanese way

Starting with Argentina in the mid-1980s, Japan has conducted development policy support and dialogue with many partner countries. It usually starts with a national leader of a developing country requesting Japan to discuss development strategy generally and/or teach and transfer the experiences of East Asian development.

The first large-scale development policy support mission was led by Saburo Okita, an architect of the Japanese postwar economic recovery program, who later served as a diplomat and development policy advisor

in many countries including China's open door reform policy in the late 1970s/early 80s, in cooperation with JICA. JICA mobilized many academics and aid consultants to work with Okita, who gave diagnosis and recommendations to the Argentine government, which faced a serious economic crisis in the late 1970s through 1985. The final 'Okita Report' also included information on the Japanese postwar economic miracle (see Chapter 6). Subsequently, in countries such as Vietnam, Indonesia, Laos, and Myanmar, JICA mobilized a large number of academics, business leaders, and aid consultants to identify and study key issues, and offer policy advice. In Vietnam, Shigeru Ishikawa, a prominent development economist with profound knowledge on the Chinese experience of transition to a market economy, led a series of joint research and policy advisory services at the request by the Vietnamese top leader for six years, in a project commonly known as the 'Ishikawa Project' (see Chapter 7). More recently, industrial policy dialogue between Japan and Ethiopia has been implemented since 2008 at the request of Ethiopian Prime Minister Meles Zenawi, who had a strong interest in East Asian development experiences (see Chapter 8).

In Thailand, in the aftermath of the 1997 Asian financial crisis, JICA dispatched Shiro Mizutani, a senior official of the Ministry of International Trade and Industry (MITI, currently, Ministry of Economy, Trade and Industry (METI)), to conduct a series of dialogues with Thai policymakers including the Minister of Finance and the Minister of Industry (see Chapter 9). Mizutani's advisory work was supported and followed up by many other Japanese experts. Japanese support gave strong attention to real sectors and gave concrete advice on the recovery of the real economy, which included the SME development plan (the 'Mizutani Plan'). While the IMF and the World Bank also extended emergency financial support, they primarily focused on financial and fiscal stabilization. Thailand is Japan's long-standing industrial partner, and two economies are closely linked through trade, investment, and economic cooperation including ODA. This industrial policy support to Thailand was provided in close partnership with Japanese enterprises. Due to its crisis-response nature, the duration of advisory work was relatively short compared to other Japanese policy support programs. Even so, it laid an important foundation for the subsequent industrial development of Thailand.

5.2. Comparison of Japanese development policy support with other donor practices

As Table 1.1 shows, Japanese (JICA-supported) development policy support is diverse in terms of scope and sectors, duration, participants, frequency, and so on. Some of them are led by policymakers, while others are conducted by Japanese academics and/or joint teams consisting of various experts and consultants. Nevertheless, there are several commonalities among them.[12]

First, Japanese development policy support is designed and implemented in a given context of particular partner countries, which differ significantly by the development stage of the market economy, internal and external circumstances, and their governments' policy capacity. Because of this customized approach, there is no standardized method, and even mobilized aid schemes depend on individual cases. JICA, the main implementing agency, has no aid scheme category for policy support or policy dialogue per se, and the modality best fit for each occasion is employed. The coverage and focus may change, subject to shifting priorities and interests of partner countries. While Ethiopia-Japan policy dialogue focuses on industrial development (Chapter 8), the Okita Report in Argentina (Chapter 6) and the Ishikawa Project in Vietnam (Chapter 7) dealt with broader topics including macroeconomics and agriculture. Most of the cases include elements of policy dialogue and joint research, but emphases vary depending on what a partner country wants and what the Japanese team (in particular, its leader) perceives as an effective way to respond. Joint research was central to the Ishikawa Project, while extensive policy dialogue with national leaders has been a key feature of the Ethiopia-Japan intellectual cooperation. In the case of Thailand's Mizutani Plan (Chapter 9), action-oriented policy advice and a quick follow-up by Japanese industrial cooperation were emphasized in the aftermath of the financial crisis, rather than policy dialogue from a long-term perspective.

[12] In addition to large-scale development policy support listed in Table 1.1, JICA dispatches a number of long-term policy advisors from various sectors to the governments of developing countries. Hashimoto (2007) compiled reports that documented their actual experiences. The perspectives and approaches to economic development in these reports largely match those discussed in Section 3.

Table 1.1. Japan's Development Policy Support to Developing Countries (Selected List)

Country	Period	Head/key players	Purpose and content
Argentina	1985-1987 1994-1996 (folllw up)	Saburo Okita (former foreign minister, IDCJ), Hirohisa Kohama (IDCJ), Akio Hosono and Kotaro Horisaka (professors), etc., JICA	Comprehensive study on agriculture & livestock farming, industry, transport and export promotion (Okita Report). The subsequent phases focused on proposing measures for strengthening economic relationship between Argentina and Japan.
Vietnam	1995-1996 1996-1998 1998-1999 (follow up) 1999-2001	Shigeru Ishikawa (professor) etc., JICA	Large-scale joint study on macroeconomy, industry, agriculture, enterprise reform, and crisis management (at the time of Asian financial crisis), etc.
Paraguay	1998-2000	Kagehide Kaku (DIR), Hidesuke Kotaajima (DIR), Akio Hosono (professor) etc., JICA	Study on economic develoment, focusing on competitiveness and export promotion (clusters & agro-industry chain, etc.)
Thailand	1999	Shiro Mizutani (former MITI official), JICA	Study on the master plan for SME promotion policy (Mizutani Plan)
Indonesia	2000	Shujiro Urata (professor), JICA	Policy recommendations for SME promotion
Myanmar	1999-2002	Konosuke Odaka (professor) etc., JICA	Study on agriculture, rural development, industry, trade, finacne, ITC, etc.
Mongolia	1998-2001	Hiroshi Ueno and Hideo Hashimoto (ex-World Bank economist and professor)	Study on the support for economic transition and development
Indonesia	2002-2004	Takashi Shiraishi, Shinji Asanuma, and Shujiro Urata (professors) etc., JICA	Economic policy support for macroeconomic management, financial sector reform, SME promotion, private investment promoton, democratization, decentralization and human resource development
Laos	2000-2005	Yonosuke Hara (professor) etc., JICA	Study on macroeconomy, finance, state enterprise, FDI and poverty reduction, etc.
Vietnam	2000-present	Japanese embassy, JICA, JETRO, JBIC	Bilateral joint initiative to improve business environment and strengthen cometitiveness through 2-year monitoring cycle of action plans
Ethiopia	2009-2011 2012-2016 2017-present	GRIPS Development Forum (Kenichi Ohno, Izumi Ohno), Japanese embassy, JICA	Bilateral industrial policy dialogue. Method for policy formulation & organizational arrangements, *Kaizen* , basic metals & engineering, productivity movement, export & investment promotion. The 3rd phase is underway

Country	Period	Head/key players	Purpose and content
Myanmar	2012-2015	Konosuke Odaka, Shigeru Matsushima, Toshihiro Kudo (professors), METI, JICA	Support to economic reform program, covering economy & finance; trade, investment & SME support; and agriculture & rural development.
Laos	2019-2020	Toshiro Nishizawa, Terukazu Suruga, Takuji Kinkyo, Kazue Demachi, Fumiharu Mieno (professors), MOF, JICA	Joint policy research and dialogue program for fiscal stabilization. Fiscal & debt management, resource export management, balance of payments, financial system development.

Source: Aurthor's research based on JICA information.

Abbreviation: DIR (Daiwa Institute of Research, GRIPS (National Graduate Institute for Policy Studies), IDCJ (International Development Center of Japan), JBIC (Japan Bank for International Cooperation), JETRO (Japan External Trade Organization), JICA (Japan International Cooperation Agency), METI (Ministry of Economy, Trade and Industry), SME (small and medium enterprises), MOF (Ministry of Finance).

Note: This table lists policy dialogues that are large-scale or worthy of special attention. Besides there, Japan offers policy advice through dispatching advisors to heads of state or ministers, expert dispatches, drafting reports on development strategy, training courses and site visits, conferences and seminars, etc. in various scale and duration.

Second, the Japanese approach differs from normal technical assistance with narrowly prescribed terms of reference or a standardized policy matrix, which was typically found in the structural adjustment operations supported by the World Bank during the late 1980s to the 1990s.[13] It is also unlike knowledge sharing seminars and study tours organized by an advanced country's donors to publicize its past achievements. Japan's development policy support cites and draws upon concrete cases in countries most appropriate for the problem at hand, including those in middle- and low-income countries around the globe, not just Japanese experiences which are usually too complex or special for most latecomer countries to digest and practice.

Third, Japan's development policy support is unique in that it aims to strengthen the state's role and policy capacity in assisting industrialization rather than reducing the scope of government intervention. Moreover, its content is largely real-sector oriented. While Western donors and

[13] The Ishikawa Project clearly separated donor policy advice from financial support. Unlike the case of the World Bank's structural adjustment operations, it had no policy conditionalities. Recalling his advice to the Vietnamese authority in market transition, he stressed that such an approach contributed to building mutual trust between Japanese and Vietnamese researchers and policymakers (Ishikawa 2005).

international organizations also conduct 'policy dialogue,' their topics tend to be less industrial and more focused on macroeconomic, legal, social, or governance issues. Even when industrial subjects are discussed, they are usually cross-sectoral problems such as ICT, globalization, green growth, and enterprise reform rather than sector-specific targeting or planning. Korea also offers large-scale policy cooperation to developing countries called the Knowledge Sharing Program (KSP), and industrial development is one of the topics supported by KSP. The approach taken by KSP is far broader and more standardized than Japanese policy support.

6. Fathers of Development Policy Support and Policy Dialogue: Development Thinking and Practices of Saburo Okita and Shigeru Ishikawa

There are two distinguished economists—Saburo Okita and Shigeru Ishikawa—who made valuable contributions to articulating the Japanese perspective on economic development and establishing the foundation for Japanese-style policy dialogues with developing countries. During the latter part of their professional lives, Okita and Ishikawa both spent considerable time and energy advising developing countries on strategies for economic development. They also shared similar perspectives on economic development of latecomer countries, such as attention to country-specific initial conditions, emphasis on productive sectors in general and industrial development in particular, the importance of having a long-term perspective, and the critical role of government. They did much to shape the Japanese development thinking and approach to development cooperation. This section introduces their economic thoughts and engagement in policy dialogues with developing countries.

6.1. Saburo Okita

Saburo Okita is a well-known official economist and planner who designed the Japanese postwar economic reconstruction program in the late 1940s and subsequently led the formulation of the medium- and long-term economic plans during the high-growth era from inside the government.[14] Later, he served as the President of the Overseas Economic

[14] Immediately after World War II, Okita was associated with the Ministry of Foreign Affairs Research Bureau charged with the postwar economic reconstruction program, then worked at the Economic Stabilization Board. From 1954 to 1960, he was at the Economic Planning Agency (EPA), responsible for the first to fifth White Paper on the

Cooperation Fund (OECF, 1973-77) and the Minister of Foreign Affairs (1978-80) when he became closely engaged in North-South relations. After retiring from his official positions, Okita further expanded his scope of advice to and policy dialogues with developing countries through numerous international forums as well as bilateral policy discussions to share Japanese experiences of economic development. Economic policy advice to Argentina, which produced a report widely known as the Okita Report, was a pioneer work in Japan's intellectual cooperation in developing countries (see Chapter 6 for details).

6.1.1. Designing the postwar economic reconstruction program and development strategy

Okita made notable contributions to postwar reconstruction of the Japanese economy through three approaches.[15] First, he organized the Postwar Problem Study Group immediately after the end of World War II by inviting prominent officials and scholars, which led to the establishment of the Special Survey Committee of the Ministry of Foreign Affairs and the compilation of a seminal report *The Basic Problems of Japan's Economic Reconstruction* (hereinafter, the 'Basic Problems' report) in 1946 (MOFA 1946).[16] The report analyzed the conditions of the war-damaged Japanese economy and outlined a reconstruction strategy based on heavy industries, with a view to Japan's participation in the international trade system. It also served as a counterproposal to the General Headquarters Supreme Commander for the Allied Powers (GHQ/SCP), which occupied Japan from 1945 to 1952 and initially opposed to a full recovery of heavy industries in Japan to prevent the country from regaining military power.

Second, he was engaged in developing a policy proposal called 'the Priority Production System' at the Coal Subcommittee, which was a private advisory group of Prime Minister Shigeru Yoshida, chaired by Professor Hiromi Arisawa of the University of Tokyo. At that time, coal

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Japanese Economy.

15 The three contributions were referred by Mitsuya Araki, Chief Editor of International Development Journal (the author's interview on October 29, 2019).

16 Toward the end of the war, young engineers including Saburo Okita and Yonosuke Goto knew that Japan would lose, and decided to organize study meetings to discuss post-war recovery strategies. The first meeting took place on August 16, 1945—one day after Japan's defeat. They met every week with the attendance of prominent officials and academics, with Okita and Goto serving as the secretariat. The study group was later officially recognized as MOFA's Special Survey Committee.

was the only domestical energy source produced in adequate amounts in Japan (JICA 1987). The Priority Production System, adopted in December 1946, channeled remaining scarce resources into a few priority industries (i.e., coal, iron, and steel), using them as a catalyst to kick-start the industrial sector and to rebuild the national economy as a whole. This plan was quite successful and the Japanese economy began to recover as early as in 1947.

Third, Okita designed an export promotion strategy in late 1953. Recognizing that Japan stood between advanced and developing countries in terms of development stage, it advocated a two-pronged export promotion strategy of (i) exporting capital-intensive industrial products to developing areas of East Asia; and (ii) exporting labor-intensive industrial products to advanced countries, especially the United States. He was Director General of the Economic Planning Agency (EPA) when this strategy was adopted and implemented successfully, achieving the export target of 2 billion US dollars by 1955.[17] It can be said that he already had a vision to implement the Flying Geese model of development as Japan's export promotion strategy and actually put it into practice.

The 'Basic Problems' report was a monumental work for Japan's post-war reconstruction plan (Shimomura 2020). Discussions at the Postwar Problem Study Group laid out a blueprint for this report and subsequent strategies. These documents advocated for:

- The systematic assessment of the initial conditions of the Japanese economy;
- The establishment of concrete and realistic targets, delaying improvement of people's living standards in order to accelerate investment first, and comprehensive planning;
- An emphasis on industrial development, prioritizing heavy and chemical industries as the key to postwar economic recovery;
- An outward orientation, by promoting export of industrial products through participation in the international division of labor; and
- A positive role of government in presenting long-term visions and strategies for development and coordinating actions of the private sector.

[17] Based on the author's interview with Mitsuya Araki, Chief Editor of the International Development Journal, on October 29, 2019.

Here, we can find the origin of Okita's development thinking of postwar Japan. Industrialization was considered essential to economic democratization because there was no sector for absorbing excess labor other than the industrial sector (MOFA 1946).[18] With Japan's poor resource endowment, export expansion was vital for importing raw materials for processing trade (MOFA 1946). Excess labor and resource scarcity also required the government's proactive role in economic management.

6.1.2. Sharing the experiences of Japanese economic development and engaging in dialogue with developing countries

Later in his career, Okita was actively engaged in North-South relations by sharing the Japanese developmental experience, including the Flying Geese model, at international conferences and other occasions. To support actual implementation in developing countries and thereby launch a successful model to the world, he promoted economic cooperation between Japan and countries in the Asia-Pacific region. He advised many developing countries and produced three exemplary cases of China, Thailand, and Argentina, as shown below.

Okita believed that 'Japan's development experience is a typical one of latecomers which is different from that of other developed countries' (JICA 1987, 1).[19] He argued that, as a country possessing the characteristics of both advanced and latecomer countries, Japan could understand the challenges faced by Asian countries and also provide guidance on economic development based on its own experience of industrialization.

The concept of 'Flying Geese pattern of development' was originally invented by Kaname Akamatsu in Japanese articles published in the 1930s, and presented to world academia after World War II, in English articles published in 1961 and 1962. But it was Saburo Okita who introduced the Flying Geese pattern of development to wider audiences including the political and business world.[20] The intra-regional transmission of flying geese industrialization, driven by the catching-up process through diversification and rationalization of industries, became

[18] See also Okita (1948).
[19] See Introduction of JICA 1987 (Vol. II: Japan's Experience).
[20] Based on the author's interview with Mitsuya Araki, Chief Editor of the International Development Journal, on October 29, 2019.

the leading explanation of the engine of Asian economic growth.[21] Many Asian countries were attracted to this model because it suggested the possibility of shared development in which any country, regardless of its development stage, could take advantage of a mutually supportive division of labor within the region. This model was different from the vertical division of labor between industrialized countries and resource-supplying developing countries, or between the suzerain and the colony, that inevitably generated winners and losers.

Okita was one of the first foreign experts who advised top leaders in the Chinese Communist Party, including Deng Xiaoping, when the 'open door' policy was launched in late 1978. At the request from Deputy Prime Minister Gu Mu, Okita visited Beijing from the end of January to early February 1979, gave lectures on the factors contributing to Japan's rapid growth, and exchanged views on the challenges of China's economic development. Okita presented the Japanese development model as one that is based on the Western model but with an added stronger role of government in economic planning. He also suggested the idea of special economic zones, with reference to Nagasaki's Dejima, the Dutch enclave of foreign trade in otherwise internationally isolated Japan in the Edo period, and Thailand's special economic zones (Zhang 2019).

In the 1980s, Okita supported the construction of Thailand's massive Eastern Seaboard Development Program (ESDP). The ESDP was the first forward-looking regional development plan with comprehensive infrastructure development in Thailand. To reach the next stage of industrialization, it aimed to strengthen export-oriented labor-intensive industries and create a heavy petrochemical industry utilizing natural gas in the Gulf of Thailand. There were more cautious views on the scale and scope of ESDP among donors, but the Japanese recommended building two deep-sea ports, each equipped with industrial parks,[22]

[21] This section is based on the website of GRIPS Development Form: https://www.grips.ac.jp/forum/module/prsp/FGeese.htm

[22] The World Bank was cautious about the construction of new deep-sea ports in view of Thailand's difficult fiscal situation at that time and proposed to utilize the existing naval port. Japan made a counterproposal recommending the construction of new deep-sea ports at Laem Chabang and Map Ta Put, combined with large industrial parks. Subsequently, from 1982, Japan provided wide-ranging cooperation to ESDP including grants, technical cooperation, and ODA loans. Sixteen major infrastructure projects were funded through 27 ODA loans. Even now, Okita's insights are highly appreciated by the Thai officials who were responsible for the ESDP project at that time (JBIC 1999).

based on its own development experience and also taking into account the international economic environment. After careful analysis, the Thai government adopted Japan's bolder recommendation.

Okita's engagement went far beyond the Asian-Pacific region. He led a large-scale intellectual cooperation project for Argentina in 1985-86, when the Japanese government through JICA implemented 'The Study on Economic Development of Argentina' at the request of the Argentine government (JICA 1987). This was the first systematically organized policy support to developing countries supported by JICA, where a large number of academics and consultants were mobilized. The final report, called the 'Okita Report,' covered five sectors (macroeconomy, industry, agriculture, transportation, and export), with a strong focus on industrial activation and export promotion (JICA 1987). Chapter 6 provides a detailed analysis of the characteristics of the Okita Report and underlining economic thoughts. It is worth noting that the report contains a volume on Japanese experience, which presents various types of economic planning including industrial policies, and stresses the importance of coordination between the private sector and government.

6.2. Shigeru Ishikawa

Shigeru Ishikawa, emeritus professor of Hitotsubashi University, made valuable contributions to the theory of economic development and the establishment of a policy system for international development cooperation from the Japanese perspective. His seminal book, *The Basic Issues in Development Economics* (Ishikawa 1990), building on the theory of underdeveloped market economy, represents Japanese development economics. His contributions were not limited to academia.[23] Ishikawa served as the leader on the Japanese side of 'The Joint Vietnamese-Japanese Research Project: Study on the Economic Development Policy in the Transition toward a Market-Oriented Economy in the Socialist Republic of Vietnam' (the Ishikawa Project) supported by JICA during 1995-2001. This project made a tremendous impact on developing and spreading the Japanese model of intellectual cooperation to developing countries, which was based on mutual trust and long-term perspectives

[23] During the 1980s, Ishikawa participated in the Chinese University Development Project II (1985-90) funded by the World Bank, which strengthened engineering, economics, and finance education at Chinese universities.

(see Chapter 7 for the details). After the Ishikawa Project, JICA started to implement a number of intellectual cooperation projects in Asian countries, as explained in the previous section.

6.2.1. Founding Japanese development economics

Ishikawa defines economic development as 'the realization that former colonies or underdeveloped regions maintain economic independence alongside political independence through participation in networks of international exchanges, and prepare for political and economic conditions for sustainable economic growth and development' (Ishikawa 1990, 3). He argues that development economics must address basic problems of 'economic development' unique to developing countries, giving due attention to the stage of development. Key concepts that characterize Ishikawa's theory are the concept of 'underdevelopment of the market economy,' the typology of 'development models' based on initial conditions, and the 'adaptation' of foreign knowledge and policy prescriptions to country-specific circumstances (Yanagihara 2018).

First, 'underdevelopment of the market economy' is a situation where the economy is basically made up of traditional agriculture and/or state production, and institutions that can support a market economy do not yet exist[24] (Ohno 1998). This situation is completely different from 'market failures' where the already developed market economy malfunctions due to externalities, public goods, information asymmetry, etc. Ishikawa does not support the view of neoclassical economics that structural adjustment policies (pursuit of macroeconomic stability and economic liberalization) can transform a developing country into a market economy and that the market mechanism will automatically take care of modernization and industrialization of the national economy (Ishikawa 2005).

Second, initial conditions such as the stage of development and the state of relative factor endowment (e.g., labor, land, and natural resources) do matter for the design of development policy. Ishikawa presents the typology of 'development models' including Hla Myint's Vent-for-Surplus model for sparsely populated resource-rich countries, Arthur Lewis' dual

[24] Ishikawa (1998) classifies the basic conditions for the market economy into three categories: (i) social division of labor in production; (ii) physical infrastructure for merchandise distribution; and (iii) institutions of market exchange.

sector model of rural-urban migration under industrialization for densely populated agricultural societies, and others. In either case, the dominant economic mechanism undergoes an irreversible transformation at some 'turning point,' and the government's role is to prepare the conditions for such a transformation (Ohno 1998).

Third, developing countries must foster the will and capability to 'adapt' policy prescriptions, which are often advised by such external actors as international organizations and donor countries, to the ones suitable to the initial conditions of each country. If foreign prescriptions do not match the reality of recipient countries, trial and error is necessary for adaptation on either side, or both sides, in the process of development. Developmental success depends on whether a country succeeds in this 'adaptation.' In this regard, it is important to conduct analysis of the political economy to identify the socioeconomic forces that generate the national will and capability of 'adaptation' in latecomer countries (Ishikawa 1996; Yanagihara 2018). Here, we find conceptual resemblance between Ishikawa's adaptation that should take place with the initiative of recipient countries, and Maegawa's translative adaptation.

6.2.2. The Ishikawa Project

The Ishikawa Project, officially 'The Study on the Economic Development Policy for the Transition toward a Market-Oriented Economy in Vietnam,' is a large-scale bilateral intellectual cooperation between Japan and Vietnam, which in the early 1990s was a low-income Asian country under transition to a market economy. The project was agreed upon by the two governments when former Communist Party General Secretary Do Muoi visited Tokyo in April 1995. JICA and the Vietnamese Ministry of Planning and Investment (MPI) were implementing bodies. Ishikawa was the leader on the Japanese side, and the project was implemented over six years in three phases (1995-2001) through joint research and policy dialogues. Ishikawa's development thinking such as long-term orientation, a proactive role of the government, an emphasis on the productive sector, and joint work guided the methodology and approach of the project.

Initially, the Vietnamese government identified three main tasks for itself: (i) macroeconomic stabilization; (ii) systemic transition to a market economy; and (iii) the design and implementation of long-term

development strategy. The Ishikawa Project gave the highest priority to the third task of long-term development. This was partly because the former two tasks had already been supported by the IMF and the World Bank, and also because the Vietnamese authorities had already begun responding to these challenges. But more importantly, it was because the problems faced by Vietnam were fundamentally different from those of Russia and Eastern Europe, where industrialization had been achieved to a large extent under the previous communist regimes. In Vietnam, by contrast, the economy remained seriously underdeveloped, and its main task was not systemic transition but economic development. Therefore, strong emphasis was placed on the task of long-term development and poverty reduction through industrialization. Attention was also paid to the appropriate role of government in the development process (GRIPS Development Forum 2002).

Comprehensive and thorough analyses were conducted by the joint research team, involving about 20 Japanese academic researchers and the Vietnamese counterparts coming mostly from ministries. The research identified and examined issues related to the formulation and implementation of Vietnam's long-term economic development plans and made policy proposals to address them. Task forces were organized around main research topics. Each task force provided policy options based on the deep understanding of the existing situations and constraints facing Vietnam, which were obtained through intensive field surveys and quantitative analyses. The experience of Japan and other East Asian countries, especially China, was frequently cited. The following reflections show how Ishikawa highly valued the joint work approach:

> Through this joint Vietnamese-Japanese Research, mutual trust and friendship with our counterparts were fostered. I believe we also received the trust of the leaders of Vietnam. Our research on East Asian low-income countries has been able to clarify for an underdeveloped socialist economy the process of formation of a market economy in the area of agriculture, the rural economy, and state-enterprise reform. Furthermore, it has made some progress, while incomplete, on the formation of industrial policy, including trade liberalization and attracting foreign direct investment. (Ishikawa 2005, 29)

In this way, the Ishikawa Project exemplifies Japanese development thinking, which gives great attention to the real sector, country-specific context, and long-term perspectives. It also shows the development cooperation approach that emphasizes joint work, mutual learning processes, and respecting country ownership in which foreign experts offer multiple policy options instead of dictating final answers.

7. Brief Introduction of the Remaining Chapters

The rest of this volume is divided into three parts.

Part I (Chapters 2-5) looks into the role of industrial policy in promoting learning and translative adaptation. It consists of four chapters that present diverse country experiences with the formulation and implementation of industrial policies and the process of indigenous learning during the industrial catch-up. Covering Japan, South Korea, Malaysia, Brazil, and Chile, these chapters confirm the importance of industrial policy in facilitating learning of the private sector and thereby contributing to the structural transformation of the economies. They also reveal the breadth of industrial development experiences as well as the diversity of industrial strategies and institutional arrangements covering both horizontal and vertical policies. The Japanese experiences suggest serious efforts made by government as a policy learner, with keen interest in real economy, the actual situation of industries, and partnership with the private sector.

Chapter 2 by Akio Hosono, "Industrial Policies for Learning, Innovation, and Transformation: Insights from Outstanding Experiences," discusses the typology of industrial policies and policy measures and instruments, and conducts case studies of five countries in three regions—East Asia, Southeast Asia, and Latin America—on the process of policy formulation and implementation. The purpose of this chapter is to obtain insights for an appropriate industrial policy package for today's developing countries, which face new challenges in industrialization and structural transformation. To show the broad scope of industrial policies, case studies look into steel (Japan, South Korea, and Brazil), automobiles (Japan, South Korea, and Malaysia), and four natural resource-based industries (palm oil in Malaysia, food value chain in Brazil, and forestry products and salmon industries in Chile). The chapter shows what package of instruments was adopted and how they were formulated and implemented, giving attention to country-specific circumstances as well

as sector-specific characteristics and challenges. Hosono finds that, in all cases, vertical policies were adopted in combination with horizontal policies applied across all industries. In all cases studied, the process of learning and adaptation occurred; in most cases, indigenous innovation also took place. Public-private partnership among government, firms and their associations, research institutions, and other stakeholders have been essential.

Chapter 3 by Nobuaki Hamaguchi, "Industrial Policy and Structural Transformation of Brazilian Economy," reviews the experience of Brazil's industrial policies from the past to the present and draws lessons from successful cases among them. Brazil implemented comprehensive industrial policies over a long period, including import substitution industrialization (ISI) in the 1930s-50s, the post-ISI period industrial policy that combined market-based competition with government's pro-business support, and the more recent industrial policy under the administration of President Luis Inácio Lula de Silva (2003-11). Although Brazil's industrial policies produced mixed results with both successes (e.g., soybeans, aircraft, petroleum) and failures (e.g., computer and informatic device industry), overall, they contributed to the structural transformation of the economy. Sector-specific knowledge creation, human development, and learning mechanisms were essential elements of successful industrial policies. Brazil has developed sophisticated institutions for industrial policies built on the interactions between political and operational domains. Based on high technical capabilities and pragmatism, the Brazilian Development Bank (BNDES) has played a pivotal role in the execution of industrial policies, rectifying the short-termism and risk-aversion of private financial institutions. Hamaguchi concludes that industrial policy is a relevant attempt to break through the ceiling of premature deindustrialization in the contemporary globalized market economy.

Chapter 4 by Masatake Wada, "The Role and Characteristics of Industrial Policy in Postwar Industrial Recovery and Development in Japan: Implications for Developing Countries," provides an overview of Japanese industrial policy in the postwar high-growth era. The chapter is based on the author's actual experience of planning and implementation of industrial policy as an official of the Ministry of International Trade and Industry (MITI, renamed METI in 2001) from the mid-60s to the 1980s. The chapter starts with the classification of industrial policies

adopted in postwar Japan by different objectives, such as the promotion of specific industries, industrial adjustment, the improvement of the business environment, and coping with externalities. Then it explains the mechanisms and characteristics of policy planning and implementation, which include MITI's functions, policy methods, and coordination with various stakeholders, especially the private sector and business associations. Finally, it discusses implications of the Japanese experience for today's developing countries. Wada also emphasizes the importance of combining vertical and horizontal industrial policies, and MITI's organizational structure properly addressed both. For effective industrial policy planning and implementation, the government needs to understand the actual situation of industries. MITI gained such knowledge by working closely with the private sector through various channels.

Chapter 5 by Kuniaki Amatsu, "The Learning Process for State Leaders and the Ministry of Industry in the Early Industrialization Stage: The Experience of Meiji Japan," attempts to explore why some countries succeed in industrialization and why others do not, from a perspective of state learning. He argues that if there are developing countries eager for industrial catch-up, state leaders and economic technocrats responsible for industrialization must deeply manage two issues: (i) industrial vision formulation; and (ii) policymaking practices. The vision tends to be formulated unrealistically and policymaking practices tend to be enacted from the state perspective rather than the views of industrial entrepreneurs. As industrialization progresses, those gaps will be reduced in successfully industrialized countries. That is the learning process. He then proposes an analytical framework for understanding the learning mechanism and process, and conducts a case study of Meiji Japan—namely, how state leaders at that time were engaged in proactive learning in the process of vision formulation and industrial policymaking. Among various factors critical to successful learning, he emphasizes the importance of state leaders' strong interest in industries, accumulation efforts of industrial knowledge and skills within the government, and understanding of the reality of industrial entrepreneurs, decision making based on economic rationality, and the presence of the private sector with vitality, and so on. Although the Meiji era was 150 years ago, it should be noted that there are the basics state leaders and the Ministry of Industry need to follow beyond the difference of the time and regions and to learn from the other countries.

Part II (Chapters 6-9) presents four examples of Japanese intellectual cooperation to developing countries—Latin America (Argentina and Paraguay), Vietnam, Ethiopia, and Thailand—through policy support for industrial development. These countries faced different challenges, were in different stages of development, and experienced differing economic crises, but all sought Japanese policy advice based on the Japanese experience of industrial development. The four chapters provide insights into Japanese development thinking and methods for intellectual cooperation, which emphasize the real economic sector, long-term perspectives, and the process of local learning.

Chapter 6 by Akio Hosono, "Japan's Development Policy Support in Latin America: The 'Okita Report' for Argentina and the 'Study on Economic Development of Paraguay'," presents the first large-scale development policy support by JICA, led by Saburo Okita with the participation of a large number of experts. The outcome of this cooperation is widely known as the 'Okita Report' in Argentina. Subsequently, many similar development policy support programs were carried out, and 'The Study on Economic Development of Paraguay' (widely known in Paraguay as EDEP) was one such study in Latin America where Hosono played a key role in its formulation. The Okita Report had special significance in the history of Japanese intellectual cooperation. First, it was a pioneering initiative of policy dialogue and development policy support. Second, it embodied features that were repeated in all Japanese development policy support subsequently implemented in other countries. Third, the report reflected Okita's economic thoughts, backed by his own experiences of Japanese economic development. The other report, EDEP, paid due attention to the situations specific to Paraguay and proposed a cluster of agro-industrial chain strategy, consisting mainly of agri-food chains in soybeans, cotton, maize, and other commodities as one of the major pillars of enhancing the country's competitiveness. Both the Okita Report and EDEP reflected Japanese perspectives of economic development such as real-sector concerns, long-term perspectives, and hands-on advice.

Chapter 7 by Kuniaki Amatsu, "The Ishikawa Project in Vietnam: Policy Support to Transition to a Market Economy," reviews Japan's development policy support to Vietnam, headed by Shigeru Ishikawa and implemented by JICA for six years from 1995 to 2001. The Ishikawa Project aimed at advising Vietnamese leaders' paths to systemic transition to a market economy through the formulation and implementation of

Five-Year Development Plans. Following the collapse of the Soviet Union, Russia and many East European countries undertook 'big bang' reforms to market-oriented economies with the advice of the IMF and the World Bank. On the other hand, China adopted a gradualist approach to market-oriented reforms in the late 1970s. This was the backdrop against which Vietnamese leaders sought advice from Ishikawa, who had profound knowledge of Chinese development. The Ishikawa Project adopted a joint research style in which the Vietnamese policymakers and the Japanese team worked on an equal footing. The Ishikawa Project left important footprints in the history of Japan's intellectual policy support—by adopting a scenario-oriented and policy option approach (avoiding single policy recommendations), respecting policy ownership of the Vietnamese side, giving attention to the real sector with long-term perspectives, and placing emphasis on the learning process. This project suggests the importance of addressing a relevant issue embedded in the policy support, i.e. why the recipient country needs to be offered suggestions by external actors on the domestic matter of key policymaking. A key to the success of the policy support is the recipient's readiness to listen to external voices. It also suggests the importance of building trust between donors and recipient countries in the course of policy support.

Chapter 8 by Kenichi Ohno and Izumi Ohno, "Ethiopia-Japan Industrial Policy Dialogue: Learning Eastern Methods through Intensive Discussion and Concrete Cooperation," is based on the authors' experience of ongoing bilateral industrial policy dialogue spanning more than ten years. This is Japan's first case of intellectual industrial cooperation in Africa. Under Prime Minister Meles and Prime Minister Hailemariam, Ethiopia eagerly learned from the experience and advice from East Asia. The learning proceeded under strong country ownership and policy activism, not by uncritically emulating foreign practices or fulfilling externally imposed conditionalities. Ethiopia's policy learning accelerated in 2008 when Japanese industrial cooperation began in *Kaizen*, export promotion, and other policy methods through high-level discussions, mutual visits, and third-country research. Topics of the bilateral policy dialogue evolved as learning deepened and circumstances changed, from general to specific and from learning Eastern methods to concrete application in Ethiopia. Many proposals were followed up by Ethiopian policy action and Japanese industrial cooperation. Beginning in 2018, under the Abiy government, macroeconomic crisis management and the reform of monopolistic state enterprises were emphasized, and a new economic framework

that encompassed a broader policy scope was introduced, while specific developmental actions are yet to be clarified or implemented. Ethiopia's industrialization is taking place in Africa where conditions are different from East Asia. The major difference is the absence of a leading nation and structured layers of follower nations, resulting in weak economic linkages among regional economies. The implications of this for Ethiopia's development strategy and policy learning are considered.

Chapter 9 by Minoru Yamada, "Industrial Policy Support to Thailand: Initiatives Responding to the Asian Economic Crisis and Adaptation Thereafter," reviews the Thai endeavor and Japanese support for industrial restructuring from the late 1990s to mid-2000s in response to the Asian economic crisis. JICA dispatched former MITI senior official, Shiro Mizutani, as advisor to the Minister of Finance and the Minister of Industry. He conducted a series of dialogues with Thai policymakers over six months (January-June 1999) and submitted a proposal for an SME master plan, which is widely called the 'Mizutani Plan.' A large number of Japanese experts were mobilized to support the policy advisory work and implementation of the SME master plan. Follow-up actions were taken by the Thai government, which resulted in the Master Plan by the Office of SME Promotion, deep rooted recognition of the importance of factory/enterprise evaluation (*shindan*), and the strengthening of the automotive supporting industry. Because of the crisis-response nature of the Mizutani Plan, this advisory work was short in duration unlike Vietnam's Ishikawa Project and Ethiopia's industrial policy dialogue. Nevertheless, it established an important foundation for Thai industrial deepening, especially for the development of the automotive industry. It should also be noted that nongovernmental organizations in Thailand, which had many years of economic cooperation experiences with Japan, such as TPA and TNI, played the important role in disseminating the *shindan* practice. Yamada concludes that overall, Thai stakeholders had adequate ownership and capacity to utilize the support from Japan in a balanced manner, which could be understood as the process of translative adaptation in the face of changing local and international contexts.

As the final section, Part III (Chapters 10-11) takes stock of the analyses made in the preceding chapters, reviews the changing landscape of industrial development over recent decades, and draws implications for Japanese development policy support.

Chapter 10 by Toru Homma, "Contemporary Agenda for Policy Support to Industrial Development in Developing Countries," discusses four mega trends surrounding today's industrial development, namely, globalization, digitalization, unexpected external shocks, and environmental and social responses. The expansion of GVCs, Industry 4.0, and COVID-19 responses are given as typical examples. These mega trends offer opportunities for developing countries to intensify industrialization through GVC participation and create leapfrog technologies and new social businesses. Today, as industrialization possibilities broaden, the establishment of a 'full-set' industrial base and/or the participation in East Asian 'Flying Geese' pattern are no longer prerequisites for industrialization. At the same time, developing countries must further enhance their industrial policy capacity so as to take advantage of emerging opportunities. Such capacity includes new policy menu and prioritization; greater emphasis on sustainability, inclusiveness, and resilience; speedy policymaking and implementation; and the nationally integrated approach to address complex challenges instead of separate ministerial actions. On the other hand, Homma notes that regardless of new trends, the basic nature and framework for industrial policymaking remain unchanged. These include a proper mix of horizontal and vertical industrial policies, appropriate key measures in supply/demand sides, the supportive and balanced role of government, adequate structure of policy documents and procedures, public-private participation in the process, effective interaction of policymaking and implementation, and policy learning processes. Japan needs to upgrade its industrial policy support by adding new developmental values and instruments through co-creation with developing countries on a more equal basis—learning together, solving problems together, and facilitating mutual knowledge accumulation.

Chapter 11, "The Way Forward: Industrialization Challenges and Implications for Japanese Development Policy Support" by Izumi Ohno, Hosono Akio, and Kuniaki Amatsu, summarizes the main arguments throughout this volume as the concluding chapter. Translative adaptation, local learning, and industrial policymaking are mutually related. The government of a developing country assumes a dual role as a learner of industrial policymaking, as well as a facilitator in creating a learning society through industrial policies. In both processes, translative adaptation is critical. Although many developing countries suffer from capacity constraints, learning is a dynamic and progressive process, and it is important for donors to assist in their capacity development for

learning to industrialize. In this regard, Japanese development policy support, if properly undertaken, is a promising way to enhance the government's capacity for industrial policymaking. Now that the shape of industrialization is changing and new knowledge and technologies are more readily available in a standardized format, it is all the more important for developing countries to actively and effectively learn to industrialize. Furthermore, Japan itself must adapt and innovate its approaches to this changing environment. The chapter concludes with five suggestions for development policy support: (i) the relevance and importance of Japanese perspectives on industrial development, based on the 'ingredients' approach and long-term perspective; (ii) the promotion of knowledge sharing of industrialization experiences among those countries interested, from the perspective of translative adaptation; (iii) Japan's active engagement in facilitating knowledge sharing and learning about industrialization experiences among recent industrializers and developing countries; (vi) the need to publicize and disseminate Japanese experiences of development policy support; and (v) the need to pay greater attention to the process of 'co-creation' when Japan undertakes development policy support for industrialization in the future.

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