Chapter 10

Industrial Transformation and Quality of Growth

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1. Introduction

The emphasis and priorities in international aid policy have changed significantly since the end of the Cold War. Even within the last two decades, dominant aid policy has shifted from macro-oriented structural adjustment to poverty reduction with concrete social sector targets, and subsequently to a search for a new source of growth (Ohno 2013, 1). As the *World Development Report 2013* (World Bank 2012, 87) reminds us, the conventional wisdom was then to focus on growth and assume that improved living standards will follow. This is the main tenet behind "growth strategies", "growth diagnostics", and "binding constraints analysis," all of which aim to identify and remove obstacles to economic growth. (87)

More recently, increasingly greater attention is being paid to "quality" of economic growth, in terms of its relations with jobs, the environment, learning, accumulation of skills and capabilities, innovation, and so on. Quality of growth was featured in Vinod et al. (2000), which explored issues of faster and better growth. In Asia and the Pacific region, APEC leaders gathered in Yokohama in 2010, and agreed on an "APEC Growth Strategy."[1] The strategy stressed that "the quality of growth" needs to be improved, so it will be more balanced, inclusive, sustainable, innovative, and secure. Ten months later, the World Economic Forum's Summer Davos in Asia held its annual meeting focusing on "Mastering Quality Growth," where sustainability, inclusion, fairness, balance, and technology and

1. "The APEC (Asia Pacific Economic Cooperation) Leaders' Growth Strategy" was agreed on Nov. 14th, 2010. It is referred to here as the "APEC Growth Strategy." APEC comprises 55% of real global GDP, 44% of global trade, and 40% of the global population. The APEC Growth Strategy mentions that APEC senior officials should report to leaders in 2015, for their review, on APEC's progress in promoting APEC Growth Strategy (APEC 2010, 12). Regarding the 22nd. APEC Economic Leaders' Declaration in 2014, see Section 2 of this paper.

innovation were highlighted (World Economic Forum 2011, 3).
On the other hand, in recent policy debates on growth and development, including the post-2015 discussions, structural transformation has been featured much more. The Report of the High-Level Panel of Eminent Persons on the post-2015 Development Agenda is titled "A New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development" (hereinafter referred to as "The Report of HLP on the post-2015 Agenda"). The panel concluded that the post-2015 agenda needs to be driven by five big transformative shifts,[2] including a call for the transformation of economies for jobs and inclusive growth. Likewise, focusing on economic transformation, the latest report of Asian Development Bank (ADB 2013a), mentions that development is distinct from aggregate growth, which can occur without significant transformation, as has happened in some oil-rich economies. This report highlights key components of structural transformation.[3]

Therefore, there now seems to be more of a consensus on the importance of quality of growth on the one hand and structural/industrial transformation on the other. However, we need to recognize that there is considerable diversity between countries in the agendas in regard to both the quality of growth and transformation. In the former agenda, countries that depend a lot on natural capital[4], the focus of their quality of growth agenda could be sustainability. On the other hand, countries that are exposed to higher risk of natural disasters have to focus on resilience and human security. Some low income countries are strongly concerned with under-nutrition, which persists in spite of considerably high rates of growth as has happened in Sub-Sahara African countries.

There is also diversity in the transformation agenda. Challenges facing countries in terms of structural transformation are different as they move along the development path and changes in endowment. They could have different foci on infrastructure, human resource development, technological innovation and so on. In some countries, industrial

2.The five big transformative shifts are: "Leave no one behind", "Put sustainable development at the core", "Transform economies for jobs and inclusive growth", "Build peace and effective, open and accountable public institutions", and "Forge a new global partnership" (High-Level Panel of Eminent Persons on the Post-2015 Agenda 2013, 7-12).

3. The five components are reallocation of factors of production; diversification, upgrading, and deepening of the production and export baskets; use of new production methods and processes and different inputs; urbanization; and social changes (ADB 2013a, 3-5).

4. Regarding natural capital, see Section 5.

challenges are shaped by special circumstances affecting particular groups, such as resource-rich countries, land-locked countries, small countries, countries located close to large consumer markets, and so on (World Bank 2012, 190). Thus, a typological approach could be useful to address these diversities. JICA and JBIC (2008) distinguish, first of all, resource-rich countries and resource-poor countries. The World Bank (2012) identifies eight categories of "job challenges", including resource-rich countries, urbanizing countries and conflict-affected countries. Obviously, individual countries' growth strategies need to address their own transformation agenda as well as quality of growth agenda.

The main objective of this paper is to obtain insights into the "quality of growth" in terms of the above-mentioned attributes, namely, balanced, inclusive, sustainable, innovative, and secure aspects of growth, as well as the relationship with "structural transformation," drawing principally on selected outstanding cases of what we term "industrial development"[5] that have resulted in a remarkable economic transformation and growth in a country or in regions of a country. These cases presented here are the automobile industry in Thailand, the transformation of the "Cerrado" in Brazil from barren lands to a source of high-productivity agriculture, the garment industry in Bangladesh, and salmon farming in Chile.

The next section will discuss key issues and the analytical perspective of quality of growth and economic/industrial/structural transformation. Section 3 will review briefly the process of outstanding industrial development of the four cases. Then sections 4, 5, 6, 7 and 8 will discuss interrelationships, synergies and trade-offs among transformation and each of five attributes of quality of growth drawing on experiences of the outstanding cases. The final section (Section 9) presents some concluding remarks.

2. Key issues and analytical perspective

The above discussion implies that the major challenge developing countries face is to transform their economies to achieve high-quality growth.

5. As regards the definition of industry, see the last paragraph of this section.

Key issues of high "quality growth"

Concerns about quality of growth have been increasing especially in Asia Pacific region. The leaders of APEC gathered in 2009 to chart a new growth paradigm for the Asia-Pacific region and agreed to formulate a comprehensive long-term growth strategy (APEC 2009, 1; APEC 2010, 2). As mentioned above, APEC leaders agreed on the APEC Growth Strategy in 2010, which highlighted "five growth attributes" and affirmed that, "APEC aims to achieve balanced, inclusive, sustainable, innovative, and secure growth" (2). The report of the "World Economic Forum Annual Meeting of the New Champions 2011: Mastering Quality Growth" (Summer Davos in Asia) stated that the Chinese premier's comprehensive plans underscored the many dimensions of the quest for quality growth, a concept with which the participants enthusiastically embraced. These included sustainability, inclusion, fairness, balance, and technology and innovation (World Economic Forum 2011, 3).

Many of the Asia Pacific countries also emphasize the importance of quality of growth. The new generation of Chinese leaders and the government set out an ambitious and comprehensive agenda for structural reforms in the "Decision by the Third Plenum Session of the Chinese Communist Party" held in 2013 in which, in addition to rebalancing the economy, other goals such as mitigating social inequality, protecting the environment and addressing climate change, addressing rural urban divide, and improving the quality of growth, are placed high in the policy agenda (Wang, Wang and Wang 2014, xi). In Japan, the *Annual Report on the Japanese Economy and Public Finance 2012* featured growth with "quality" (Japan. Cabinet Office 2012, 226). Some other countries of Asia including Malaysia, Thailand, India, Bhutan, and Vietnam, have been introducing a similar concept both explicitly and implicitly. For example, Malaysia launched a "New Economic Model", a framework of both inclusive and sustainable growth in 2012 (UN-ESCAP 2013, 8). Recently, in 2014, the Japanese Government posted a draft of the new "Development Cooperation Charter" to replace the "Official Development Assistance (ODA) Charter" for public comment. It highlights one of the most important challenges of development: "'high quality growth' and poverty reduction through this growth," in which inclusiveness, sustainability and resilience are stressed.

Most recently, the 22nd APEC Economic Leaders' Declaration: Beijing Agenda for an Integrated, Innovative and Interconnected Asia-Pacific

(APEC 2014, 7) stated that, "We agree to strengthen macroeconomic policy coordination with a view to forging policy synergy, and creating a sound policy environment for the robust, sustainable, balanced and inclusive economic growth in the region." The declaration emphasized especially innovative growth: "We recognize innovation as an important lever for economic growth and structural reform" (7).

In terms of enhancing the analytical perspective of quality of growth, a report published by Economic and Social Commission for Asia and the Pacific (UN-ESCAP), titled *Shifting from Quantity to Quality: Growth with Equality, Efficiency, Sustainability and Dynamism* (UN-ESCAP 2013), deserves special attention. The report presents a holistic framework, distinguishing three dimensions of quality of growth: environmental, social and economic. It highlights five key determinants of quality of growth: inclusiveness in relation to environmental, social and economic benefits, efficiency and productivity in the use of natural, human and manufactured capital, structural transformation that promotes social and economic values, balanced investment in all forms of capital, and limits in the economic, social and environmental spheres (UN-ESCAP 2013, 7).

While all the above-mentioned documents emphasize the quality of growth, their foci are not necessarily the same. However, they commonly give a high priority to inclusiveness and sustainability. In addition, both APEC and Summer Davos documents refer to balanced growth and innovative growth. On the other hand, some aspects of secure growth of the APEC Growth Strategy, such as food security and food safety, infectious disease preparedness, control of non-communicable diseases and strengthening health systems, are included in the concept of inclusive growth of other documents. Likewise, while resilience constitutes an attribute of quality growth in the Japanese Development Cooperation Charter, maximizing business and community resilience is included in the secure growth concept in the case of the APEC Growth Strategy.

As such, in summary we could safely say that the cited documents coincide in the importance of inclusiveness and sustainability as high priority attributes of growth. They draw on outcomes of discussion on these attributes over a decade as reviewed in the following section. Innovative growth and balanced growth are attracting attention more

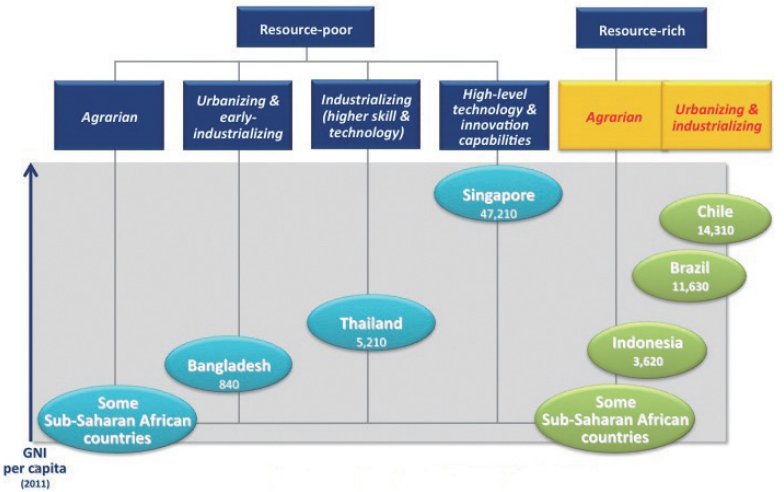
recently and have been included in the APEC Growth Strategy and the Summer Davos documents. APEC's Beijing Agenda emphasized innovative growth especially. Secured growth and resilience are explicitly indicated in the APEC Growth Strategy and in Japan's Development Cooperation Charter respectively, while they are included in the concept of other attributes of growth in other documents. We could conclude that, so far, APEC Growth Strategy could be considered as the most comprehensive and widely agreed framework for quality of growth. Accordingly this paper uses this framework as the principle reference for the quality of growth and focuses mainly on two aspects, inclusiveness and sustainability, paying due attention to other aspects of quality of growth as well.

Relationship between quality of growth and transformation

To start with, we summarize some of the basic aspects of economic/industrial/structural transformation, on which there has been growing consensus in recent years. First, we understand that transformation is crucial and creates a virtuous circle of growth and further transformation, as the ADB's report (ADB 2013a) envisages. The report argues that when structural transformation creates a virtuous circle, it leads to higher growth and higher income per capita, and these induce further changes in the structure of the economy. This implies that a transformation agenda features basically in the drivers of growth, while a quality of growth agenda focuses on the desired attributes of growth, which appear to be related to both means/process and ends of growth, as discussed later.

Secondly, there is no standard model for transformation. As mentioned above, the transformation agenda differs among countries: for example, countries with a very high proportion of the population living in rural areas, early-industrializing countries, urbanizing countries, countries that need transformation from a labor-intensive to a knowledge-intensive economy, overcoming the middle-income trap. Figure 1 roughly illustrates the diverse transformation agenda with examples of some selected countries. Hence, from this viewpoint, there is no "one size fits all"-type standard model for transformation, although the common denominator of transformation is industrial structural change of an economy that generates growth.

Figure 1. Diverse economic transformation agenda(Selected cases)



Source: Prepared by the author, GNI per capita (2012) from World Development Indicators database, World Bank.

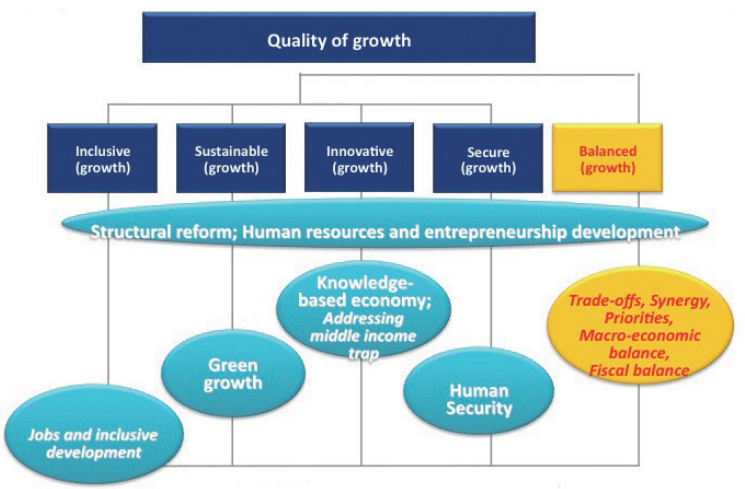
Thirdly, it appears that structural transformation is closely related to changes of endowments or assets and changes in comparative advantage, as well as higher efficiency of economy, innovation and technological progress. As Vinod et al. (2000) illustrate with the use of a framework of asset accumulation, growth, and welfare, "investments in physical, human and natural capital, together with many policy reforms, contribute to technological progress and the growth of total factor productivity (TFP), thereby boosting growth" (xxvi).

The nexus between changing endowments or asset accumulation and transformation could be more clearly explained by changing or dynamic comparative advantage. According to Noman and Stiglitz (2012), the "old" policies focused on improving economic efficiency within a static framework, "but the essence of development is dynamic. What matters, for instance, is not comparative advantage as of today, but dynamic comparative advantage" (7). Lin (2012), likewise, discusses 'changing comparative advantage,' arguing that "the more effective route for their learning and development is to exploit the advantages of backwardness and upgrade and diversify into new industries according to the changing comparative advantages determined by the changes in their endowment structure" (73).

Among key components of structural transformation identified by ADB (2013a), are reallocation of factors of production, diversification, upgrading, and deepening of the production and export baskets, and use of new production methods and processes and different inputs. These are intimately related to the changing or dynamic comparative advantage.

As such, quality of growth needs to be discussed in the context of transformation, because it is a driver of growth and could be related to different attributes of growth. As discussed above, the most widely agreed on and one of the most comprehensive definitions of quality of growth appears to be that of the APEC Growth Strategy, namely, to improve quality of growth focusing on five desired attributes for economic growth. In the action plan of the Growth Strategy, structural reform, human resource and entrepreneurship development, green growth, knowledge-based economy and human security are mentioned. Figure 2 roughly illustrates diverse quality of growth agenda with some selected examples of concrete actions to address the agenda.

Figure 2. Diverse "quality of growth" agenda (selected cases): Examples of concrete actions to achieve growth with different desired attributes



Source: Prepared by the author, based on APEC Growth Strategy (2010)

Therefore, the central theme could be to analyze the relationship between transformation and quality of growth, bearing in mind a

distinct transformation agenda with a specific industrial structure. This analytical approach could elucidate aspects that might be overlooked or be invisible when economic growth is discussed at a macro level, where industries are treated collectively at an aggregate level. The quality of growth agenda and industrial transformation agenda could be different among countries due to different combinations of industries or industrial structures they have or intend to have.

We use the term 'industry' very broadly to refer not only to the manufacturing sector but also agro-business, modern agriculture, aquaculture, transport, logistics, tourism and any other activities that produce goods and services that are new in the country and that require significant human (and social), physical, natural (and environmental) capital as well as accumulation of knowledge and capabilities.

3. Outstanding cases of industrial development and transformation[6]

This section consists of very brief thumbnail sketches of four outstanding cases of industrial transformation. More details in terms of the impact of transformation on quality of growth will be provided in later sections of this paper. These sketches stress the positive aspects of the cases, while some challenges will be mentioned later.

Thailand automobile industry

In 1995, Thailand's annual automobile exports were less than half a billion US dollars, well below exports from India and Malaysia. In 2008, exports approached 28 billion US dollars, making Thailand the largest automobile exporter in the ASEAN region, and by 2012, Thailand was the seventh largest exporter in the world. Production of 1 million cars was achieved in 2005 and 2.5 million cars in 2012.

It is estimated there were about 690 first-tier parts makers, 30 percent of them Thai majority joint venture companies, and 23 percent of them pure Thai companies, and 1,700 second- and third-tier parts makers, most of them locally owned small and medium enterprises (SMEs), supporting the automobile industry in Thailand in 2010 (Natsuda and

6. Analysis of these cases is based on another of the author's papers (Hosono 2013). See the paper for details of these cases. In addition to these cases, the author also drew on nine case studies included in JICA/JBIC (2008).

Thoburn 2011, 8). At present, the automobile industry is the principal engine for growth in Thailand's economy. "The Detroit of Asia" envisaged once by the Thai government is now a reality and an "automobile belt" has been established from Ayutthaya to the Eastern Seaboard. As Athukorala and Kohpaiboon (2011) point out, "the automobile industry has been the target of industrial development in many countries as a driver of growth – a source of employment, technological expertise, and a stimulus to other sectors through backward linkages…. But only a handful of developing countries have managed to develop an internationally competitive automobile industry." [7]

Development of an automobile industry requires skilled labor and supporting industries to provide up to 20,000 to 30,000 parts and components. Supporting industries and automobile assembly plants are closely related and provide externalities to each other. Furthermore, the development of supporting industries for automobile industries takes years because they need a prolonged process of accumulation of knowledge and capabilities, especially in the formation of human resources and learning about technology.

Brazil's Cerrado agriculture and agro-industrial value chain

Starting from the mid-1970s, the tropical savanna of Brazil, called the Cerrado, transformed itself into one of the world's most productive grain-growing regions in just a quarter of a century, realizing modern upland farming in a tropical region for the first time in human history (Hosono, Magno Campos da Rocha and Hongo, forthcoming). This remarkable transformation has become known throughout the world as the 'Cerrado Miracle'(The Economist, 2010). Today, Brazil is one of world's major grain-producing countries, and in 2012 exported the world's largest volume of soybeans. Dr. Norman E. Borlaug, who received the Nobel Peace Prize for his work related to the Green Revolution, rated the development of agriculture in the Cerrado as one of the great achievements of agricultural science in the 20th century. This agricultural transformation not only increased the production of competitive commodities such as soybeans, corn, coffee, sugar, and cotton, but it also enabled the development of food value chains both inside and outside the Cerrado region. While the

7. It goes without saying that the automobile is a complex product, consisting of a large number of parts and components that involve different production processes and factor proportions. Many of these parts and components are manufactured by independent suppliers in other industries such as textiles, glass, plastic, electronics, rubber products, as well as steel and other metals (Athukorala and Kohpaiboon 2011, 1).

production of broiler chicken and pork had been growing steadily in the 1990s, this growth accelerated at the end of the decade and resulted in a sharp increase in meat exports.

Bangladesh garment industry

In 1981, ten years after Bangladesh achieved independence, raw jute and jute goods were its major exports, corresponding to 68 percent of total exports. In 2011, garments and textiles constituted 85 percent of total exports, of which 76 percent corresponded to garments. These industries' business entities amounted to 50 percent of all manufacturing establishments in the country (UNCTAD 2012, 11). Today, the garment industry has 5,000-6,000 factories with 7-8 million workers using the assembly-line method of production. The wages of the workers in these industries are around 35 percent higher than the national average (11). Exports as a percentage of GDP tripled between 1990 and 2010, with much of the increase in the thriving ready-made garment industry, which is highly intensive in female labor (WB 2012, 197). This Bangladeshi success story is remarkable because, as a recent World Bank study highlighted, "the country was often held out in the development literature as a hopeless case" (197).

Chile's salmon industry

Aquaculture has been growing globally, and made up 49.4 percent of the global fish harvest in 2012, compared with 16.4 percent in 1990, in what is called the "blue revolution," to draw a comparison with agriculture's "green revolution" ("Aquaculture Satisfies the Demand for Fish" 2014; OECD 2008, 85). One of the most impressive cases of the blue revolution is Chile's salmon farming and processing industry. Salmon did not exist in Chile four decades ago.

Now, Chile is one of the world's top salmon-exporting countries, ranked on a par with Norway. It is no exaggeration to describe this as a "miracle." Moreover, Chile is a resource-rich country highly dependent on copper exports. In 2011, exports of mineral ores and their refined products corresponded to more than 60 percent of total exports, 52 percent of which are copper ore and refined copper. Creating a new industry in a highly mineral resource-rich country is considered to be difficult due to Dutch disease and other factors.

Enabling factors of transformation

The four cases show how distinctive critical factors for industrial transformation identified by several recent studies interact in practice. Learning and accumulation of knowledge and capabilities are essential. Its process is gradual, incremental and, generally, path-dependent. However, the process is critical for changing the endowments to attain dynamic comparative advantage. In most of the cases, the government or public institutions facilitated the process. In all the cases, the constant improvement of the capabilities of those involved in the new industries was crucial.

Change of endowments is also attained by infrastructure construction and technological innovation. They often trigger or accelerate industrial development and transformation. In these cases, effective institutions accomplished the role of facilitator or catalyzer of transformation. First of all, many of them had been created for specific purposes and had a long-term vision and sense of mission. Second, most such institutions regarded public-private interaction, consultation or coordination to be of the highest priority. Third, most of these institutions adapted flexibly to changes in the global market and phases of industrial development.

These findings generally confirm the conclusion of a report of JICA/JBIC (2008) regarding decisive factors of economic growth found in the Asian experience. They are the mid- to long-term vision for development and strategies, flexibility in responding to a changing environment, government's close ties with the private sector, and harnessing the private sector's capacity to the maximum. The report also highlights the following as growth-driving functions: development of infrastructure, human resource development and upgrade of the credit market. (11; 17-18)

4. Transformation and "inclusive aspects" of quality of growth

Key issues and analytical perspective

In recent years, "inclusive development" has attracted increasing attention in the international community. In 2007, the World Bank's president declared the contribution to inclusive and sustainable globalization to be the vision of the World Bank group. The Japan International Cooperation Agency (JICA) incorporated the term "inclusive" into its vision in 2008. A year later, the Asian Development Bank (ADB) positioned inclusive growth as one of the three agenda

items in its long-term strategic framework of "Strategy 2020" (ADB 2009). As was mentioned, the APEC Growth Strategy was agreed in 2010 and "inclusive growth" was featured in the document as one of the five desired attributes for growth[8]. The close relation between transformation and inclusive growth was also highlighted in the Report of HLP on the post-2015 Agenda, which emphasizes the importance of transforming economies for jobs and inclusive growth as one the five high-priority transformative shifts.

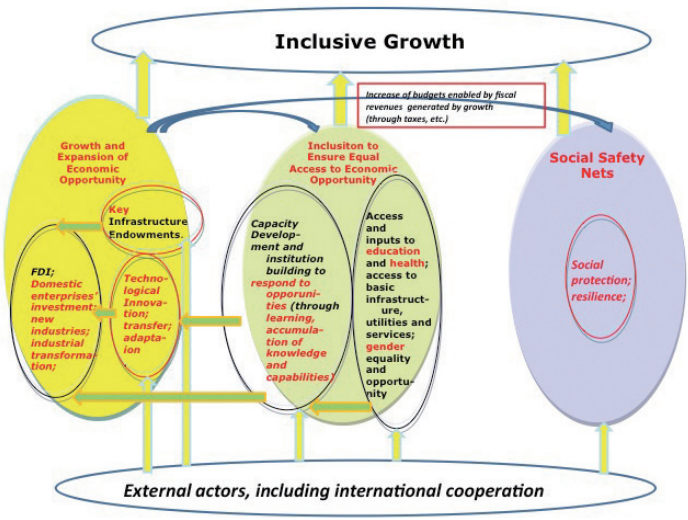
The definition of inclusive growth in recent literature explicitly or implicitly explains the intrinsic relationship between transformation, and jobs and inclusive growth. In several studies, such as the ADB's "Framework of Inclusive Growth Indicators (FIGI)", inclusive development is understood to include, among others things, three fundamental components (or pillars): development of productive jobs, equal access to economic opportunities by expanding human capacities, and social protection.[9]

The first component refers to the creation of jobs, which in terms of transformation means a change of industrial structures through the creation of new industries, diversification of industries, and up-grading of industries with subsequent impacts on the creation of jobs or increase of demand in the labor market, particularly through good jobs. The second component, on the other hand, is related to the capacity of workers to be able to respond to new opportunities for jobs. Assuring equal access to opportunities by education, training and skill means improvement of the capacity to respond to demands in the job market. The third component is to strengthen the safety net to protect the chronically poor, or those who are not yet able to participate in the process (see Figure 3).

8. As for definition of and recent discussion on inclusive growth, see Kozuka (2014).

9. This definition is based on ADB's Framework of Inclusive Growth Indicators (FIGI) (ADB 2013b), which is similar to the definition of Ali et al. (2007) and Zhuang and Ali (2010). FIGI asserts that the outcomes of inclusive growth are achieved through the three policy pillars of (i) sustained economic growth and development of productive jobs and economic opportunities, (ii) social inclusion to ensure equal access to economic opportunity by expanding human capacities, and (iii) social safety nets to protect the chronically poor and to address the risks and vulnerabilities of the population. (3)

Figure 3: Relationship between transformation and inclusive growth



Note: This figure roughly illustrates the relationship between the main components of "inclusive growth." Words in italic are added by the author.
Source: Author. Based on discussion of main text, Hosono (2014) and ADB (2013: p.4).

The Report of HLP on the post-2015 Agenda coincides with this view. It considers the creation of opportunities for good and decent jobs and secure livelihoods as the first priority in transforming economies for jobs and inclusive growth. The report also mentions that people need the education, training and skills to be successful in the job market and respond to demands by business for more workers (8-9). These two aspects precisely correspond to the first two components of the ADB's FIGI. They are, so to speak, the two main wheels of "inclusive growth" that should be well articulated to become the driving force of the growth.

However the matching of these two components, creation of employment opportunities and enhancement of capacity of people to respond to the opportunities, is not always easy. FIGI's second pillar, "social inclusion to ensure equal access to economic opportunity," includes the directive "access and inputs to education and health." This is a fundamental aspect of the pillar, because basic education is essential for human capital to enhance its capacity; however, in order for people to respond to changing demand in the process of industrial transformation, advanced capacity development is required and knowledge and capabilities need to be embodied in individuals and organizations. As Cimoli, Dosi and Stiglitz

(2009, 2) put it, "a 'great transformation' entails a major process of accumulation of knowledge and capabilities … Certainly, part of such capabilities builds on education and formally acquired skills. However, at least equally importantly, capabilities have to do with the problem-solving knowledge embodied in organizations — concerning, for example, production technologies, marketing, labor relations, as well as 'dynamic capabilities' of search and learning".

In order to reflect this aspect, which is essential for the two pillars of inclusive growth to become well articulated or well matched, "capacity development and institution building to respond to opportunities (through learning, accumulation of knowledge and capabilities)" has been added by the author (in italics) into the second pillar of the Figure 3.

Findings from case studies

In the four cases presented in Section 3, new industries that emerged from scratch created jobs and enabled people to participate in the growth. In this process, it was crucial there were people who were capable of responding to the new opportunities created. Through this process, transformation with inclusive growth took place.

In the case of the Bangladeshi textile and apparel industry, the changes in rural society in this country have been profound and are related closely to the massive mobilization of female workers by the garment industry located mainly in two big cities: Dhaka and Chittagong. Generally speaking, urbanizing countries like Bangladesh are endowed with abundant unskilled labor and these countries' integration into the world economy can lead to the development of light manufacturing industries (World Bank 2012, 197).

Several factors interacted in order for this change to take place. Modernization of agriculture, based on technology adoption, enabled farmers to shift from low-yield, single crop, deep-water rice to double cropping of short maturity, high-yield rice, as well as the well-known rapid spread of microfinance and construction of rural infrastructure, were among major factors that changed the rural society of Bangladesh (World Bank 2012, 197). More specifically, rural roads, irrigation, market facilities and other rural infrastructure, micro-credit, school education and so forth, provided by NGOs, central and local governments and donors, all together enabled the remarkable agricultural and rural

development of Bangladesh over the last three decades. In this process, the rural development programs of the government and donors were implemented effectively by the Local Government Engineering Department (LGED), which played a critical role in the provision of rural infrastructure.[10] Micro-credit and related services were also effectively extended by NGOs including BRAC and Grameen Bank. The Jamuna Multipurpose Bridge, inaugurated in 1998, as the largest construction project in Bangladesh history, has been a major channel for integrating the lagging western region of the country with the leading eastern region, enabling cheaper transportation of gas, electricity and telecommunications, and enhancing the labor mobility of the western region (Hossein et al. 2012, 11).

This whole process enhanced the mobility and readiness of low-opportunity-cost labor in rural Bangladesh and changed gradually, but steadily, the endowments of the country.[11] The mobilization of this labor was triggered by the Desh-Daewoo garment project. As Rhee (1990) stated, "development is a dynamic process in which self-generating mechanisms may emerge once action is initiated…. To start on the path of development in an outward-oriented direction, a first spark must be created." That spark was the collaborative effort of a domestic catalyst (Desh) that mobilized the necessary local resources and a foreign catalyst (Daewoo). It was a process in which the synergy between creation of jobs by development of a new garment industry and enhancement of capacity of people to respond to new opportunities took place.

In the case of the Thai automobile industry, engineers and skilled/semi-skilled labor was crucial to making the industry viable, competitive and inclusive. Development of the car assembly industry by foreign direct

10. The role of LGED in rural development cannot be overemphasized. LGED is one of the largest public sector organizations in Bangladesh, with a staff exceeding 10,000 and a development budget accounting for 14% (FY2009-10) of the total development budget of the government. For details of LGED, see Fujita (2011).

11. We should remember that a pessimistic appraisal was common in regard to the role of women in the labor market in Bangladesh. This caused pessimism about the country's growth, due to, among others, the fact that most East Asian countries had the advantage of a high initial female labor force participation rate at the start of the growth process (World Bank 2012 and other studies). As Hossain et al. (2012, 29) emphasized, none of the predictions were able to anticipate that women would offer the secret ingredients of success that was achieved in Bangladesh, in areas from exports to schooling to microcredit use. The dramatic nature of the increase in female participation in the growth of ready-made garment (RMG) workers is a case in point.

investment created employment opportunities in Bangkok and later in the newly developed Eastern Seaboard. As in the case of Bangladesh, this was enabled by a series of infrastructure projects. To make the Thai automobile industries competitive and at the same time inclusive, small and medium enterprises (SMEs) were essential and they were encouraged by several policy measures.

In order to develop supporting industries (SMEs) for the Thai automobile industry, one of the specific and very effective policies is considered to be the implementation of the LCR (local contents requirement) system. In order to comply with the LCR, automobile assembly companies in Thailand had to increase the local content of components produced by themselves, to ask their component suppliers in their countries of origin to invest in Thailand, or to support local Thai firms to produce components of a required quality standard.[12]

Based on extensive field research, Yamashita (2004) concluded that, "the process of adaptation to the LCR enabled the accumulation of a very wide range of automobile parts industries and formation a pool of skilled technicians and engineers, both of which are indispensable for the development of the automobile industry" (5).[13] Through this process, assembly companies have offered continuous technological support to local supporting industries. In addition to these specific aspects, it should also be highlighted that Thailand has been making efforts for years to strengthen education in engineering and training related to industrial skills.

In the case of the Cerrado development, employment opportunities were created first by the new agricultural development of soybeans, and other grains enabled by technological and institutional innovations as well as infrastructure development. However, massive employment opportunities have been further created by the expansion of the value chains around Cerrado agriculture, composed of agricultural and livestock processing activities.
Engineers and skilled workers as well as technology for agricultural and livestock processing had been accumulating over a long period in the

12. The LCR encouraged car assemblers to produce parts locally by themselves or to purchase them from local companies. This was not easy because supporting industries in Thailand did not exist. Assembling companies had to start the process of localization from scratch. Following this, the LCR was raised incrementally through 1994 up to 60 percent for pick-up trucks with gasoline engines and 72 percent for those with diesel engines.

13. Yamashita (2004, 5). Translation is by the author.

southeastern agricultural zone, and there was also access to an extensive labor force from all over Brazil. By accessing this labor force, including engineers and workers, the Cerrado region managed to build a competitive agricultural, livestock, and processing value chain, which has enabled high-value-added processed food to be produced and employment expanded in this region.

There are many organizations participating in the value chain. For example, in the western Bahia, one of the typical Cerrado agricultural regions, the Western Bahian Technology and Research Center (CPTO) coordinated with a branch office of Brazilian Agricultural Research Corporation (Embrapa) on testing, research, and technological development, and the resulting technologies were provided to producers through regional producer support organizations such as the Agricultural Cooperative of Western Bahia (COOPROESTE).

This process produced a massive migration to inland states from all over Brazil, in particular, from southeastern and northeastern states, and contributed to inclusive development with expanded employment.These cases provide evidence regarding the necessity of advanced capacity development in order for people to respond to changing demand in the process of industrial transformation. In this regard, the APEC Growth Strategy indicates concrete actions to promote inclusive growth, such as promotion of SMEs, MEs and entrepreneurship development, promotion of more inclusive access to finance and financial services to facilitate access to finance for SMEs, MEs, women entrepreneurs, and vulnerable groups, as well as promotion of job creation, human resource development, and active labor market policies.[14] These actions are considered to be effective based on the above case studies.

5. Transformation and "sustainability aspect" of quality of growth

Key issues and analytical perspective

Transformation and sustainability is becoming one of the central themes of the development agenda. Generally, emphasis is put on the necessity of transforming the actual economic structure into a more sustainable or

14. Other actions for inclusive development included the APEC Growth Strategy are enhancements of social resilience and social welfare through means such as improving social safety nets and supporting vulnerable groups, creation of new economic opportunities for women, elderly, and vulnerable groups, and the promotion of tourism.

green one. "Green Growth" is a part of the "Action Plan for the APEC Growth Strategy" (APEC 2010, 10-11). Five years before this strategy was agreed on by APEC leaders in 2010, "green growth" was adopted at the Fifth Ministerial Conference on Environment and Development in Asia and the Pacific (MCED) as a strategy for achieving sustainable development and for achieving Millennium Development Goals 1 (poverty reduction) and 7 (environment sustainability) (UN-ESCAP 2013, 26). The green growth approach adopted by the MCED sought to harmonize economic growth with environmental sustainability, while improving the eco-efficiency of economic growth and enhancing the synergies between environment and economy. As such, green growth is a concept that was coined in the Asia and the Pacific region in 2005.

Later, an OECD-DAC report, "Natural Resources and Pro-Poor Growth: the Economics and Politics," focused on the economic dimensions of natural resource management and intended to encourage decision makers to recognize the contribution of natural resources to pro-poor growth and the importance of policies encouraging the sustainable management of these resources (OECD 2008, 26). Furthermore, a more recent OECD report titled *Towards Green Growth* provided the following definition of green growth: "Green growth means fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies (OECD 2011, 4).

Finally at the worldwide level, the Rio+20 Conference in 2012 featured green growth. Its outcome document, *The Future We Want* stated that, "we express our determination to address the themes of the conference, namely a green economy in the context of sustainable development and poverty reduction, and the institutional framework for sustainable development" (United Nations Conference on Sustainable Development 2012, 2) .

The concept of green growth has also been endorsed by United Nations Environment Program (UNEP). Its recent document titled *Towards a Green Economy* (UNEP 2013) expounds the aims of transforming society into one that can grow economically while increasing environmental quality and social inclusiveness. UNEP defines a green economy as one that results in "improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities" (UNEP 2010, quoted in UNEP 2013, 9). The UN-ESCAP document

proposes a "system change for quality of growth: turning tradeoffs between the three dimensions of sustainable development, into synergies" (2013, 16). In this document the three dimensions of growth qualities are ecological quality, economic quality and social quality.

Through this process since the MCED meeting of UN-ESCAP in 2005, the concept of green growth, has been increasingly mainstreamed in international debates on sustainable and inclusive development and is therefore closely related to the quality of growth, as the APEC Growth Strategy indicates. As in any process of development, although sustainability and environmental aspects should be fully taken into account as the above documents discuss in a general framework, special attention to these aspects is needed in cases of transformation in which "natural capital" is the essential endowment that enables the transformation.

While natural capital assets are not created by human activity, their quality and capacity to yield goods and services, and therefore their value as productive inputs, are affected by it (OECD 2008, 30). Understanding the synergies between the three dimensions of the growth qualities is normally the most difficult in the cases in which natural capital plays the crucial part of transformation. Analysis of these cases could give us a clue towards an effective approach to quality growth with sustainability and inclusiveness.

Findings from case studies

Two of this paper's outstanding cases, Cerrado agriculture and Chile's salmon aquaculture, are cases in which human activity, particularly technological innovation or adaptation increased the value of natural capital: Cerrado land and southern Chile's seashore. A remarkable transformation of a vast region of Cerrado and southern Chile took place utilizing natural capital, which was not necessarily used before as an input for production of goods and services. However, special attention has been needed to address the risk of sustainability due to the possible degradation of or other consequences to the natural capital.

Furthermore, it is necessary to bear in mind the potential value of natural capital. For example, the Cerrado has become known as the savanna zone with the world's richest biodiversity (Brazil. Ministry of the Environment 2010). Plants in the Cerrado cope with the unique

stresses of extreme nutrient shortages, high soil acidity, and high aluminum saturation, and are believed to have evolved to protect themselves against damage from ants and wildfires, making them a valuable genetic resource.

In the case of the Cerrado agriculture, from the outset, active environmental conservation measures were implemented. As well as adhering strictly to the 20% legal reserve (50% in Tocantins and other states) in individual farms, to prevent the legal reserve areas from becoming a haphazard patchwork of points, efforts were advanced to create joint strengths of reserve land through a "condominium" model, as well as the formation of micro-corridors of reserve land made up of individual reserves. Moreover, measures to preserve agricultural environments have been actively promoted, such as the introduction of contour cropping, crop rotation, and no-till farming (direct planting).

The government of Brazil conducted a series of broad and varied initiatives aimed at environmental conservation. In the Cerrado region, the government especially pursued a balance between Cerrado agricultural development policies and environmental conservation policies. This could be considered as a pioneering initiative for sustainable transformation of unused land into fertile agricultural land. In 1998, Brazil enacted the Environmental Crimes Law, and in 2000 the Forest Code was amended to impose stricter legal reserve percentages on landowners and to enable the trading of reserve land with the land of other forested landowners. Also in 2000, the National System of Nature Conservation Units (SNUC) was established. This system was designed to organize categories for native reserves and both protect and restore the biodiversity found in their ecosystems.

The Environmental Conservation Expansion Program, which is meant to efficiently manage expansive areas of privately owned land using satellite imaging technology, was launched through Presidential Directive 7029 at the end of 2009, and the government also decided to introduce the Rural Environmental Registry (CAR, Cadastro Ambiental Rural, in Portuguese).[15] In October 2012, the Ministry of Environment

15. A registry that uses a GIS to determine the borders of each farm, as well as the legal reserve and preservation districts in each part of owned land. Upon the request of a farm, expert contractors prepare digitized drawings of the land usage status inside each farm area. These electronic data are incorporated into Integrated Environmental Monitoring and Licensing databases operated by state government environmental agencies.

issued a decree that established the obligation of registering all A registry that uses a GIS to determine the borders of each farm, as well as the legal reserve and preservation districts in each part of owned land. Upon the request of a farm, expert contractors prepare digitized drawings of the land usage status inside each farm area. These electronic data are incorporated into Integrated Environmental Monitoring and Licensing databases operated by state agricultural land in Brazil in accordance with CAR within a year (or in two years if authorized by the President). As of July 2013, 25 states and the Federal District (DF) had agreed to participate with CAR.[16] The National System of CAR (SiCAR; Sistema National de Cadastro Ambiental Rural, in Portuguese) was established by Presidential Directive in October 2012. Moreover, Brazil's environment conservation policy was further strengthened by Law 12651 and Law 12727 (amendment to Law 12651), enforced in 2012.

In spite of the impressive increase of agricultural production in Cerrado in the last 3 to 4 decades, land used by "Cerrado agriculture" has not increased as fast as the rate of production growth. This is due to the remarkable improvement of yield per hectare. According to the Brazilian Institute of Geography and Statistics (IBGE) farm census, 61.36% of the growth of agricultural production (soybeans, rice, edible beans, corn, cotton and coffee) in the Cerrado during the period between 1970 and 2006 was provided by yield growth, while the rest, 38.64%, was due to expansion of the planted area.

As a result of the development of Cerrado agriculture, the areas used for crops amounted to 21.6 million hectares in 2002, occupying 10.5% of the total Cerrado biome, which is estimated at 204.7 million hectares, according to an analysis based on LANDSAT satellite images.[17] The same analysis showed that about 26% of Cerrado, 54.2 million hectares, was occupied by "improved pasture" (or cultivated pasture) in 2002. Hence, the sum of cropland and improved pasture, which could be considered as total "farm land" for agriculture and livestock production, amounted to 75.7 million hectares, equivalent to 37% of the total of

16. According to the announcement of the Minister of the Environment on July 4th, 2013.

17. This is the result of research to map land use in Cerrado at a scale of 1:250,000 using the methodology of Landsat image segmentation. The research was supported by the Project of Conservation and Sustainable Utilization of Brazilian Biological Diversity of the Ministry of Environment, World Bank Global Environment Facility and IBGE, among others. The results were published in 2008. (Sano et al. 2008)

Cerrado.[18]

In the case of Chilean salmon farming, it was crucial to establish a regulatory framework for many aspects of the salmon industry, especially environment and quality standards for the aquaculture industry. In other words, what was needed was so-called "institutional infrastructure," including laws, regulations, and environment and quality standards. Mr. Mitsuo Sakai, who participated in the Japan Chile Technical Cooperation (PTTC) for salmon farming in 1980s noted that, "by starting technology transfer activities concerning feed development and fish disease control early, the PTTC project forestalled the problems the farming industry faced later, including concerns about the spread of salmonid bacterial kidney disease (BKD), and the paucity of feed for the feeding culture business that had traditionally used living feed rather than fish meal." He concluded by saying, "These technology transfer activities anticipated technical problems that would arise in the early stages of the development of the Chilean salmon industry, and thus devised precautionary measures, including the development of necessary technologies" (Sakai and Ishida 2002).

However, the Chilean salmon industry experienced a sanitary crisis caused by Infectious Salmon Anemia (ISA) in 2007. This experience demonstrated how natural resource-based activities such as salmon sea farming need to be supported not only by advanced production technology, but also by scientific knowledge on the local environment so that appropriate local regulatory institutions to manage the use of common resources can be established. This case also demonstrates that progress in production capabilities may not be sufficient to ensure long-term sustainability in natural resource-based industries in which natural capital plays an important role. Institutional change took place as a reaction to the sanitary crisis in 2007 in Chile: the Aquaculture Law to modify the existing General Law of Fishery and Aquaculture enacted in 2010 was an important milestone. This modification granted more authority to the government to ensure sustainable management of aquaculture.

18. As there are urban areas in the Cerrado, which amount to 0.4%, and reforested areas corresponding to 1.5%, the total areas with some kind of land use were equivalent to 39% of Cerrado's total land. The remainder, 61%, had no changes caused by human activities, and were considered to be "natural Cerrado".

As discussed above, the quality of growth extends to green growth concepts. UN-ESCAP (2013, 27) argues that, "Policies and investments that promote green growth seek to improve the "eco-efficiency" of growth, which involves minimizing resources use and negative environment impacts per unit of benefit generated by the economy…. Green growth is a pre-requisite for building a green economy characterized by substantially increased investments in economic activities that build on and enhance the earth's natural capital or reduce ecological scarcities and environmental risks..." The above-mentioned cases are examples of the efforts to promote green growth defined as above.

6. Transformation and the "innovative aspect" of quality of growth

Key issues and analytical perspective

Noman and Stiglitz (2012, 7) emphasize that "long-term success rests on societies' "learning" – new technologies, new ways of doing business, new ways of managing the economy, new ways of dealing with other countries." Related to this notion of a "learning society" is the view of Cimoli, Dosi, and Stiglitz (2009, 2) that great industrial transformation "entails a major process of accumulation of knowledge and capabilities, at the level of both individuals and organizations." A learning society and learning economy are featured in Stiglitz and Greewald (2014). They contend that, "most of the increases in standard of living are, as Solow suggested, a result of increases in productivity—learning how to do things better. And if it is true that productivity is the result of learning and that productivity increases (learning) are endogenous, then a focal point of policy ought to be increasing learning within the economy; that is, increase the ability and the incentives to learn, and learning to learn..." (5-6). The innovative aspect of quality of growth precisely deals with learning and accumulation of knowledge and capabilities. From this point of view, quality of growth is improved if growth is accompanied by an endogenous process of learning and innovation that would produce further growth with transformation.

As was cited above, the ADB report (2013a, 5) argues that when structural transformation creates a virtuous circle, it leads to higher growth and higher income per capita, and these induce further changes in the structure of the economy. In this virtuous circle, capabilities and

learning matter. The report explains that countries' structural transformation patterns differ in both direction and pace due to, along with demand and supply factors and demographic and geographic variables, such factors as (1) good organizational capabilities that encompass all the tacit knowledge necessary to produce a good or deliver a service; and (2) specific policies and actions (e.g. those that pertain to education and the technological learning needed to compete internationally); institutions (that have developed historically and facilitate or retard structural transformation); and politics, which often work jointly to determine the direction and pace of structural transformation.

The APEC leaders' Beijing Agenda for an Integrated, Innovative and Interconnected Asia-Pacific (APEC 2014, 7) not only emphasizes the importance of innovative growth but also its intrinsic relationship with transformation. The Beijing Agenda affirms that, "We realize that the prospects for the shared prosperity of APEC will depend on innovative development, economic reform and growth in the region, which are complementary and mutually reinforcing. We recognize that the Asia-Pacific region is at a crucial stage of economic transformation. We are committed to accelerating the pace of reform and innovation, and exploring new growth areas with the goal of bolstering the position of the Asia-Pacific as an engine of world economic growth." (7) [19]

Currently, in terms of innovative growth, industries of which main resource is natural capital have much more difficulty investing in knowledge and technological breakthrough than other productive sectors such as manufacturing and services due to the high degree of site specificity caused by the biological nature of this type of production and due to the normally large number of stakeholders (farmers and fishers) involved. In addition to the above, there is the general difficulty appropriating the benefits from knowledge generation. These conditions create higher barriers to investment in knowledge and technology under the market mechanism in general, and especially for activities based on natural capital such as agriculture and fishery. The case of the Cerrado

19. Regarding this aspect, the APEC Growth Strategy stated four years ago: "The adoption of policies that foster an enabling environment of innovative growth will be increasingly crucial for future prosperity. Technology breakthrough and information and communication technologies (ICTs) play a significant role as a primary driver of economic growth, and innovation in new products and services can enhance progress on critical global issues..." (APEC 2010, 6-7).

agriculture and agro-industry value chain discussed below could be relevant from this perspective of the innovative aspects of quality of growth.

Findings from the case study on the Cerrado agriculture and agro-industrial value chain

The importance of the innovative aspect of quality of growth could be understood most clearly through the contribution of the Brazilian Agricultural Research Corporation (Embrapa) to the continuous development of Cerrado agriculture and its value chain. This solid and highly effective institution was essential to continuously achieve the technological innovations required for Cerrado agriculture. A strong "national innovation system (NIS)" in the area of agriculture has been developed around the institution of Embrapa in the case of Brazil.[20]

From the perspective of the innovation system, Embrapa could be considered one of the most important hubs or coordinators of the agricultural sector innovation system and a part of NIS. Embrapa established and led the "National System of Agricultural Research" (Brazil. Ministry of Agriculture, Livestock and Supply and JICA 2002, 26 of Part 4). This system has "an excellent structure and aims at the technological development and its diffusion in an efficient and effective manner." The system was designed for collaboration and exchange of technical information among more than 400 organizations over the whole country, with the participation of state research companies, university research organizations, agricultural research departments in private companies, and others.

7. Transformation and "secure growth", including "human security", and resilience aspects of quality of growth

Key issues

It is unnecessary to say that, in the transformation process, efforts should be made to minimize natural and human risks to growth. Preparedness or resilience for emergencies, natural disasters, infectious diseases need to be enhanced. Nutrition, food security and food safety should be essential. In other words, human security should be realized. The APEC Growth Strategy included secure growth as an attribute of

20. Regarding the concept of the national system of innovation, see Malerba and Nelson (2012).

the quality of growth and stated: "We seek to protect the region's citizens' economic and physical well-being and to provide the secure environment necessary for economic activity." This strategy refers to resilience in relation to preparedness for emergencies and natural disasters: "APEC will identify gaps in disaster risk reduction approaches in the region and develop practical mechanisms to maximize business and community resilience..." (APEC 2010, 9). Japan's Development Cooperation Charter explicitly includes resilience as one of the attributes of high quality growth. It emphasizes that, in the concept of high quality growth, inclusiveness, sustainability should be combined with resilience enabling people to cope with and recover from diverse types of shocks including economic crisis and natural disasters.

Findings from case studies

Secure growth and resilience are the most recent foci of discussion related to quality of growth and are closely related to other attributes such as inclusiveness and sustainability. Further discussion is needed to see if secure growth and resilience can be sufficiently addressed by inclusiveness and sustainability. From the perspective of industrial transformation, the cases of Bangladesh garment industry and Chile's salmon farming appear to be relevant. The case studies could provide some insight into the above-mentioned question.

The case of the Bangladesh apparel industry elucidates the secure aspect of industrial transformation. An apparel factory fire in November 2011 that killed 117 workers and the collapse of a building housing several factories located in the outskirts of Dhaka in April 2012, causing the tragic death of 1,129 workers and injuries to about 2,500 workers, brought the occupational security issue to the world's attention. A new study by the International Labour Organization Research Department (ILO 2013) warns that unless a comprehensive set of labor market and social policies are introduced, Bangladesh will be unable to maintain its economic momentum and improve living standards in a sustainable way.

In the case of the Chilean salmon industry, the development of this new industry might have succeeded in creating 'productive employment', or employment that yields sufficient returns to labor to permit workers and their dependents to live at the level of consumption above the poverty line (ILO 2009). However, a part of this 'productive employment' might not be always considered as 'decent work,' or work that provides

security (health, pensions, security against job loss), equity (equity of conditions and opportunities for all the workers) and adequacies (appropriate working hours, absence of coercion) (ILO 2012). This is largely due to the lack of well-established labor legislation, including a labor code capable of adequately regulating labor relations at the company level in Chile. For instance, employment without contract and social security for employees was the standard practice in some small-scale salmon farming firms in Chile.

These cases show the necessity of providing the secure environment for economic activity, which is an attribute of quality of growth not fully addressed by inclusiveness and sustainability of growth.

8. Synergy, trade-offs and other relationships among attributes of quality of growth and transformation

Both APEC and Summer Davos documents refer to balanced growth. The APEC Growth Strategy states: "We seek growth across and within our economies through macroeconomic policies and structural reforms that will gradually unwind imbalances and raise potential output" (APEC 2010, 2). The Summer Davos 2011 document affirms that, "Imbalances in national economies and the global economy are ingredients of crisis and have to be addressed to mitigate the risks from volatility and uncertainty" (World Economic Forum 2011, 3).

As fiscal balance is an important part of balanced growth, this obviously would limit the capacity of government to increase expenditure to improve quality of growth in terms of some of the attributes. For example, conditional cash transfer (CCT), which effectively contributes to the access of poor people to education and health, has to be carefully carried out within fiscal constraints. The cost of Bolsa Familia, which has been a successful CCT in Brazil that resulted in significant improvement in education and in the decrease of the mortality rate of children under five years of age, was around 0.5% of GDP. Brazil, as a middle-income country, has been able to afford this cost. The benefits of Bolsa Familia have been really remarkable compared with its cost. However, some low-income countries with serious budget constraints could not afford CCT on the same scale as Brazil.

In this regard, the analysis of Lopez et al. (2008) on fiscal policies for

better results in terms of quality of growth seems highly relevant. "Fiscal policy is important for allocating resources to maintain a balance between the three key assets of society: human capital, physical capital, and natural capital, which are critical for the quantity and quality of growth....Fiscal policy is therefore a powerful instrument, capable of affecting the orientation of asset accumulation and economic growth in a dramatic way" (p. 17).

From this perspective, a holistic approach to quality of growth while bearing in mind its different attributes together appears to be essential, because there are instances in which transformation and quality of growth could be achieved together and could produce synergies, for example, between inclusiveness, sustainability, and innovative virtuous process, as mentioned in Sections 4, 5 and 6, especially from a long-term perspective. Furthermore, while in the short term, inclusive growth could need external resources to assure people of equal access to opportunities through, among other things, education and health, the necessary resources could be endogenously generated in the medium and long terms by transformation with inclusive growth, due to increases in tax and other revenues derived from expansion of industrial activities or economic transformation. On the other hand, as the investment in three types of capital, human, natural and manufactured capital, is the key for transformation and quality of growth (UN-ESCAP 2013, 7), quality of such investment could be crucial for quality of growth. Japan's Development Cooperation Charter considers it important to catalyze private sector investments to contribute to inclusiveness, sustainability, resilience, and capacity development in order that such investments facilitate "high quality growth."

Not all attributes and transformations can be achieved simultaneously or in the short term. Synergies, trade-offs, priorities and sequences could be important for both transformation and quality of growth agendas. Not only financial resources, but also effective institutions for achievement of high-quality growth are essential. Therefore, a comprehensive and holistic approach could be necessary for "quality of growth" and "transformation" discussion. In this regard, both the APEC Growth Strategy and UN-ESCAP document (2013) provided such approach. The former document states that APEC members cannot continue with "growth as usual" and "the quality of growth" needs to be improved in terms of the five attributes (APEC 2010, 1-2). The latter

provided a "framework for quality of growth by building a virtuous cycle of investment in people and nature—a growth path which is more closely aligned with sustainable development" (UN-ESCAP 2013, 30).

9. Concluding remarks

This paper was intended to discuss and gain insights into the interrelationship between transformation and attributes of quality of growth. Based on this discussion, the following points should be highlighted.

First, transformation and quality of growth need to be considered in a holistic manner as a comprehensive target to be achieved. The APEC Growth Strategy could be regarded as a pioneering initiative with a holistic framework to attain such target. For the transformation agenda, the quality of growth with attributes such as being balanced, inclusive, sustainable, innovative and secure, should be fully taken into account, bearing in mind the interrelationship, synergy and trade-offs among them.

Second, as the transformation agenda is different among countries of distinctive characteristics such as those with a high proportion of subsistence agriculture, urbanizing economies, early industrializing economies, those in the middle-income trap, and so on, measures to transform their economies and attain desired attributes of quality of growth could be different, and there is no standard model of growth strategy to address challenges of transformation with growth with improved quality.

Third, it might be more realistic to design measures to attain the desired attributes of growth quality alongside development of specific industries, with which structural transformation is taking place, bearing in mind the specific transformation and quality of growth agendas.

Fourth, on the other hand, the interrelationship among attributes of quality of growth and industrial transformation is complex and, therefore, a holistic and comprehensive approach is needed with due attention to macro-economic balance and stability, fiscal balance, synergy, trade-offs and so on. The discussion on quality of growth and industrial transformation deserves a further in-depth analysis.

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