

Basics of Trade and Economic Development

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Introduction

This paper focuses on the close relationship between trade and development.¹ The reader may be familiar with the terms “import substitution industrialization” and “export-oriented industrialization.” Using these as a starting point, the sections in this paper provide an overview of the history of development through trade. They also refer to the deep relationship between trade and economic development. Section 1 examines the relationship between trade and economic development, using a diagram for reference. Section 2 focuses on the concept of “comparative advantage” in theories of trade that gives rise to development. Section 3 examines the concept of “dynamic comparative advantage” as it relates to development. Section 4 surveys developments in economic integration, which is a rapidly growing trend since the mid-1990s, and its relation to development policies. Finally, Section 5 summarizes the paper.

1. Deep Relationship between Trade and Economic Development

The 19th-century economist Alfred Marshall argued that economic progress and trade are closely related. The key to understanding this point is the idea that trade is simply a division of labor, and dividing labor increases efficiency (as I am sure most of us would know from personal experience).² Creating development through trade means that goods and services can be produced by an “international division of labor.” They can then be exchanged through exporting, thus enabling consumption of a greater variety of goods and services.

We will now consider the relationship between trade (**X**: exports; **M**: imports; written in bold in the diagram for emphasis) and economic development (**Y**: GDP; written in bold in the diagram for emphasis), mainly with reference to Figure 1. $Y = C + I + G + X - M$ is the formula used to express the equilibrium (balance) of the entire economy (the macroeconomy), and is always true. The process by which the size of the entire economy becomes progressively larger is the state of economic growth. The left side of the formula represents the amount of supply—the amount of goods and services that can be created. The right side represents the amount of demand—the amount of

these goods and services that consumers want to buy. Whether the left side or right side of the formula comes first is a key discussion topic throughout the field of economics. However, usually during the initial phase of economic growth, the issue of whether goods and services can be produced (whether the supply capacity on the left side exists) is determined before the issue of whether those goods and services can be sold (whether the demand on the right side exists). Japan's present day economy is in a state of being able to produce (having the capacity) but not actually producing (due to lack of demand), a state that typically appears in the form of a recession.

Historically, Japan has used trade for overseas exporting centered on fiber products such as cotton thread and cloth (prewar), and vehicles and appliances (postwar). The foreign currency obtained has been used for importing, enabling domestic consumption of a large variety of goods and services. The period from the end of the war in 1945 to the "Korean special procurements" of the early 1950s (a boom in exports of military equipment from Japanese manufacturers to the US for the Korean War) spurred Japan to move into a phase of full-scale "development through trade." Following Japan's successful example, the developing countries of East Asia then also adopted policies of trade growth and industrialization.³ Specifically, two types of policies were used—import substitution industrialization and export-oriented industrialization (achieving growth in Y from growth in X). Each type is discussed below.

The M term (imports) on the right side of the formula means "supply from overseas," so it is more correct to put it on the left side of the formula ($Y + M = C + I + G + X$). The Y term can now be considered as domestic supply (such as domestically produced vehicles or home appliances), and the M term as supply from overseas (such as vehicles or home appliances produced overseas). If the Y term is increased, there will be corresponding domestic job creation and wage and income growth, which could result in more consumption (C), and improved economic wellbeing. *Government policy based on the above notion is known as "import substitution industrialization policy." It is the policy of minimizing imports (M) and substituting for them by increasing domestic production (Y) to increase the left side of the formula. The domestic income obtained is then used to attempt to grow consumption and gain enrichment (economic growth).* Specifically, it is the policy of setting tariffs on imports to increase their sale prices relative to domestic products by a corresponding amount, thereby protecting and fostering high cost domestically produced products. It amounts to the protection of

domestic industry by means of “price distortion.” The countries of East Asia have a history of import substitution industrialization. Starting in the 1950s (coinciding with the Korean special procurements), Japan sought to industrialize by switching its vehicle supply from US imports to domestically produced models—a good example of an import substitution industrialization strategy. Following Japan’s example, South Korea, Taiwan, Singapore, Hong Kong and other NIEs (newly industrialized economies) then also adopted import substitution industrialization policies (before moving toward export-oriented industrialization in the 1960s). This process was also intended to achieve efficient domestic production by developing production technologies domestically, or bringing them in from overseas.

ASEAN nations started import substitution industrialization policies in the 1970s, notably Thailand for final production of automotive products, and Malaysia for home appliances. The full-scale switch to export-oriented industrialization took place in the 1980s.

Figure 1 Relationship between trade and economic development

$$Y = C + I + G + X - M$$

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The meaning of the above formula is “amount of supply (left side) = amount of demand (right side),” where

Y: GDP (gross domestic product) usually represented by Y for “yield” (i.e., production)

C: Consumption

I: Investment

G: Government expenditure

X: eXports (The X in “exports” is used since the symbol E is sometimes used for another meaning in economics.)

M: iMports (The M in “imports” is used since the symbol I is used for investment.)

Export-oriented industrialization policy is the attempt to achieve economic growth by increasing the X term (exports going overseas) in the $Y = C + I + G + X - M$ formula in order to increase demand (the right side of the formula), and thereby increase domestic supply Y (the left side) by a proportionate amount (through the transfer and development of production technologies). As with import substitution industrialization, the process is also intended to achieve efficient domestic production by developing production technologies domestically, or importing these. After adopting an import substitution industrialization policy for its automotive industry, Japan switched to an export-oriented industrialization policy in the 1960s, and has subsequently been promoting economic growth by exporting home appliances (since the 1970s) and semiconductors (in the 1980s) to the US, Europe and other overseas markets. As previously described, NIEs switched from import substitution industrialization policies to export-oriented industrialization policies in the 1960s, and ASEAN countries in the 1980s. These policies have remained in place to the present day.

Consequently, import substitution industrialization and export-oriented industrialization are prominent features of Japan and other East Asian countries, and have received worldwide attention. Going forward, Africa, which has many “Least Developed Countries” (LDCs), is also aiming to start industrializing through import substitution industrialization, followed later by export-oriented industrialization. A brief reflection on some of the history of import substitution industrialization may be helpful at this point. Key production technology development was neglected because attention was paid only to the fact that import substitution industrialization failed outside of Latin America and a few countries in East Asia in the 1950s and 60s, and to the fact that this failure led to “rent-seeking” by domestic companies (increased political lobbying to profit monopolistically from tariff protection for industries). As described later, there is a view that import substitution industrialization policy that calls for tariffs to be maintained is unrealistic in today’s era of increasing economic integration (lowering of tariffs among groups of countries). Consequently, a more realistic approach for developing countries seeking development through trade may be

to attract foreign companies by liberalizing trade and investment (promoting direct investment). This would strengthen domestic production (using foreign companies as a substitute for imports), while also promoting export-oriented policies.

2. Theories of Trade:

“Comparative advantage”

The previous section discussed how trading results in economic growth. This section will present just two of the leading models that describe why trade happens in the first place. The concept of “comparative advantage” will be important in this section. A comparative advantage is an area in which the local country has the most skill. For example, when considering two countries (the local country and another country), and two products⁴ (a farm product and an industrial product), the idea that the local country is skilled at agriculture can be expressed by saying that the local country has a comparative advantage in agriculture. In trade models, it is comparative advantage that determines the trading pattern between two countries. The two trade models described below (the Ricardian model and Heckscher-Ohlin model) are both rooted in the concept of comparative advantage.

1. Ricardian model: Production technology differences determine comparative advantage

The “Ricardian model” illustrated in Table 1 is a model devised by 19th century economist David Ricardo. It states that production technology differences determine comparative advantage. Table 1 shows the number of workers that will be needed when the local country and another country produce one unit of wine and one unit of wool. If the wine and wool are of the same quality and factors such as country-specific brands are ignored, the number of workers required can be considered as an inverse of the superiority of the production technology. In Table 1, the local country has low-level production technology for both wine and wool production, as it requires more workers than the other country. In other words, the local country can be viewed as a developing nation with a low level of production technology.

Table 1 Ricardian model numerical example

	Number of workers needed to produce one unit of wine	Number of workers needed to produce one unit of wool

Local country	120	100
Other country	80	90

Source: Numerical example from David Ricardo (1817), *On Foreign Trade*, Paper 7.

However, the issue can now be viewed another way—we can ask whether the local country is better at producing wine or wool. For example, the local country needs 120 workers to produce one unit of wine, but if these workers were used to produce wool instead of wine, how many units of wool could they produce? The answer is calculated as follows: $120 \text{ workers} \div 100 \text{ workers} = 1.2 \text{ units of wool}$. Similarly, the other country needs 80 workers to produce one unit of wine, but if these workers were used to produce wool instead of wine, how many units of wool could they produce? The answer for the other country is calculated as follows: $80 \text{ workers} \div 90 \text{ workers} = 0.89 \text{ units of wool}$. Together, these two results indicate that the local country could produce more wool by giving up production of one unit of wine to produce wool. In other words, the local country can be considered “comparatively skilled” at wool production relative to wine production. In this case, the comparison being made is a direct comparison between wine and wool (by the mathematical process of division). Hence, the local country can be said to have a comparative advantage in wool production. In contrast, if the other country gives up production of one unit of wool to produce wine, the denominator and numerator in the division above switch places (try the calculation yourself), thus indicating a comparative advantage in wine production for the other country. Because the production technologies needed by the local country and other country to produce wine and wool are different, differences arise in the number of workers needed, and these differences determine comparative advantages. This idea is the essence of the Ricardian model. Its significance to the developing nation local country in this example is that even if its production technologies are inferior to the other country’s production technologies, a product (industry) must exist in which it has a comparative advantage. In other words, a product that it can export must exist (wool in this example). Therefore, every country has a selling point when it comes to trade—a comparative advantage.

If the Ricardian model is applicable to the real world, developing countries should always have some product or service they can export, and should become able to grow their economies by using the fair profit obtained from it. However, in the real world, the theory of comparative advantage is not always applicable as a way to

understand trade, recognizing anti-globalization forces affecting developing countries. Alternatively, there is some support for the view that trade patterns are determined by an “absolute advantage” approach. For example, even if the comparative advantage of the African countries is light industry (they cannot produce high-tech products), African-made light industrial products’ sales will be hit if a non-African nation (such as China) exports light industrial products of lower absolute price than African-made light industrial products. In other words, even when a comparative advantage exists, market forces determine that the global market also demands that prices be low on an absolute basis.⁵ The Ricardian model is based on several simplifying assumptions that somewhat limit its usefulness in the real world⁶. Whether comparative advantage or absolute advantage is the reason for each trade transaction in the real world might be determined by factors related to these assumptions.

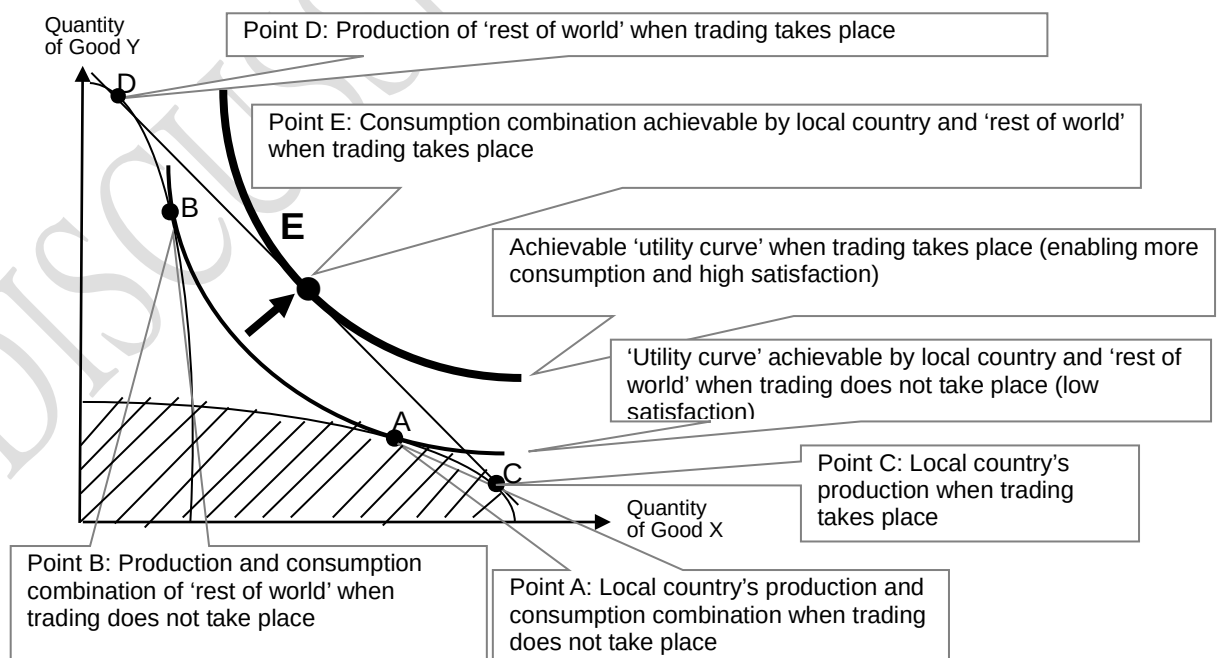
2. Heckscher–Ohlin model: Factor endowment differences determine comparative advantage

The Heckscher-Ohlin model is another well-known trade model. While the Ricardian model states that production technology differences are the reason for trade, the Heckscher-Ohlin model states that comparative advantage is determined by differences in “factor endowment”. In this model, trade will take place between two countries even if they have no difference in production technology. The reason given by this trade model is that the quantities of the factors needed for production exist in different proportions (factor endowments) in each country. The model therefore uses two production factors: labor and capital. As an example, a highly populated developing nation would have a relative abundance of the “labor” production factor in comparison to the “capital” production factor (mainly, plant and equipment). This developing nation could therefore be considered to have a comparative advantage in labor-intensive goods—production of products or services of types with proportionately more labor than capital used during production. Specific examples of labor-intensive goods could include farm products and fiber products. In contrast, Japan and the other developed countries have a relative abundance of capital in comparison to labor. Therefore, these countries could be considered to have a comparative advantage in capital-intensive goods—production of products or services of types with proportionately more capital than labor used during production. Specific examples of capital-intensive goods could include vehicles and semiconductor-driven

electronic devices.

Figure 2 illustrates these concepts. If there are two countries in the world, and each country specializes and produces in its area of skill, each country will increase its overall degree of satisfaction (level of utility) by engaging in exchange (i.e., trade). Point E in the diagram shows the consumption of Good X and Good Y for quantities which cannot be produced by the local country only. In other words, these high consumption quantities cannot be achieved through self-sufficiency. The graph's horizontal axis represents the quantity of Good X (a farm product such as bananas), and the vertical axis represents the quantity of another good, Good Y (an industrial product such as computers). Both goods are needed for a comfortable human life, and the degree of satisfaction (level of utility) is expected to increase as the quantity of each good increases. If the quantity of one good is low, the utility stays the same if the quantity of the other good is high. Connecting all the Good X and Good Y quantity combinations for which the utility is the same creates the arc-shaped curves shown in the diagram (known as "utility curves"). Countless utility curves can be plotted, according to the level of utility. The farther to the top right on the curve, the higher the level of utility created for consumers.

Figure 2 Graph for Heckscher-Ohlin model



Source: Created by the author from sources on Heckscher-Ohlin model.

Good X and Good Y both need to be produced (the goods must be produced to be consumed). The set of possibilities for production of Good X and Good Y by the local country is shown by the diagonal shading in the diagram. The set of production possibilities for the “rest of the world” has the same shape in the diagram as it does for the local country (but is oriented vertically). The production possibility set for the local country is oriented horizontally, and the production possibility set for the rest of the world is oriented vertically. In other words, the local country is skilled at making Good X. When the local country is self-sufficient and no trade takes place, Good X and Good Y must be produced by the local country and consumed by the local country in the combination shown by Point A. However, since the local country is not skilled at producing Good Y, the achievable utility is low. In contrast, if trade takes place, the local country produces at Point C (i.e., nearly exclusively produces Good X, its skill area). Since the local country is skilled at producing Good X, it gives (exports) some of the large quantity of Good X produced to the rest of the world.

On the same principle, the “rest of the world” produces Good Y (its skill area) nearly exclusively, and some of the large quantity of Good Y produced is received (imported) by the local country. Thus, the local country and country B can consume at the high level of utility shown by Point E. This high utility is the benefit of free trade. In trade terminology, producing something exclusively is known as “specialization.” Specializing in an area of comparative advantage and exporting it leads to overall benefits for all the countries concerned. This trade model is called the Heckscher-Ohlin model, named after the two 20th century economists (Eli Heckscher and Bertil Ohlin) who jointly created it. (Ohlin received the Nobel Prize in Economics for his work on this model.)

The Heckscher-Ohlin model has the same key point as the Ricardian model—development through trade is important, and many countries have made development through trade a national policy. “Opening up” a country through trade can be considered as a source of national prosperity. Another finding of the Heckscher-Ohlin model is that industries of comparative disadvantage (industries without a comparative advantage) shrink, and the “compensation” provided to the production factors used in abundance in those industries is likely to fall. (In the case of developing countries seeking to industrialize, this compensation is frequently the earning rate of plants and other capital investments.) Trading in industries with

comparative advantages produces benefits and creates positive effects for the country overall, but often leads to a backlash from firms in shrinking sectors (and the workers in those industries who are forced into unemployment). The reason for this backlash is the same reason several developing countries are against globalization—they want to be on the path to future industrialization, but can foresee a situation in which competition from other countries prevents growth of their industrial product exports, thereby preventing growth of their industrial sector.

The Heckscher-Ohlin model also makes several assumptions. Three notable assumptions are: (1) perfect competition (the assumption that since many producers could potentially exist, producers cannot increase profits to an unfairly high level in excess of wages), (2) small countries (the assumption that the behaviors of the countries engaging in trade do not affect the production quantity of the entire world⁷), and (3) production factors that can move freely within countries and are unable to move internationally. These assumptions might all be inapplicable in the real world, in which case trade might not bring benefits to the countries taking part in it. This criticism appears to be another reason for anti-globalization. However, the Heckscher-Ohlin model is a very important conceptual framework since it states that if a free trade system works properly, it can create positive benefits (and therefore economic growth) for all the participating countries through exchange, and points out the features that must be present to make the system work properly.

3. Trade and “Dynamic Comparative Advantage”

Changing nature of comparative advantage

The comparative advantage concept that is the focus of trade models means a current area of skill. This section presents the idea that comparative advantages can change rapidly. Imagine a country’s economic growth as analogous to a person growing up. For example, a person might be skilled at dancing and simple crafts as an infant. Nevertheless, as the person matures, they could develop a skill area such as math (calculus). Changes in the person’s comparative advantages not only will occur, but also must occur. The same is true for the economic growth of a country. Even if protection of “infant industries” is accepted for a given period, ending that phase as promptly as possible and expanding exports of advanced industrial products under a free trade system, while also removing tariffs and importing is the economically self-reliant and proper approach. In terms of Figure 2 in the previous section, the shape

of the production possibility frontier can be induced to change through popular effort and government policy.⁸

Example of South Korea

This section discusses the example of South Korea. An “underdeveloped” country shortly after the war, South Korea was advised by the World Bank to specialize in agricultural production. The basic awareness of the World Bank’s economists was that agricultural production was the country’s comparative advantage. Nevertheless, the country did not fully accept the World Bank’s assessment, and continued production of industrial products (mainly through technology transfer from Japan), an area in which it did not necessarily have a comparative advantage. The result was that South Korea’s major exports changed rapidly over time, just as Japan’s had. From farm products, they changed to fiber products, and then to light industrial products, vehicles, and semiconductor-driven home appliances.⁹ Production methods themselves also changed progressively. Substituting domestic production with importing, and the greater income gained from exporting, have greatly changed lifestyles in South Korea through the diversity of consumer goods.¹⁰ This outcome shows that Korea clearly adopted import substitution industrialization policies focusing on “dynamic comparative advantage,” and that economic growth was created in the country because of also engaging in export-oriented industrialization.

Infant industry protection policies

“Infant industry protection” policies seek to impose tariffs on products imported from foreign countries to protect and foster the domestic counterparts of the targeted industries. These policies can be considered to have major significance when dynamic changes in comparative advantage can be expected. In other words, proactive inducements created from trade policies tied to industrial policies result in rapid changes in comparative advantages in trade. Production growth then enables effects such as learning and competition, and increasing returns¹¹ (further productivity increases from increased production) take hold. The first result is a productivity increase in domestic industries. These events are a familiar pattern of development brought about through dynamic changes in comparative advantage. This pattern has unfolded in many East Asian countries, including Singapore (a fishing port that became a center for financial and other services), Malaysia (farmland that became an

appliance-based industrial country), and Thailand (farmland that became an automotive-based industrial country). Like Japan, these countries have experienced striking economic growth since the 1960s. The World Bank has called this phenomenon the “East Asian miracle.”¹² In the years ahead, countries such as Vietnam, Indonesia, Cambodia and Myanmar will probably also become more proactive in adopting policies designed to create dynamic changes in comparative advantage that can lead to economic development.

The rise of “intra-industry trade” (within the same industry) in East Asia has been a significant trend since the 1990s. It involves Japanese companies investing directly in ASEAN (Association of Southeast Asian Nations) countries such as Thailand, Malaysia, and the Philippines to enable single-location production of parts and other intermediate materials designed to create increasing returns (also known as “scale benefits”) from the plants in these countries. This direct investment is known as “de facto economic integration,” as opposed to “official economic integration” done through legal measures, which is discussed in the next section. These countries then export these items to each other, resulting in intra-industry bidirectional trade. The Ricardian model and Heckscher-Ohlin model both analyze inter-industry trade between industries such as agriculture and manufacturing. Intra-industry trade theories that modify these models to incorporate the principle of increasing returns have been created.¹³

4. Economic Integration and Development

Background of economic integration

This section looks at trade and development from the perspective of developing countries in an environment of globalization. Economic integration is the creation of “official economic integration” between the economic activities of two or more countries by using a free trade agreement (FTA) to abolish tariffs or unify legal systems. It produces a state resembling a single economic zone. The foremost example is the EU (European Union), where economic integration has been implemented among multiple European countries. In the Asia-Pacific region, two-country FTAs between Japan and countries such as Singapore, and multiple-country agreements with names such as RCEP (Regional Comprehensive Economic Partnership) and TPP (Trans-Pacific Partnership) are key developments in economic integration.

Such moves toward “official economic integration” have started to gain more

traction than the multilateral free trade negotiations (seeking economic integration among all WTO member nations) of the WTO (World Trade Organization) that started in the 1990s around the world. Economic integration negotiations have begun to gain momentum in Japan also.

Free trade brings overall benefits to the countries that engage in it. But when free trade is implemented too rapidly, these benefits take the form of comparative advantages providing growth to some industrial sectors while others shrink, often leading to job losses. Developing countries and advanced countries concerned about this problem have different sources of comparative advantage, so both are averse to large-scale trade liberalization through the WTO, primarily fearing job losses. As this paper is being written, the WTO's multilateral trade liberalization negotiations have stalled. Negotiations named the "Doha Development Agenda" for developing countries have been ongoing since 2001. Consequently, there has been a rise in two-country and multiple-country agreements that allow free trade only among the remaining sectors after each signatory has excluded sectors with which there are fears of trade shrinking. These protective measures are the reason behind the growth of FTAs.

Static effects of economic integration

The specific "static effects" of economic integration created immediately by signing FTAs include the trade creation effect and trade diversion effect. When economic integration is implemented by signing an FTA, new trade starts to take place in the applicable region (group of countries). This phenomenon is known as the trade creation effect. At the same time, trade with outside areas shrinks, and the lost trade is diverted to within the region. This phenomenon is known as the trade diversion effect. The trade creation effect and trade diversion effect are observed when the existing state of industries is unchanging (static), so are considered "static effects."

Consider a three-country world containing the local country, Country B and Country C. Initially all the countries have WTO-implemented import tariff policies. The local country and Country B then sign a new economic integration agreement (i.e., a Free Trade Agreement, or FTA). The import tariffs between the local country and Country B are abolished. Tables 2 and 3 below provide numerical examples of the two effects.

Table 2 Numerical example of trade creation effect (when FTA is signed by local country and Country B)

	Local country	Country B	Country C
Domestic production cost (= Domestic price)	100	90	85
Price after imposition of tariff (20%) by local country (WTO's MFN treatment)	100	108	102
Price after free trade agreement between local country and Country B	100	90	102

Source: Created by the author.

Table 3 Numerical example of trade diversion effect (when FTA is signed by local country and Country B)

	Local country	Country B	Country C
Domestic production cost (= Domestic price)	100	90	80
Price after imposition of tariff by local country (20%) (WTO's MFN treatment)	100	108	96
Price after free trade agreement between local country and Country B	100	90	96

Source: Created by the author.

The first row of Table 2 shows that the domestic production cost of a product (e.g., a car) is **100** in the local country, **90** in Country B, and **85** in Country C. The product is assumed to be of equal quality in each country, and the numbers are assumed to represent the same currency. In this example, Country C has the highest production efficiency, followed by Country B and then the local country.

If the local country imposes a tariff (a **20%** ad valorem tariff on imports) on Countries B and C on a WTO (multi-country) basis, the second row of Table 2 shows that the sale price of the product in the local country will remain at **100** for the locally made product, and will rise to **108** for the import from Country B, and **102** for the import from Country C. (The sale prices of the imports from Countries B and C are calculated as follows: $90 \times (1 + 0.2) = 108$, and $85 \times (1 + 0.2) = 102$.) Therefore, economically rational consumers in the local country will buy the locally made product, which has the lowest sale price.

If the local country then signs a new free trade agreement with Country B, the tariff will no longer be imposed on imports to the local country from Country B. The sale price of the import from Country B in the local country will then be lowered back to 90. In this case, economically rational consumers in the local country will switch to buying the import from Country B, which now has the lowest sale price. In other words, purchases of the locally made product in the local country will stop, and be replaced by new imports of the Country B product. This phenomenon is the trade creation effect. It occurs because consumer demand shifts from the locally made product, with inferior economic efficiency, to the more efficient Country B product. It is desirable from the standpoint of more efficient use of economic resources. However, the product with the lowest price worldwide is still the product made in outsider Country C, so it would generally be most desirable to increase imports of the Country C product. However, since the free trade agreement only exists between the local country and Country B, the trade creation effect is generated from imports from Country B as a “second best policy.” The product made in outsider Country C is discriminated against.

Now consider Table 3. It assumes that the production cost is 80 in Country C and the same as before in the other countries. In this case, the product imported from Country C is still the cheapest, even after a 20% tariff is imposed, as shown in the second row of the table. The Country C product is therefore imported to the local country under the WTO trade system. In this situation, the local country and Country B now sign the same free trade agreement as that of Table 2. In other words, tariffs are abolished between the local country and Country B. In this case, the Country B import that was originally less economically efficient than the Country C import has now become the cheapest product. Imports from Country C now stop, and are diverted to imports from Country B. This phenomenon is the trade diversion effect. It will be preferred by Country B's producers, whose economic efficiency is inferior to Country C's producers. This is undesirable from the standpoint of economics (or allocation of resources). It is a phenomenon that occurs because the FTA between the local country and Country B has politically excluded Country C. It is considered an abuse of free trade agreements.

For developing countries, working on free trade agreements (i.e., keeping free trade agreements open) trade diversion is more desirable than excluding countries of good economic efficiency, like Country C.¹⁴ Expanding this principle worldwide

leads to the conclusion that WTO-based multilateral trade liberalization is ultimately the most desirable approach, since every country on earth (on both sides of the global “North-South divide”) has some sort of economic efficiency or comparative advantage. Every free trade agreement should ultimately point in that direction, and be designed to progress economic development in developing countries.

Developing countries and dynamic effects of economic integration

Economic integration also has “dynamic effects” that appear over time —primarily the “productivity rise effect” and “capital accumulation effect.” These effects are nearly the same as the dynamic effects of comparative advantage discussed in the previous section (such as the learning, competition, and increasing returns effects). When the dynamic effects arise in an FTA region, the productivity rise effect means that productivity increases, and the capital accumulation effect means that investment from overseas grows. To enable longer-term exporting of advanced products, without being misled by the static effects covered above, developing countries may need to adopt development policies that prioritize these dynamic effects.

In this connection, “Terms of trade” refers to the conditions of exchange when trading. The simplest formula for expressing it is “Exports ÷ Imports.” It expresses how profitable trade is to the local country. The higher the value, the more profit is gained from trade. The lower the number, the more disadvantageous trade is to the local country. For example, bananas are an export from the Philippines to Japan, and cars are an export from Japan to the Philippines. One banana costs about 20 yen, while a car costs about 2 million yen (depending on the model). Therefore, the Philippines must export 100,000 twenty-yen bananas to Japan to acquire the money needed to import one 2-million-yen car from Japan. In this case, the Philippines’ terms of trade with Japan are 100,000 bananas in exports and one car in imports, so $1 \div 100,000 = 0.00001$ (actual exporting and importing transactions are done in each country’s currency, and there are many products traded between the two countries, but this example is an accurate simplification.) If the price of the bananas exported by the Philippines increases, the country’s terms of trade number will increase (improve), and the Philippines will certainly be able to import one car by exporting a smaller number of bananas. Nevertheless, in practice, the price of bananas has been falling historically, while the price of cars has been increasing through constant technological advances. In other words, the Philippine’s terms of trade will continue to deteriorate if bananas (a

farm product) continue to be the country's only export. Consequently, widening economic gaps may arise between developing countries, with comparative advantages in farm products, and advanced countries with comparative advantages in industrial products. If so, this situation is serious for developing countries.

UNCTAD (United Nations Conference on Trade and Development) is an organization created by the UN to promote economic growth among developing countries and correct the problem of the "North-South divide." Long-term deterioration of terms of trade has been a major issue for UNCTAD since it began its activities in 1963. This claim is known as the "Prebisch Singer thesis" after the two prominent economists who advanced it. Simply put, it states that there is a tendency for the terms of trade (the conditions of exchange when trading) to get progressively disadvantageous for developing countries. It has therefore led to improvement efforts such as price supports for farm product exports from developing countries. The claim goes against "laissez-faire globalization" and is the backdrop for discussions calling for fair trade (such as Stiglitz and Charlton [2005]). UNCTAD prioritizes the economic growth of developing countries through trade, while the WTO is aiming for worldwide economic growth through the creation of a global free trade system that also includes the advanced countries. The struggle between these two organizations defines the current state of the world trade system.

5. Trade and Development: Summary and Outlook

This paper has discussed the mechanisms and history of development through increased trade, along with related policy issues.¹⁵ The mechanisms (theory) of trade and development can be summarized by the following two points: (1) Every country has a selling point (comparative advantage), so if developing countries specialize in the areas of comparative advantage they now have, they will be able to earn foreign currency by trade with overseas countries. (2) If developing countries can use this foreign currency to expand their production capabilities by investing in currently unskilled areas they want to grow in future, they will be able to achieve economic growth while progressively changing their areas of comparative advantage. The economic growth of Japan and other East Asian countries can be cited as historical evidence of this claim.

The key points regarding trade and development are that trade theory shows

that any country can gain benefits by specializing in its area of comparative advantage¹, and that East Asian countries have grown greatly through trade. However, at the same time, cases of trade arising from exporting enabled by “absolute advantage” can also occur in the real world. This feature makes it impossible for some countries to gain exporting opportunities (and is closely tied to development problems such as increasing job losses). Conflicts between developing countries and advanced countries concerned about this issue have resulted in the current stagnation of WTO-based free trade. How to reconcile the well-known logic of “comparative advantage” (the focus of the trade theory discussion of this paper) with the logic of “absolute advantage” observed in the real world is a major policy issue for the topic of trade and development. The work being done on WTO-based multilateral trade liberalization could be called the largest experiment in economics in human history. The issue of how the coexistence of this work with FTAs will affect development through trade is a major topic for research.

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¹Sources dealing with trade from the perspective of development economics include Ray [1998] and Todaro and Smith [2011].

²There is a wide variety of examples of this idea in everyday life. The opening of Adam Smith's famous work *The Wealth of Nations* gives the example of a pin factory. Smith states that it is because each worker is devoted to a separate assigned task (metal drawing, cutting, head rolling, and so on) that a large number of pins can be produced. The second half of the work discusses the benefits of free trade, and the deep relationship between division of labor and trade.

³The reason industrialization was selected (instead of agricultural development) was that industrial products have high "income elasticity of demand," which means that as incomes increase along with economic growth, consumers spend a greater proportion of their incomes on purchases of industrial products, such as TVs and cars. Producing industrial products therefore makes it easier to earn profits under conditions of worldwide economic growth. Naturally, if every country prioritizes industrialization, a condition might arise in which farm products become scarce and prices rise, making it easier to profit from developing agriculture. Along with industrialization, Vietnam has also created trade policies prioritizing farming of crops such as coffee. Its future economic growth will be closely followed.

⁴In traditional trade theory, "two" means "many." Of course, there are about 200 countries in the world, but representing them all in trade models would be overly complex, so considering them as being simplified into two entities ("the local country" and "all the other countries") may be helpful.

⁵Trade in the real world is often not settled smoothly, for example:

"My country's overall level of technology is low, but you could say textile production is our comparative advantage. The level of quality in that area is still low in absolute terms, but at least it's better than the low quality of our car production, so please buy (import) our textiles."

"I see, so if textiles are your country's comparative advantage, then of course we'll import them from you."

Naturally, consumers often demand high quality in absolute terms, and developing countries opposing trade liberalization as a result of losing their exporting "selling point," or "turn," is a situation observed in the real world.

⁶Specifically, that full employment of workers has been achieved in both the local country and other country, that there are no product shipping costs, that worker movement is completely free within countries and impossible between countries, and other assumptions.

⁷An analogy from everyday life is the water level changing when an adult gets in a bathtub, but remaining nearly unchanged when a child gets in. The assumption of small countries means that just like the child in this analogy, the countries are small enough to be unable to affect the product production quantity of the entire world (the water level in this analogy). This assumption is linked to the model's claim that the prices of Good X and Good Y do not change due to production quantity increases or decreases by the local country. See the feature topic for a discussion of development and the prices of exports/imports.

⁸The discussion of this area in the 19th to early 20th century includes the case made by Mill (1848) that protection of an infant industry is warranted if it can eventually become self-sufficient through protection, and the case made by Bastable (1917) that protection of an infant industry is warranted if the future profits obtained from its protection will be greater than the current losses.

⁹The author can dimly remember a TV commercial that aired on Japanese TV in the 1970s. It was for shoes made by a South Korean company named Mitsuboshi Shoes. Today this company is known as Samsung, and instead of making light industrial products such as shoes, it is now a household name in high-tech home appliances such as LCD TVs. In other words, the company's comparative advantage has dynamically changed over time.

¹⁰The effect of economic growth on consumption is more than just enabling consumption of large quantities of the same products. Economic growth also enables consumption of a diverse range of more advanced goods and services such as iPhones, high picture-quality flat-panel LCD TVs and automatic cleaning robots. This diversity of consumption is made possible by a diversification of goods resulting from trade.

¹¹See Paper 14 for a discussion of the effects that increasing returns create on economic

development.

¹²See World Bank [1993] for more information.

¹³Krugman [1979, 1980] are prominent theoretical studies of intra-industry trade. Ethier [1979] is a prominent theoretical study of bidirectional trade made possible by central production and trading of intermediate materials.

¹⁴This point may be particularly important for developing countries since there is a large trade diversion effect in developing countries that is created by tariff-based discrimination against superior products from outside the region of economic integration.

¹⁵Figures such as monetary trade volumes and import tariff rates have not been presented, but the latest trade statistics can now be obtained by web searches (such as by searching within www.worldbank.org, www.unctad.org, www.wto.org, and other international organization websites).