Export Development for the Dominican Republic

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Export Development for the Dominican Republic

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Export Development for the Dominican Republic

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Preface

The origin of this report goes back to a July 2006 visit to the Korea Development Institute (KDI) by President Leonel Fernandez Reyna of the Dominican Republic. Already familiar with Korea's development experience, President Fernandez participated in a special seminar on knowledge economy and engaged in a lively discussion with KDI scholars. He subsequently instructed Minister Eddy Martinez Manzueta of the Export and Investment Center of the Dominican Republic (Centro de Exportación e Inversión de la República Dominicana, or CEI-RD) to seek cooperation with the KDI.

On a visit to the Republic of Korea in August 2007, Minister Martinez met Dr. Kwang-Eon Sul, Vice President of the KDI, and requested a policy consultation for the Dominican Republic through Korea's Knowledge Sharing Program (KSP). Launched in 2004, the KSP aims to contribute to the socio-economic development of partner countries by sharing Korea's development experience and tailoring policy advice to the needs of these countries. In March 2008, the CEI-RD officially proposed a KSP project on the topic, "Models/Strategies for Export and Investment Promotion and Human Resource Development." After reviewing this proposal, the Ministry of Strategy and Finance (MOSF), the supervisory ministry for the KSP, selected the Dominican Republic as a partner country for 2008-09.

In April 2008, Dr. Wonhyuk Lim, Director of the Office for Development Cooperation at the KDI, visited the Dominican Republic and met with Minister Martinez to discuss research priorities for the project. They quickly saw eye-to-eye on the need to take an integrated approach to the export development of the Dominican Republic. Changes in trade policy alone would not be enough. Export development would also require industrial upgrading, human resource development, and improved credit and insurance services. With this in mind, Dr.

Lim organized the Korean expert group for the project. Prof. Jongil Kim of Dongguk University, Prof. Byoung-Hoon Lee of Chung-Ang University, and Mr. Sung-Kyu Choi of the Korea Eximbank all agreed to participate, adding their strong reputations to the project. Minister Martinez, for his part, shared his ideas for his country's export development through lengthy discussions with the Korean expert group. He also recommended Dominican government officials and business leaders who would participate in the KSP project.

In June and August 2008, the Korean expert group, led by Dr. Lim, visited the Dominican Republic and conducted an in-depth survey in cooperation with the CEI-RD to identify national priorities for export development. They held meetings with government officials and experts from the Ministries of Economy, Planning and Development (SEEPyD), Finance (SEH), Industry and Commerce (SEIC), Agriculture (SEA), Higher Education, Science and Technology (SEESCyT), Education (SEE), and Labor (SET), as well as the Central Bank of the Dominican Republic (BCRD), National Competitiveness Council (CNC), National Council of Free Trade Zones (CNZFE), National Customs Agency (DGA), and National Institute of Technical-Vocational Training (INFOTEP). The Korean expert group also met with representatives from business associations such as the Dominican Exporters Association (ADOEXPO), Dominican Agro-Business Association (JAD), Dominican Association of Free Trade Zones (ADOZONA), and Dominican Association of Foreign-Investment Companies (ASIEX). In addition, they conducted interviews with exporters such as Microtek Dominicana, Power One, Grupo M, and La Nacional as well as major banks such as the Reserves Bank of the Dominican Republic (BRRD) and National Bank of Housing and Production (BNVP). The Korean expert group developed a better understanding of the Dominican situation from field visits to these companies and the Cyber Park in Santo

Domingo (PCSD) and Las Americas Institute of Technology (ITLA). They also benefited from discussions with experts at the Global Foundation for Democracy and Development (FUNGLODE) and Dominican universities. Profs. Rolando Guzman and Elida Jimenez subsequently contributed consultant papers on the Dominican Republic's human resource development.

Between these meetings and interviews, the Korean expert group made presentations at the CEI-RD on Korean experiences with export development and analyzed the Dominican conditions to draw preliminary policy recommendations. The Dominican government officials and business leaders attending the seminars made their own presentations to the Korean expert group and later provided helpful comments on these preliminary recommendations. For the Korean expert group, the highlight of their visits was a meeting with President Fernandez at the National Palace in June 2008. For Korea, export development—for which the nation has continuously had to measure itself against global benchmarks—has been the engine of growth and the organizing principle under which industrial upgrading, infrastructure development, and human resource development could be pursued. To President Fernandez, the Korean expert group suggested that the Dominican Republic similarly use exports to change the Dominican people's mind-set and overcome the limits of its small domestic market. They emphasized that the government could play a significant role by working with the private sector on a regular basis to devise solutions to emerging problems.

Near the end of September 2008, a Dominican delegation headed by Mr. Juan Temistocles Montas, Minister of Economy, Planning and Development, visited Korea to participate in the next phase of the KSP project, Practitioner Workshop and Senior Policy Dialogue. The fifteen-member delegation included

not only government officials such as Ministers Montas, Martinez, and Andres Van der Horst of the National Competitiveness Council, but also representatives from business associations and financial institutions involved in exports. The Dominican delegation participated in the Korean expert group's seminar and met with high-ranking officials at the Blue House and Ministry of Strategy and Finance. They also visited the Dongdaemun Fashion Center, Korea Electric Power Corporation (KEPCO), Samsung Electronics, Hanyang University Ansan Campus, SK Group Headquarters, and Korea Eximbank to witness first-hand how Korea had developed its industry, infrastructure, and human resources to promote exports.

In February 2009, the Korean expert group visited the Dominican Republic to present their KSP report through dissemination seminars at the National Palace and CEI-RD. They learned that two of their earlier recommendations had been adopted through presidential decrees—namely, the recommendations that the Dominican Republic hold export promotion meetings presided by the President on a regular basis and strengthen overseas marketing and information collection efforts. For their part, they informed the CEI-RD that the Dominican Republic had been selected as a partner country for a follow-up KSP project that would focus on infrastructure development for export promotion in conjunction with Korea's Economic Development Cooperation Fund (EDCF), which provides concessional loans to developing and transition countries. A quality certification center for Dominican exports, for example, may be a good candidate project for this joint KSP-EDCF program. These are but a few examples that illustrate how policy recommendations contained in this report can lead to tangible outcomes.

All research depends on financing, and this project is no exception. The

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MOSF provides the budget for the KSP with an understanding that sharing Korea's development experience and tailoring policy advice to the needs of developing and transition countries may be the greatest gift that Korea can offer the world. The Development Cooperation Division at the MOSF, in particular, has closely worked with the Office for Development Cooperation at the KDI to enhance the effectiveness of the KSP.

No project of this magnitude can work without administrative and logistical support, and special thanks are owed to Ms. Ja-Kyung Hong at the KDI and Ms. Vienchy Tirado Casado at the CEI-RD. Undaunted by the great distance and thirteen-hour time difference between Korea and the Dominican Republic, they took care of travel and meeting arrangements and made last-minute adjustments with the kind of grace under pressure that was reassuring to everyone involved. The Korean Embassy in Santo Domingo and the Dominican Embassy in Seoul provided logistical support as well as useful information on bilateral relations between the two countries. Ms. Seomy Kang and Ms. Marlene Veras Colon also contributed to the project by providing excellent research assistance.

On behalf of the Korea Development Institute, I would like to take this opportunity to express my gratitude to Dr. Wonhyuk Lim, Prof. Jongil Kim, Prof. Byoung-Hoon Lee, and Mr. Sung-Kyu Choi for successfully completing this project. My sincere thanks also go to Minister Eddy Martinez Manzueta of the CEI-RD and all other Dominican officials and experts who actively supported the project. Lastly, I would like to thank the staff of the Office for Development Cooperation for their dedication and contribution to the project.

Oh-Seok Hyun
President
Korea Development Institute

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EXECUTIVE SUMMARY

In terms of average annual economic growth, the Dominican Republic has been one of the best-performing countries in Latin America since 1960. However, a closer examination shows that its economic performance leaves much to be desired. In fact, starting from a comparatively low income level in 1960, the country should have recorded a higher rate of growth and further closed the income gap with the rest of Latin America than it actually did. The Dominican Republic has had a chronically high unemployment rate fluctuating between 15 and 20 percent in recent years. It has also suffered from a high degree of macroeconomic instability. Moreover, comparison within the Latin American group is misleading because the region as a whole has not had good economic performance over the past few decades. Comparison with global benchmarks instead shows that the Dominican Republic has had significant problems in its investment and trade patterns. Its investment has remained well below 15 percent of GDP, and its trade volume has hovered around only 50 percent of GDP over the past several decades.

Although the Dominican Republic has made a successful transition from "a dessert economy" specializing in sugar, coffee, and tobacco exports to a low-cost garment manufacturer and tourist destination, some of the international factors that have facilitated this transition are either already gone or about to disappear. For instance, the Multi-Fiber Arrangement (MFA) was terminated in 2005, and exemptions for free trade zones from the Agreement on Subsidies and Countervailing Measures of the World Trade Organization (WTO) are scheduled to be phased out after 2013. The country should now take a much more comprehensive approach to development and aim to transform itself into a globally connected smart island such as Ireland and Singapore. An outward orientation is a prerequisite for the strategic repositioning of the Dominican Republic.

A strength-weakness-opportunity-threat (SWOT) analysis for the Dominican Republic

indicates that the country has the potential to play the global supply chain game but suffers from macroeconomic imbalances and the dual-economy structure with weak domestic linkages and limited industrial upgrading and diversification. Strengths for the Dominican Republic include proximity to a major market (i.e., the United States) and experience with export agriculture, industrialization, and tourism. Weaknesses include external and internal imbalances and a low level of investment, trade, and human resource development as well as lack of coordination between them. Globalization offers both opportunities and threats. The Dominican Republic has a chance to overcome the limits of its small domestic market, but also faces intensifying competition from low-cost competitors such as China and Vietnam. The SWOT analysis suggests that there are two major policy challenges for the Dominican Republic. One is to correct macroeconomic imbalances, and the other is to overcome the limits of the dual-economy structure.

As for macroeconomic imbalances, the Dominican Republic' s uncompetitive exchange rate and huge public debt and subsidies are the main culprits. A weak domestic industrial base leads to dependence on imported consumer goods and constrains the country' s ability to adjust the exchange rate upward. However, the low exchange rate in turn weakens the competitiveness of Dominican exports and raises the risk of a currency crisis down the road. In fact, following the collapse of the country' s third largest commercial bank in 2003, the Dominican Republic experienced a currency crisis and subsequently saw a rapid rise in public debt and social assistance. The current state of public finance constrains the government' s ability to make productive investment in infrastructure and human resource development.

The Dominican Republic should establish a competitive and stable real exchange rate to eliminate external imbalances. This would restore price competitiveness and help firms to discover promising exports and scale up their production. Industrial and export development is key to macroeconomic stability and vice versa. The country should also reduce the debt overhang and free up resources for infrastructure investment and human resource development. It should consider selling state-owned assets, strengthen collection efforts to eliminate electricity subsidies, and provide income support (not price support) only to the truly needy. The problem is not not knowing what to do, but not doing what you know.

The other major policy challenge for the Dominican Republic is to shift away from the dual-economy strategy to achieve broad-based growth. Like other Latin American countries, the Dominican Republic has been quite successful in attracting foreign direct investment (FDI), especially to free trade zones (FTZs), but due to weak linkages with the rest of the economy, the domestic value-added has been rather disappointing. In contrast, countries such as Singapore have heavily invested in education and infrastructure according to a long-term development plan and actively promoted the integration of domestic suppliers into the global production network. The Dominican Republic should adopt tax, tariff, and regulatory reforms to dismantle

the dual-economy structure and strengthen investment coordination and human resource development. It should provide enabling public infrastructure such as electricity, build comparative advantage from downstream to upstream and consciously fill in the missing links in the value chain, and use limited resources to create centers of excellence and continuously improve the overall skill level of the workforce.

Successful government intervention requires an extensive public-private consultation mechanism to share information and an incentive mechanism to provide reward based on performance. The government should establish correct price signals to allow firms to discover promising areas and set up various information-sharing mechanisms to devise solutions to emerging problems. Presided by the President himself and attended by government officials as well as private-sector representatives, Korea' s monthly export promotion meetings during the development era provide an example of such a mechanism. Moreover, selective intervention should not automatically focus on a few "fancy" or "monumental" projects, but rather carefully consider the nation' s dynamic comparative advantage. For the Dominican Republic, promising areas include high value-added services in IT, tourism, and biotechnology, especially if English-speaking and engineering skills are upgraded and domestic linkages are strengthened. However, to secure jobs for the less educated, agricultural and manufacturing exports must expand at least for the foreseeable future, and the government should provide such essential infrastructure as quality certification, overseas market information, and job training.

The Dominican Republic should use export development as the engine of growth and the organizing principle under which industrial upgrading, infrastructure development, and human resource development could be pursued. Moreover, the country should recognize that competitive exports based on domestic industrial capabilities can provide a solid basis for maintaining macroeconomic stability.

Policy recommendations for the Dominican Republic' s export development may be categorized into three groups by time horizon, or by the amount of resources required to produce tangible results.

A. One-Year Horizon

- Set out a clear vision for the nation in a multi-year plan.
- Establish regular public-private consultation meetings headed by the President.
- Promote entrepreneurial culture by rewarding excellence in a public ceremony.
- Provide enabling infrastructure such as certification and export financing.
- Promote the integration of domestic suppliers into global production networks.
- Establish a competitive and stable real exchange rate.
- Reduce the debt overhang and unproductive subsidies to free up resources.

B. Four-Year Horizon

- Provide physical infrastructure such as electricity and transportation services.
- Selectively target promising areas and link reward to performance.
- Create centers of excellence in education and training, offering opportunities to poor but smart students.

C. Long-Term Horizon

- Continuously upgrade skills and move into high value-added areas.

More specific policy recommendations are as follows.

1. Upgrade major exports

The Dominican Republic should upgrade its current export items such as apparel and agricultural products. For apparel exports, it should shift from simple assembly to full-package production. The range of value-chain participation must expand (raw materials-components-assembly-distribution-design and marketing). The government should encourage the integration of domestic suppliers into international production networks, taking advantage of inter- or intra-regional specialization and division of labor. The Dominican Republic can also upgrade its exports by finding niche markets based on its geographical advantage (i.e., proximity to the U.S.), for example, through a shorter turnaround time for orders. The government should also immediately address problems in the areas of certification, quality control, standardization, and customs procedure, especially with regard to agricultural products.

2. Diversify export structure by exploring promising industries

Discovering new promising fields is important not only for export growth but also for long-term economic development since it entails a learning process with large spillovers. There are primarily two types of positive externalities in this search activity. One is information externality as lessons are learned from failures as well as successes; the other is coordination externality as discovery is not an independent process but requires concerted efforts. Discovering promising fields is a high-risk, high-return activity. Although gradual upgrading could be pursued by the self-discovery efforts of private sectors, for jumping over product spaces private self-discovery should be complemented by public efforts.

Government action for industrial transformation should be targeted and systematic. To be effective, general protection or subsidization should be replaced by strategic selective measures. Entry into new industries requires not only fiscal and financial incentives but also infrastructure such as human resources and public utilities.

The problem is how and who can find promising new fields. The policy framework should allow room for trial and error but should contain the problem of moral hazard and corruption. To reduce the risk of government failure, transparency and fairness in resource allocation should be established through extensive public-private consultation and adherence to the principle of performance-based reward.

Diversifying into new export varieties and entering into new industrial competition require creative ideas. A static projection, or linear extrapolation based on historical trends of demand and price (tariff) sensitivity, is not enough. It should be complemented by a detailed analysis of rapidly growing industries in free trade zones such as electronics, auto parts, and pharmaceutical products. It would also be useful to benchmark multiple success stories and experiments in various promising industries.

For a start, the Dominican Republic should fully utilize its geographic advantages to diversify its export structure. Using its proximity to the U.S. market, it should develop just-in-time, location-sensitive production networking with the U.S. Medical devices and IT-BPO/CT are promising fields in this regard. If the Dominican Republic can make necessary investment in infrastructure and human resource development, tourism-related exports and industries, such as medical service cum tourism, also have bright prospects. In addition, the country should work with its large emigrant population in the U.S. to collect overseas market information and provide incentives to invest their resources in the Dominican Republic.

3. Strengthen domestic industrial linkages

Domestic industrial linkages are essential to economic growth. Through domestic industrial linkages, the innovative activities of local focal companies are spread into and complemented by all companies in domestic production networks. Moreover, the presence of domestic production networks is one of the critical factors that influence FDI decisions.

Even in the age of globalization, firms run by indigenous entrepreneurs tend to set the level of economic development in the long run, because they are less mobile than foreign firms and major transformations of productive activities take place at head office. Thus, for the country's long-run growth, it is important to support indigenous entrepreneurs to engage in market search

and innovation. The government can encourage entrepreneurship by relieving liquidity constraints, sharing investment risks, and promoting spin-offs. In addition, the government may recruit managers and technicians from overseas and provide them with an incentive to stay in the country.

Although globally oriented firms in free trade zones are competitive and responsive to market signals, local firms protected by high tariffs are not very competitive in the Dominican Republic. Local sourcing is limited and the contribution of free trade zones to domestic value-added is relatively small.

In order to overcome the dual-economy structure, the Dominican Republic should adopt tax, tariff, and regulatory reforms to phase out differential treatment. Furthermore, it should redouble its efforts to establish domestic production networks. It should not only build techno-parks and industrial clusters, but strengthen investment coordination and human resource development according to a clear long-term plan.

4. Develop international trade networks

The Dominican Republic should encourage agencies and companies to develop export networks. For Japan and Korea, trade promotion corporations (JETRO and KOTRA, respectively) as well as general trading companies played an important role in finding export markets and products. The Dominican Republic should also promote more intra-regional trade.

In addition, the Dominican Republic has to find FDI sources congruent with current technological and industrial capabilities and with prospects of learning by domestic entrepreneurs. The role of FDI in transferring technology as well as creating jobs and investment should be paid more attention.

5. Invest in people

A low level of education and training is one of the greatest impediments to the Dominican Republic's long-run development. National leaders have to make consistent and visible endorsement for human resource development (HRD) policy and back up their words by allocating financial resources for HRD purposes. The government should increase the HRD budget and align it with industrial and export priorities, strengthening secondary and technical college education in particular.

The government should also greatly expand the HRD infrastructure to achieve a better match between labor demand and supply. First and foremost, it should build a database covering the demand for manpower and the supply of vocational training services. In addition, it should enhance the vocational qualification framework and expand the informative network for vocational training and job allocation.

Public-private cooperation is essential to the success of HRD policy. The government should promote university-industry cooperation for R&D and vocational training clusters. The government should also make efforts to bring back, or at least connect with, Dominican talent overseas.

6. Establish an export promotion fund and expand it to an export-import bank.

The Dominican Republic does not have an export credit agency, and provides minimal financial assistance in the form of trade finance to exporters through a state-owned development bank and a few commercial banks. Assessments on export contracts and exporters' credit standing are not incorporated into the terms and conditions of loans provided. Instead, exporters have to put up collateral and pay a high interest rate of 20% or more. Given the long process of collateral evaluation, exporters find it difficult to use export financing by the deadline.

In contrast, OECD countries and a significant number of developing countries support its exporters through export credit agencies, which provide credit, guarantee and insurance services. Of the 33 countries in Latin America, 9 countries operate export credit agencies. Most of these countries, including Mexico, Brazil, Colombia and Peru, have achieved a high rate of export growth in recent years.

In the case of the Dominican Republic, the low level of development for its heavy and chemical industries suggests that the need for medium- and long-term financing is not imminent. Accordingly, it is recommended that the Dominican Republic adopt a two-stage plan to strengthen its export financing system: (1) a short-term plan for setting up an export fund, expanding functions of the National Bank of Housing and Production (BNVP), diversifying financing products, and shifting away from the current collateral-based system; and (2) a long-term plan to establish an export-import bank by benchmarking such countries as Korea and Vietnam.

In the short term, the BNVP, which currently provides a part of trade finance, should be entrusted with export financing in its entirety. The Dominican government should establish an export promotion fund, the Dominican Export Fund, of US$ 30-50 million in size and

concentrate the financial support on key products and services deemed "world-class" by export-related institutions. Once the BNVP develops credit evaluation and risk management skills and is faced with a growing demand for medium- and long-term export financing, the Dominican Republic should actively consider establishing a full-fledged export credit agency, the Dominican Eximbank.

Export Development for the Dominican Republic **Chapter 01**

Strategic Re-positioning for the Dominican Republic

Chapter 01

Strategic Re-positioning for the Dominican Republic

Wonhyuk LIM(KDI)

1. The Economic Performance of the Dominican Republic in Perspective

The Dominican Republic, with an area of 48,381 square kilometers, is the second largest country in the Caribbean region following Cuba. It shares the island of Hispaniola with Haiti, which occupies the western third of the island. After a military dictatorship under General Rafael Trujillo that lasted from 1930 to 1961, the Dominican Republic held an election in 1962 but subsequently experienced a military coup and civil war. To reinstate order, U.S. soldiers were dispatched to the Dominican Republic until a new election was held in 1966. More often than not, subsequent elections were marred by irregularities, but the Dominican Republic finally turned the corner in 1996 and since has had a series of fair and competitive elections. Traditionally "a dessert economy" specializing in sugar, coffee, and tobacco exports, the Dominican Republic made a transition to a low-cost garment manufacturer and tourist destination in the 1980s. In 2007, the Dominican Republic had a population of 9.36 million and a gross domestic product (GDP) of US$ 41.2 billion.

Over the past several decades, the Dominican Republic has recorded a fairly high rate of economic growth on the average of 5% per year. Its per capita GDP in 2007 was US$ 4,406, ten times higher than US$ 416 in 1970. In fact, in terms of average annual economic growth, the Dominican Republic has been one of the best-performing countries in Latin America since 1960.

However, a closer examination of the Dominican Republic's economic performance shows that this comparatively high growth rate is rather deceiving. The country has had a chronically high unemployment rate, fluctuating between 15 and 20% in recent years. Such a high unemployment rate implies that there exist a large population in poverty and significant income disparity. To create jobs for the unemployed, the Dominican Republic should have attained much higher growth. In fact, starting from a comparatively low income level in 1960, the country should have recorded a higher rate of growth and further closed the income gap with the rest of Latin America than it actually did. An average annual economic growth rate of 5% was not sufficiently high.

Moreover, comparison within the Latin American group is misleading because the region as a whole has not had good economic performance over the past few decades. Comparison with global benchmarks instead shows that the Dominican Republic has had significant problems in its investment and trade patterns. The investment ratio has remained well below 15% of GDP for most of the past five decades. The trade ratio has hovered around 50% of GDP for the past several decades.

High investment cannot be sustained unless an economy transforms itself into an industrial structure corresponding to the increasing income level. The current structure of the Dominican economy seems to be behind its income level and needs considerable transformation to ensure future growth. A corresponding transformation must also take place in the export structure, which currently is concentrated on agricultural products, tourism, and a small number of labor-intensive manufactured goods.

Table 1-1 | Long-Run Economic Trends of the Dominican Republic

Year	GDP	Per capita GDP	Population	Unemployment rate	Gross investment ratio
	Billions Current US$	Current US$	Thousands	(%)	(%)
1970	1.7	416	4,009	15.0	19.1
1975	3.9	839	4,697	16.9	24.5
1980	6.9	1,266	5,431	21.9	24.6
1985	6.5	1,068	6,076	25.0	17.4
1990	7.1	1,042	6,811	23.0	23.3
1995	15.6	2,064	7,558	15.8	19.5
2000	23.7	2,865	8,263	13.9	23.8
2005	33.8	3,743	9,033	17.5	19.9
2006	35.8	3,903	9,195	16.2	-
2007	41.2	4,406	9,361	15.6	-

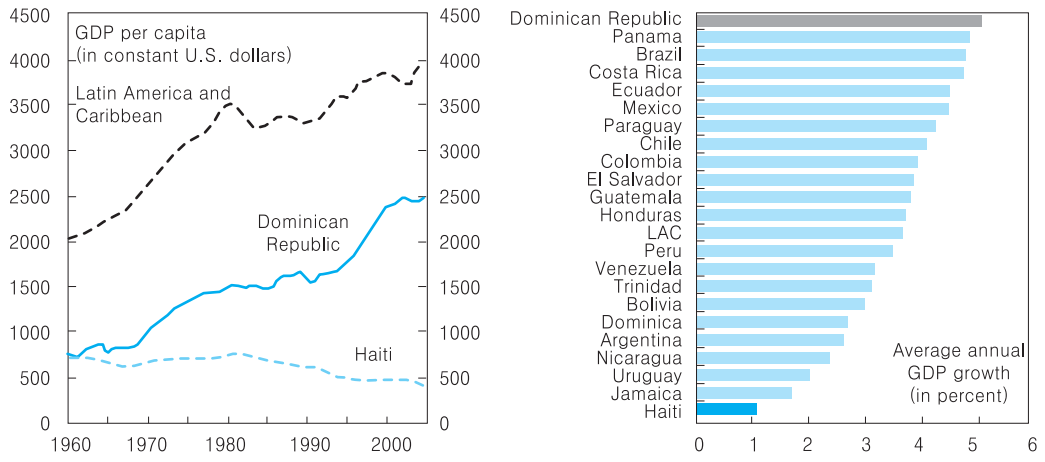
Source : Central Bank of the Dominican Republic

Although the Dominican Republic has made a transition from "a dessert economy" to a low-cost garment manufacturer and tourist destination, it should aim much higher and transform itself into a globally connected smart island such as Ireland and Singapore. These two island nations have successfully played the global supply chain game with less than half the population of the Dominican Republic by investing in their people and developing their industries. An outward orientation is a prerequisite for such a strategic repositioning of the Dominican Republic.

1.1. Comparative Growth Experience

The Dominican Republic has been one of the best-performing countries in Latin America in terms of overall economic growth. Its economic growth rate has been 5.07% per annum for the past forty years, higher than any other Latin American countries. The performance of the Dominican Republic deserves an especially high mark when compared with the dismal record of its neighbor Haiti (Jaramillo and Sancak (2007)). In 1960, the Dominican Republic and Haiti had the same per capita real GDP at just below US$ 800 in 2000 prices. By 2005, however, the Dominican Republic's per capita real GDP had tripled, whereas that of Haiti had fallen in half. This comparative growth experience illustrates the importance of political stability and leadership, which can lead to a striking income disparity even between countries with similar geographical and historical endowments. In other words, policy can make a huge difference.

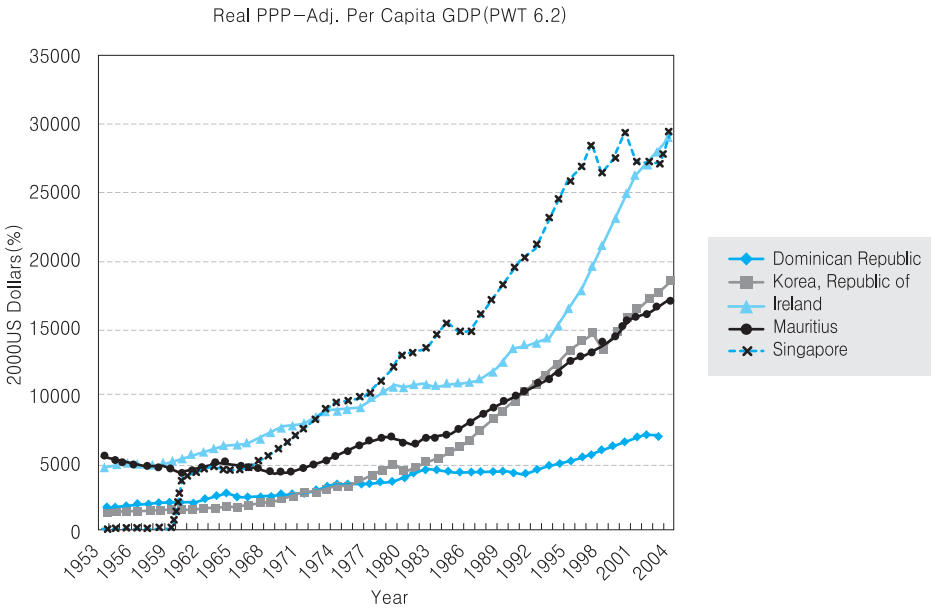
Figure 1-1 | Real GDP per capita and GDP growth rates in Latin America, 1960-2005



Source : Jaramillo and Sancak (2007: 4)

At the same time, given its comparatively low level of initial per capita income, the extent to which the Dominican Republic closed the income gap with the rest of Latin America is somewhat disappointing. In relative terms, its per capita income rose from approximately 40% of the regional average in 1960 to 60% in 2005.

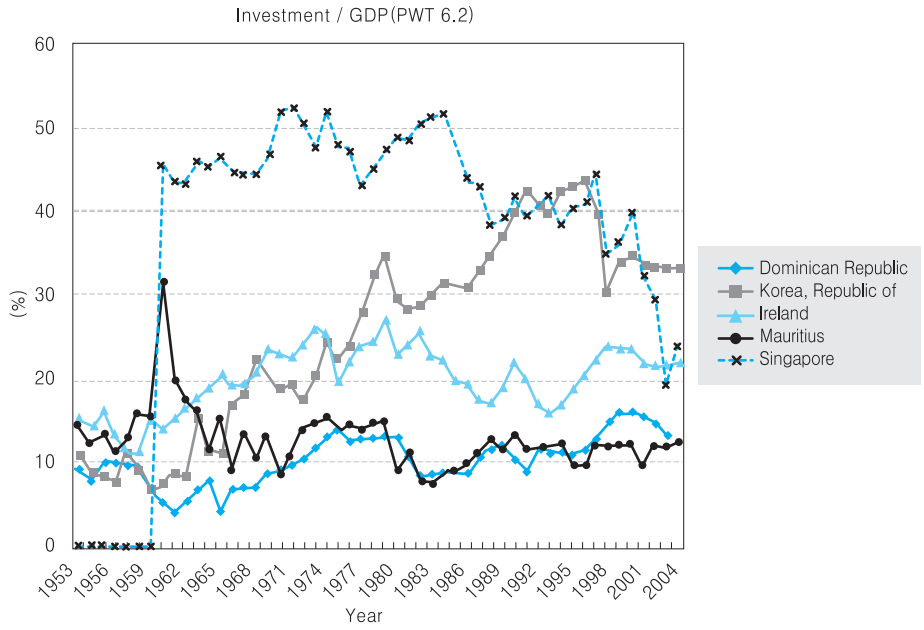
Figure 1-2 | International Comparison of Long-Run Trends in Per Capita GDP



Source : Penn World Table 6.2

Moreover, if the reference point for the Dominican Republic is shifted from Latin America to high-performing countries around the world, a pattern of income divergence rather than convergence is observed. For example, the Dominican Republic and Korea had almost the same per capita GDP in the mid-1970s; however, in 2007, Korea's per capita GDP reached US$20,000, more than four times the Dominican Republic's per capita GDP of $4,406. Comparison with globally connected smart island nations such as Singapore and Ireland shows an even wider income gap.

Figure 1-3 | International Comparison of Long-Run Trends in the Investment Ratio



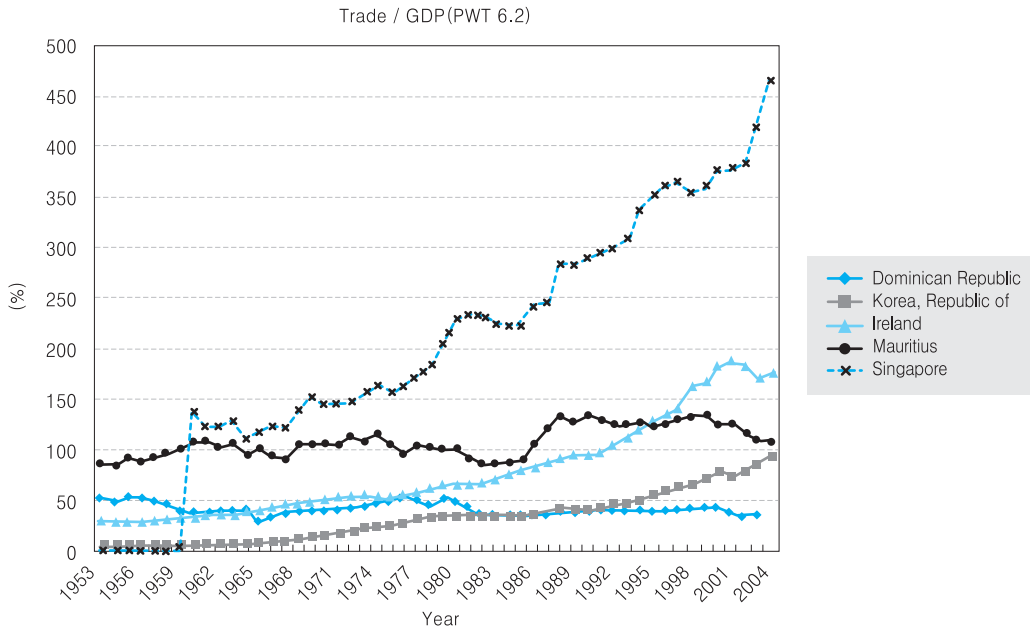
Source : Penn World Table 6.2

In fact, comparison with these global benchmarks shows that the Dominican Republic has had significant problems in its investment and trade patterns. Its investment ratio has been around 10% of GDP for most of the past five decades; whereas, Ireland has recorded an investment ratio of around 20%, and Korea and Singapore have maintained an even higher figure for a long time.

Moreover, the trade ratio for the Dominican Republic has hovered around 50% of GDP for the past several decades. As a traditional exporter of sugar, coffee, and tobacco, the Dominican Republic had a higher degree of "openness" (as measured by the trade ratio) than Ireland or Korea in the 1950s, but the country has not achieved much trade development in the subsequent decades, and if anything, suffered a slight decline in "openness" since the early 1980s. By contrast, Ireland, Korea, and Singapore have all recorded a significant increase in the trade ratio over the same period, overcoming the limits of their small domestic market.

A brief overview of the Dominican Republic's economic history would be useful in understanding its long-run economic performance since the 1950s. The sugar industry had been its principal industry for a long time. In the 1950s, sugar accounted for 60% of its exports most of which were headed for the U.S. market Coffee, tobacco, cacao, iron-nickel, bauxite and gold comprised the rest of the export sector at the time. The Dominican Republic ran a trade surplus

Figure 1-4 | International Comparison of Long-Run Trends in the Trade Ratio



Source : Penn World Table 6.2

throughout the 1950s. In terms of industrial and trade policy, an important development was the repayment of debts that allowed the Dominican Republic to regain control of customs that had been in the hands of the U.S. following the U.S.-Dominican Convention of 1907. This facilitated the implementation of protectionist policies that provided the initial basis for industrialization.

The first half of the 1960s was marked by tumultuous events such as the assassination of Gen. Trujillo in 1961 and the outbreak of the civil war in 1965. Investment suffered as a result. The investment ratio dropped from 10% in the 1950s to a little over 5% and was characterized by high volatility. The restoration of order and the adoption of import-substituting industrialization, however, raised the investment ratio in the second half of the 1960s. The promulgation of Law 299 for Industrial Incentive in 1968, in particular, gave domestic manufacturers substantial tariff protection. In the same year, the government also established the Industrial Development Board to pursue industrial policy. Although these initiatives stimulated industrialization, Dominican companies failed to develop international competitiveness and instead used the tariff protection to enjoy "a quiet life" in the domestic market. The country began to run a significant trade deficit in the second half of the 1960s.

In the early 1970s, the per capita GDP growth of the Dominican Republic was relatively

high, but it plummeted in the mid-1970s mainly due to a decline in international prices for the country's principal exports such as sugar and coffee. The prior industrialization drive had failed to create an efficient manufacturing sector that could compensate for the troubles of the traditional agricultural sector. The price of sugar, the major export commodity, hit a 40-year low in the early 1980s, shortly after the second oil shock had buffeted the global economy. A widening trade deficit, combined with the misaligned exchange rate and expansionary fiscal policy, resulted in an economic crisis, which in turn called for an IMF rescue program in 1983.

Although the IMF pressed for tighter credit policies and fiscal austerity measures, the macroeconomic imbalance continued. A decline in the prices of major Dominican exports and an oil price increase in the wake of the Gulf War led to another IMF intervention in 1991. Across Latin America, economic turmoil continued throughout the 1980s, "the lost decade" for the region, and the Dominican Republic was no exception in this regard. Unable to recover strongly from the economic crises of 1983 and 1991, the Dominican Republic essentially recorded zero growth in its per capita GDP for a decade.

The 1980s, however, was not a total loss for the country as the decade ushered in two important developments that would prove critical to its economic transformation: the rapid growth of free trade zones, or simply free zones (zonas francas), and the rise of the tourist industry as a major source of hard currency earnings. Although the Dominican Republic had established the legal framework for free zones in 1955 and 1968, free-zone development progressed modestly until the early 1980s. However, the introduction of the Caribbean Basin Initiative (CBI) in 1982-83 and the enactment of Law 145 in 1983 dramatically changed incentives for free-zone investment. The CBI granted Caribbean countries duty-free access to the U.S. market, and Law 145 offered total exemption from import duties, income taxes, and other taxes for up to twenty years. As a result, from 1985 to 1989, the number of free zones more than doubled, from six to sixteen, and free-zone employment, concentrated in the garment sector, soared from 36,000 to 100,000. During the 1980s, the tourist sector also became a major "export" industry.

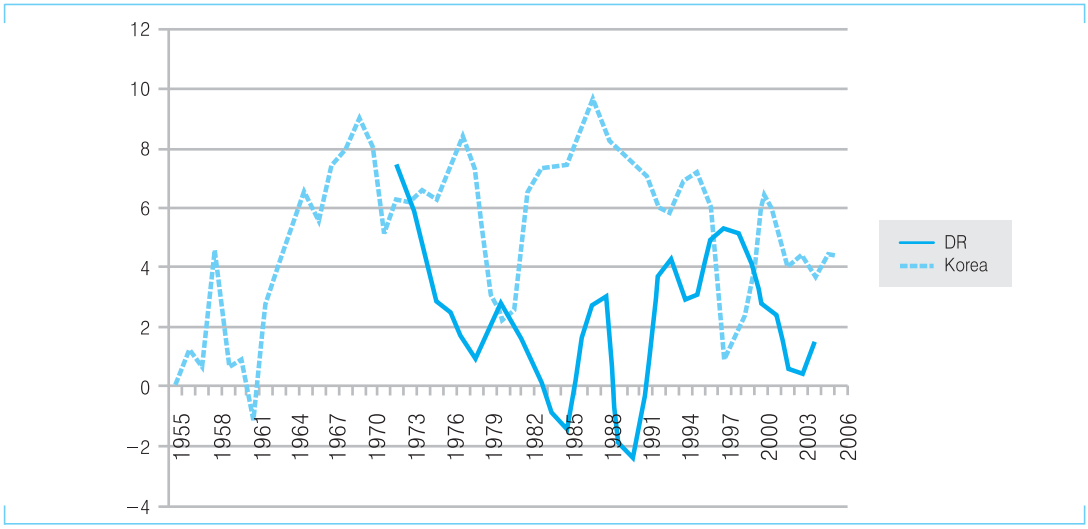
Table 1-2 | **Composition of the Dominican Exports of Goods and Services**

Year	Free Trade Zone Exports (A)	National Exports (B)	Exports of Goods (C = A + B)	Exports of Services (D)
1950	-	97%	97%	3%
1960	-	91%	91%	9%
1970	0%	83%	83%	17%
1980	8%	69%	78%	22%
1990	32%	27%	59%	41%
2000	53%	11%	64%	36%

Source : Central Bank of the Dominican Republic

In the 1990s, the Dominican Republic embarked on a comprehensive reform program that included the adjustment of the exchange rate and liberalization of prices and interest rates, as well as fiscal consolidation. These measures helped to restore macroeconomic stability. In addition, trade policy reform removed the anti-export bias. Exports soared in the mid-1990s, as a result of the elimination in 1993 of export restrictions such as export licensing and minimum export prices for agricultural products and all export taxes, as well as the reduction in tariffs. A new FDI law was approved in 1996 that facilitated operations of foreign firms, reduced sectoral restrictions, and liberalized the repatriation of capital. This led to a substantial increase in FDI, which in turn played a major role in increased exports.

Figure 1-5 | Economic Growth of the Dominican Republic and Korea

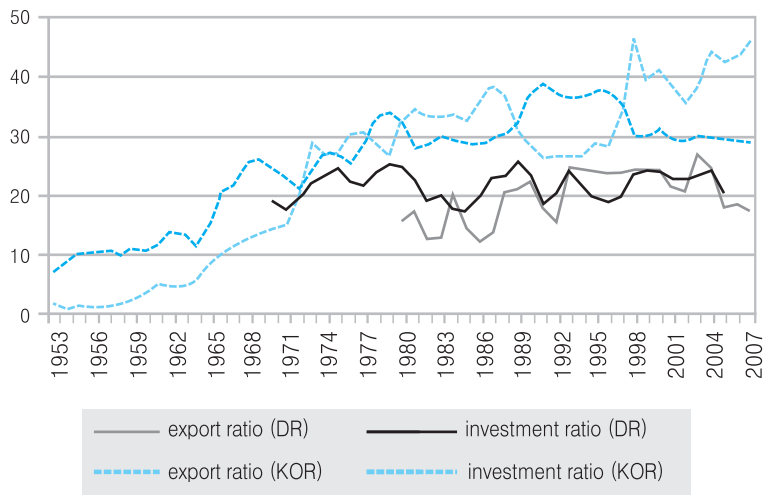


Note : three-year moving average of annual GDP growth rate

Korea also faced macroeconomic shocks in 1980 and 1997 and suffered from a severe recession. However, the impact of the shocks did not last long. In fact, over the past 40 years, 1980 and 1998 were the only years of negative growth. Although Korea faced a serious external imbalance and sharp recession around the time of an economic crisis, it could escape from the recession within a year and get back on the long-term growth path. Although there may be many factors that helped Korea recover quickly from the shocks, the critical driver of the rapid recovery was a sharp increase in exports after macroeconomic stabilization. In Korea, exports soared once the exchange rate was adjusted and the external environment became favorable. For instance, before and after the Asian economic crisis of 1997, Korea's current account balance went from minus 5% of GDP in 1996 (deficit) to plus 14% of GDP in 1998 (surplus). The sharp increase in exports after the shock restored confidence in Korea's ability to achieve macroeconomic stability and resume growth. In short, Korea's stable long-term growth with relatively short-lived crises was possible due to robust export industries, which in turn depended on investment in domestic industrial capabilities.

This close relationship between exports and investment is illustrated by the fact that export increases usually precede investment booms in Korea, as an increase in exports tends to lead to an increase in demand for intermediate and capital goods for exports. However, the long-term trends in export and investment ratios in the Dominican Republic do not show such a pattern. This may be due to weak industrial linkages between exports and domestic industries in the country.

Figure 1-6 | Export and Investment Growth of the Dominican Republic and Korea



Note : Export and investment ratios measure exports and investment as percentages of GDP.

Both in the Dominican Republic and Korea, the external balance is a key to macroeconomic stability. A significant part of growth stagnation could be attributed to macroeconomic instability originating from unfavorable terms of trade and external imbalances. Whereas Korea has the industrial capability to increase exports and earn hard currency once the exchange rate is adjusted, the Dominican Republic does not have a robust export sector with strong industrial linkages. Since Dominican manufacturing exports largely depend on foreign firms which import a large share of intermediate goods and do not pay taxes, macroeconomic stabilization has a limited impact on foreign exchange earnings and tax revenue. Furthermore, this weak industrial structure hinders rapid stabilization since the domestic price is highly sensitive to the exchange rate movement due to the high import dependence of industrial products. To achieve long-term stability in the external balance, the Dominican Republic needs industrial transformation and export development. This in turn requires investment in physical and human capital with institutional development.

1.2. Growth Accounting Analysis

To analyze the nature of the Dominican Republic's economic growth, we decompose per capita GDP growth based on the following identity in Table 1-3.

$$\frac{\text{GDP}}{\text{population}} = \frac{\text{GDP}}{\text{Employment}} \times \frac{\text{Employment}}{\text{Labor force}} \times \frac{\text{Labor force}}{\text{population}}$$

Here, per capita GDP is expressed as the product of labor productivity (GDP divided by employment), employment rate (employment divided by labor force), and labor force participation rate (labor force divided by population, which accounts for the effect of demographic transition). By taking the natural logarithm of the above identity and differentiating it with respect to time, we can decompose the growth of per capita GDP into the rates attributable to the changes in labor productivity, employment rate, and labor participation rate, respectively. The growth attributable to labor productivity change is the result of intensive growth while the other two come from extensive growth.

Extensive growth is due to the increase of workers without productivity improvement. Modern economic growth is different from preindustrial extensive growth under the Malthusian trap since it enhances the labor productivity of workers through physical capital accumulation, education, and technological advance. According to historically observed patterns, early industrialization comes more from labor-intensive and technologically simple sectors and thus increases employment with little productivity improvement. However, as the industrialization advances into more sophisticated and capital-intensive sectors, the weight of growth moves from increasing workers to equipping workers with physical and human capital.

Korea shows this pattern of transition toward more intensive growth over time. Up to the 1980s, an increase in labor force participation contributed significantly to economic growth. However, once the demographic transition came to an end, labor productivity improvement accounted for 90% of the per capita GDP growth. If Korea had not made a transition to intensive growth, it could not have grown as high as over 5% in the 1990s.

By contrast, in the Dominican Republic, labor productivity improvement still explains only 50% of the per capita GDP growth. (Note that labor productivity actually declined during the tumultuous years of the 1980s.) That is, the other half of the per capita GDP growth has come from the inclusion of young workers in the labor force. The population growth was as high as 2.25% per annum during 1970-2006, and total employment increased as rapidly as 3.5% per annum during the same period, raising the labor participation rate from 30% in 1970 to 47% in 2006. Although this kind of growth is in itself significant by allowing more people to work, it is limited in improving the real quality of living since the growth is spread thinly with more incoming workers. The Dominican Republic was creating jobs for an increasing number of

workers but those jobs were not high value-adding. Furthermore, this extensive growth will come to an end as the demographic structure becomes similar to that of developed countries with steady and low population growth.

Table 1-3 | Decomposition of Per Capita GDP Growth

	(1) GDP /Population Per capita GDP	(2) GDP/ Employment Labor productivity	(3) Employment /Labor force Employment rate	(4) Labor force /Population Participation rate	(5) Contribution of Labor Productivity
Dominican Republic					
1972-80	4.28	3.98	-0.94	1.24	93
1982-91	-0.26	-1.93	0.14	1.52	-
1992-2000	4.40	2.42	0.76	1.22	55
2002-06	3.03	1.91	-0.01	1.13	63
1972-2006	2.53	1.29	-0.04	1.28	51
Korea					
1970-80	5.37	3.86	-0.07	1.58	72
1980-90	7.12	5.59	0.29	1.25	79
1990-2000	5.05	4.76	-0.17	0.46	94

Note : The figures in column (1) are the average annual growth of per capita GDP and those in columns (2)-(4) are the average annual growth rates of per capita GDP attributable to each factor of growth. The figures in column (5) are the share of per capita GDP growth rate attributable to labor productivity improvement.

Table 1-4 explains in detail why labor productivity growth in the Dominican Republic has been low. Compared with the world average, the total GDP growth of the Dominican Republic is relatively high but the growth of labor productivity (defined as GDP per worker) is low. Based on growth accounting, which decomposes the labor productivity into the contributions of capital accumulation and total factor productivity growth, the low growth of labor productivity in the Dominican Republic is primarily due to chronically low capital growth per worker and negative total factor productivity growth in the 1980s. This negative total factor productivity growth is attributed to the long-lasting impact of economic crises.

In contrast, Korea's well-developed industrial and export structure allowed it to recover quickly from economic crises and sustain positive total factor productivity. Its remarkable labor productivity growth in the long run is largely explained by the rapid capital accumulation. In theory, investment causes the economic growth but in reality, investment and growth cause each

other through cumulative causation. The success of Korea's economic growth lies in sustaining the cumulative causation of investment and growth through industrial transformation and export development.

Table 1-4 | Growth Accounting Analysis

	(1) GDP growth (%)	(2) per worker GDP growth	from per worker capital stock growth	from TFP growth
Dominican Republic				
1972-80	7.6	4.0	2.3	1.7
1982-91	2.0	-1.9	0.2	-2.1
1992-00	6.3	2.4	0.8	1.6
2002-06	4.8	1.9	1.2	0.7
1972-06	4.8	1.3	1.1	0.2
Korea				
1972-80	7.3	4.6	3.8	0.8
1982-90	8.6	6.1	2.8	3.4
1992-00	5.8	4.1	2.7	1.5
World average (83 countries)				
1972-80	4.0	2.2	1.3	0.9
1982-90	3.7	2.0	0.8	1.1
1992-00	3.6	2.2	1.0	1.2

Source : The figures for Korea and the world average are from Hahn and Shin (2008).

Note : The figures are the average annual growth rate (%). The difference between column (1) and (2) is the growth rate of workers. The labor productivity growth in (2) is decomposed into per worker capital stock growth and total factor productivity growth in columns (3) and (4), respectively. Total factor productivity growth is the per worker GDP growth net of the contribution of capital accumulation. The contribution of capital accumulation is product of capital stock growth and elasticity of capital equal to share of capital income in GDP. The capital stock is estimated by the perpetual inventory method with initial capital stock computed from the assumption of the steady state. The share of capital income is assumed to be 0.35 as usual.

The growth accounting analysis implies that the Dominican Republic needs both extensive and intensive growth. Even with a rapid increase of total employment over the past several decades, the Dominican Republic still has a large pool of unemployed workers. At the same time, labor productivity has been stagnating with slow industrial transformation. In short, the Dominican Republic needs to create more jobs while upgrading its industrial structure toward higher valued added production at the same time. Usually, in the early years of development, creating jobs through extensive growth is critical, and then, as extensive growth enters into a mature stage, shifting jobs from low- to high-productivity areas through intensive growth becomes more important. However, the current situation in the Dominican Republic requires both extensive and intensive growth. It should retain existing labor-intensive sectors against the

challenge of low-cost competitors in the international market to create jobs for less skilled workers and discover new high value added industries to capture the opportunity of productivity enhancement.

1.3. Recent Economic and Export Trends

From 1999 to the early 2000s, the Dominican Republic recorded an average annual growth rate of 8 percent, fueled by the strong privatization efforts of the government and rapid expansion of textile, tourism and construction industries. For a brief period, the Dominican economy entered a recession triggered by the collapse of Banco Intercontinental (Baninter) in 2003. However, in the second half of 2004, the general external conditions improved significantly with a rapid increase in exports and tourism, as the U.S. economy recovered from its own recession. In 2005-06, the Dominican Republic was among the fastest growing economies in the Caribbean region, registering record growth rates of 9.3% and 10.7%, respectively, as a result of macroeconomic stability and strong performance in tourism and telecommunications sectors. This trend continued in 2007 with a rise in the export price of iron-nickel as well as an increase in consumer credit.

Table 1-5 | Recent Trends in Major Economic Indicators of the Dominican Republic

	2004	2005	2006	2007
Economic growth rate (%)	1.3	9.3	10.7	8.5
Inflation rate (%)	28.7	7.5	5.0	8.9
Fiscal Balance (% of GDP)	-3.1	-0.7	-1.2	0.4
FDI (US$ million)	909	1,122	1,459	1,698
Export growth rate (%)	8.5	3.5	7.5	9.4

Source : EIU

However, in the second half 2008, the global financial crisis and recessions in the U.S. and Europe began to affect the export and tourism sectors as well as the remittances from Dominicans living abroad. It is anticipated that the recession of the global economy, including the Dominican Republic, will continue through 2009, leading to a decline in exports, an estimated 40% fall in foreign direct investment, and a large swing in the fiscal balance.

Table 1-6 | Economic Outlook for the Dominican Republic

	2008f	2009e	2010e	2011e
Economic growth rate (%)	5.5	3.0	4.5	4.8
Inflation rate (%)	13.3	7.5	6.5	5.2
Debt service ratio (%)	10.4	12.5	13.0	12.7
External debt outstanding (US$ million)	10,212	11,196	11,758	12,641
Export growth rate (%)	-0.1	-1.5	5.8	6.0

Source : EIU

In recent years, the major engine of the export growth of the Dominican Republic has weakened. Up until the 1990s, exports amounted to 35% of the country's GDP, which then decreased to 27% in 2003 and to 15 % in 2007. Although the volume of exports surpassed US$ 7 billion for the first time in 2007, the trade deficit reached a record figure of US$ 6.2 billion.

Table 1-7 | Volume of Exports and Imports

(Unit: Mil. US$)

	2003	2004	2005	2006	2007	2008f	2009e
Exports	5,470	5,935	6,144	6,610	7,237	7,170	7,063
Imports	7,626	7,890	9,869	12,004	13,817	16,018	14,648

Source : EIU

The average export growth rate of the Dominican Republic from 2005 to 2007 was approximately 6%, among the lowest in the Caribbean region including the member countries of DR-CAFTA, the free trade agreement between the U.S. and Central American countries and the Dominican Republic. There are various reasons for this low growth rate of exports. The stagnation of free trade zones, which take up a significant portion of the country's exports, delay in the discovery of new promising industries, and lack of systematic support are three of the most frequently cited reasons.

Table 1-8 | Evolution of Principal Indicators for Free Trade Zones

Year	Number of Free-Zone Parks	Number of Companies	Number of Employees	Exports (Mil. US$)	Currency Earnings (Mil. US$)	Average Weekly Salary (RD$)		Textile Exports (Mil. US$)
						Operators	Technicians	
1995	33	469	165,571	2,907.40	509.00	539.96	1,095.89	1,786.60
1996	36	436	164,639	3,107.30	545.00	576.92	1,257.00	1,802.10
1997	40	446	182,174	3,596.40	701.00	634.27	1,441.12	2,272.50
1998	43	496	195,193	4,100.00	826.50	638.32	1,556.90	2,395.00

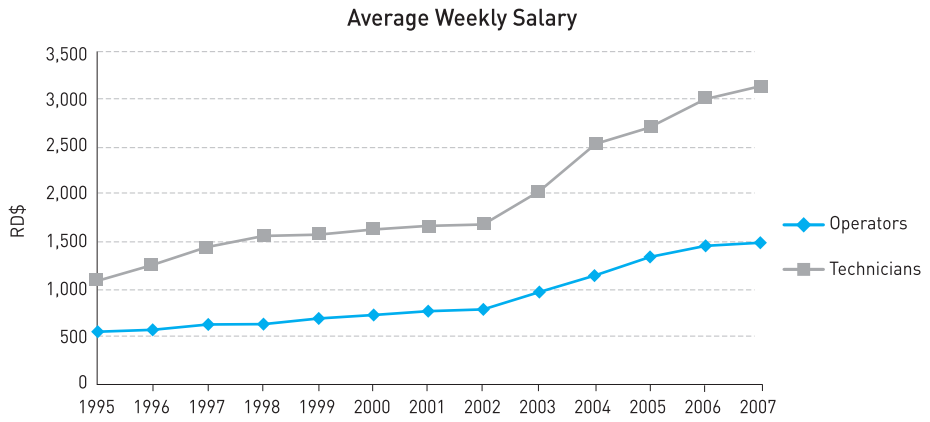
1999	44	484	189,458	4,331.50	887.30	701.21	1,587.22	2,385.20
2000	46	481	195,262	4,770.60	1,018.60	716.51	1,629.85	2,451.18
2001	51	512	175,078	4,481.60	977.90	775.49	1,662.93	2,314.40
2002	53	520	170,833	4,317.30	886.50	786.56	1,671.53	2,226.80

Source : National Free Zones Council (CNZFE)

The number of employees in FTZs decreased from 190,000 in 2000 to 120,000 in 2007. Moreover, exports produced in FTZs declined from US$ 4.7 billion in 2000 to US$ 4.5 billion. The deterioration of the textile industry, which had been one of the country's main exporting sectors, and rise in labor costs are deemed as major reasons for the decline of FTZ exports. Following the expiration of the quotas of the Multi-Fiber Arrangement and the government-mandated increase in salaries, Asian companies in the FTZs have moved their production facilities to nearby Guatemala, Honduras and Nicaragua. Consequently, textile exports dropped significantly from US$ 24.5 billion in 2000, which represented 51% of the entire exports from FTZs, to US$ 13 billion in 2007. At the same time, the labor costs of Dominicans employees working in FTZs doubled from 716 pesos per week (1,629 pesos per week for technicians) in 2000 to 1,480 pesos per week (3,127 pesos per week for technicians) in 2007.

Figure 1-7 | **Labor Costs of Dominican Workers in FTZs**

Unit: RD$ (Dominican Pesos)



Source : CNZFE

While the textile industry in FTZs is in decline, no clear winner has emerged to replace it. Of the 526 companies in FTZs, 170 of them (3% of the total) are engaged in textile business, and others are engaged in various sectors such as medical products, electronics, jewelry, and tobacco. Exports of electronic products are increasing, but as a majority of them are manufactured in simple pre-fabricating factories, there is always a possibility that companies could move these facilities to other Latin American countries with cheaper labor.

Table 1-9 | Exports from Free Zones by Sector

(Unit: Mil. US$)

	1997	2000	2004	2005	2006	2007
Textiles	2,185	2,555	2,120	1,904	1,734	1,366
Electronics	300	568	630	700	695	743
Jewelry	192	354	600	602	625	743
Medical Products	240	320	288	284	293	270
Shoes	315	265	234	315	276	258
Tobacco	199	329	308	334	366	393
Miscellaneous	163	377	501	608	685	813
Total	3,596	4,770	4,685	4,649	4,678	4,525

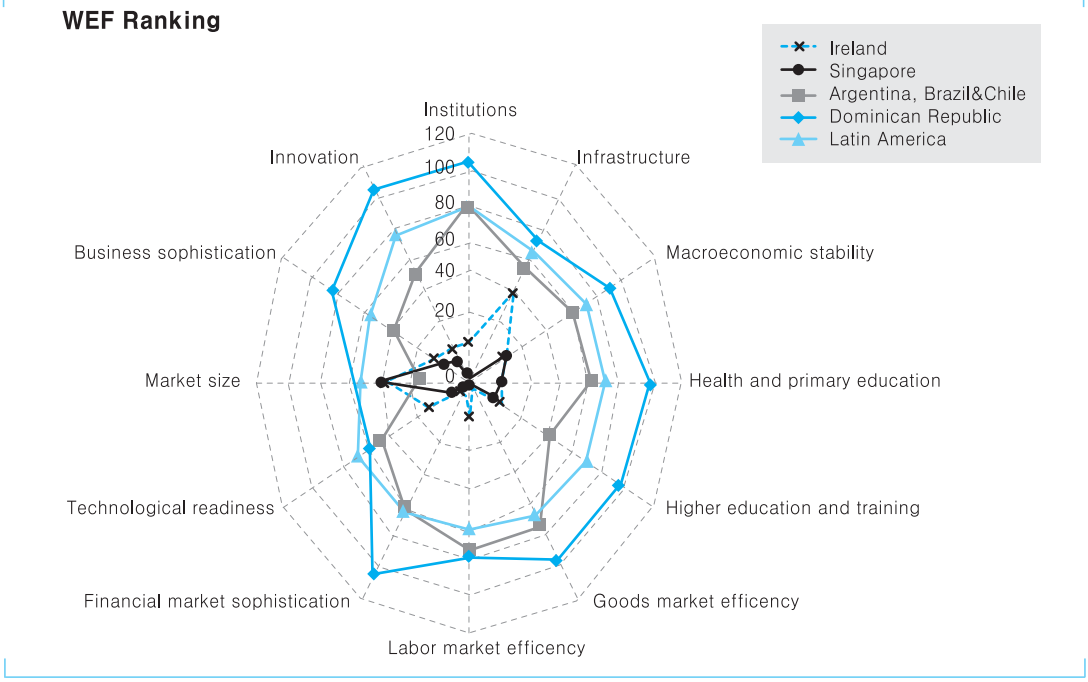
Source : Central Bank of the Dominican Republic

The lack of systematic support may be another reason for the stagnation in the country's exports. The customs procedure is complicated, and financial support is insufficient to fulfill the needs of the manufacturing industry. A majority of the customs procedure maintains a blanket testing policy, and usually takes more than two days to complete. Tax incentives for exports such as customs reimbursement have yet to be implemented. Furthermore, there is no export financing tailored to the needs of exporters and companies in FTZs, and most of the loans are extended on a collateral basis.

2. Major Policy Challenges for the Dominican Republic

A strength-weakness-opportunity-threat (SWOT) analysis for the Dominican Republic shows that the country has the potential to play the global supply chain game but suffers from macroeconomic imbalances and dual-economy structure with weak domestic linkages and limited industrial upgrading and diversification. Strengths for the Dominican Republic include proximity to a major market (i.e., the United States) and experience with export agriculture, industrialization, and tourism. Weaknesses include external and internal imbalances and a low level of investment, trade, and human resource development as well as lack of coordination between them.

Figure 1-8 | Global Competitiveness Index Ranking (2007)



Source : World Economic Forum (WEF)

According to the Global Competitiveness Index ranking by the World Economic Forum, the Dominican Republic has serious weaknesses in institutions, financial market sophistication, goods market efficiency, health and primary education, and innovation. In these areas, the country ranks outside top 100. The country scores relatively well on technological readiness.

Globalization offers both opportunities and threats. The Dominican Republic has a chance to overcome the limits of its small domestic market, but also faces intensifying competition from low-cost competitors such as China and Vietnam. The SWOT analysis suggests that there are two major policy challenges for the Dominican Republic. One is to correct macroeconomic imbalances, and the other is to dismantle its dual-economy structure.

The recent decline of manufacturing sector in its share in GDP and employment reflects the changing economic environment facing the manufacturing sector of the Dominican Republic, particularly export industries. First, the changing international trade environment is unfavorably affecting FTZ exporting industries. The low-wage countries such as China have been encroaching into the markets of Dominican Republic's major exports. Particularly, the phase-out of apparel quotas in the Multi-Fiber Arrangement in 2005 made a deep negative impact on the export to the US. Furthermore, the diffusion of globalization to untapped lower income regions is deteriorating the situation further since the major export of the Dominican Republic is

competing in cheapness of production cost with these countries. Second, the DR-CAFTA increases the demand for imports from partner countries that force less competitive domestic manufacturers out of business. Without enhancing the competitiveness of domestic manufacturing sector, the net gain from this trade liberalization arrangement would not be much since the Dominican Republic's exports had already been favorably treated under the trade arrangements such as the Caribbean Basin Initiative and Generalized System of Preferences. To take advantage of the new trade arrangement, the local content of exports should be further increased, which is not possible without a strong domestic supply chain. Third, under the new rule of the WTO, the preferential treatment of FTZ such as special tax treatment should be adjusted soon. Currently, FTZ companies are exempt from the major taxes, while the non-FTZ companies are levied as much as 25% and 16% for the corporate income tax and the value added tax, respectively. Considering the fiscal situation, it is difficult to abolish the value added tax on non-FTZs. Therefore, it is expected that the FTZs should be taxed on equal basis. This adjustment in tax could deter the expansion of FDI inflows in FTZs since most foreign subsidiaries in the FTZs are sensitive to the cost of production including tax payments.

2.1. Macroeconomic Imbalances

For the Dominican Republic to catch up with high-performing countries, it should address macroeconomic instability. The Dominican Republic was not an exception to the Latin American-style macroeconomic instability. This pattern is in contrast with Korea's maintenance of macroeconomic stability along with high economic growth.

Table 1-10 | International Comparison of GDP Growth and Its Volatility

	Average annual growth rate of GDP	Standard deviation of growth rate	Standard deviation/average
Dominican Republic	5.07	5.30	1.05
Costa Rica	4.72	3.26	0.69
Panama	4.53	4.30	0.95
Brazil	4.31	4.05	0.94
Mexico	4.23	3.50	0.83
Chile	4.18	4.78	1.15
Paraguay	4.10	3.66	0.89
Honduras	3.89	2.90	0.75
Ecuador	3.85	3.43	0.89
Guatemala	3.79	2.48	0.65
Peru	3.18	5.07	1.60
El Salvador	2.89	4.32	1.49
Venezuela	2.76	5.29	1.91
Bolivia	2.66	3.66	1.38

	Average annual growth rate of GDP	Standard deviation of growth rate	Standard deviation/average
Argentina	2.49	5.83	2.34
Uruguay	1.83	4.77	2.60
Korea	6.93	3.49	0.50

Table 1-11 | International Comparison of Inflation Rate and Its Volatility

	Average annual inflation rate	Standard deviation of inflation rate	Standard deviation/average
Panama	3.55	5.04	1.42
El Salvador	7.17	11.26	1.57
Honduras	8.20	10.36	1.26
Guatemala	8.27	8.02	0.97
Dominican Republic	10.86	12.25	1.13
Paraguay	11.77	13.03	1.11
Costa Rica	13.29	11.56	0.87
Mexico	19.30	19.66	1.02
Venezuela	19.45	150.11	7.72
Ecuador	20.32	16.72	0.82
Chile	32.08	43.50	1.36
Bolivia	32.62	86.84	2.66
Uruguay	35.87	23.61	0.66
Argentina	65.70	104.42	1.59
Peru	65.82	116.64	1.77
Brazil	88.54	125.93	1.42
Korea	10.78	7.77	0.72

Note : Data for GDP deflator are obtained from CHELEM DB. The figures are in percentage for the period from 1960 to 2006.

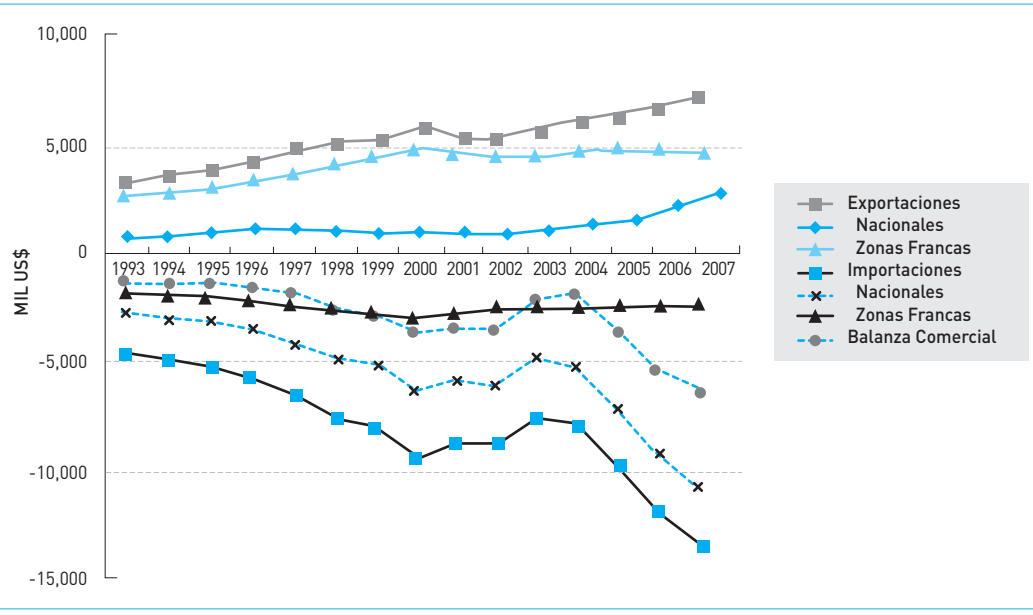
The importance of macroeconomic stability cannot be overemphasized for long-run growth. Without it, there could be no long-term planning which is indispensable to investment, the driver of economic growth. As reported by the World Bank (1993), the high-performing economies in East Asia maintained macroeconomic stability through sound fiscal and external policies; whereas, Latin American countries suffered from recurrent economic crises due to macroeconomic imbalances.

In the case of the Dominican Republic, an uncompetitive exchange rate and huge public debt and subsidies threaten macroeconomic stability. A weak domestic industrial base leads to dependence on imported consumer goods and constrains the country's ability to adjust the

exchange rate upward. However, the low exchange rate in turn weakens the competitiveness of Dominican exports and raises the risk of a currency crisis down the road. In fact, following the collapse of the country's third largest commercial bank in 2003, the Dominican Republic experienced a currency crisis and subsequently saw a rapid rise in public debt and social assistance. The current state of public finance constrains the government's ability to make productive investment in infrastructure and human resource development.

Externally, maintaining the country's macroeconomic stability is critical, for the Dominican Republic must import oil and other commodities and meet a large part of its domestic demand for manufactured products through imports. In recent years, however, the country has relied on rather precarious sources of hard currency to maintain the external balance. Since the 2003 economic crisis, the growth rate has recovered, mainly thanks to capital inflows, particularly in construction industries related to tourism; whereas, exports have not shown a sign of recovery. As a result, a large current account deficit has developed in recent years. A huge trade deficit and investment rent transferred abroad are two major contributors to the current account deficit, which is compensated by the current income transfer of remittances and FDI inflows.

Figure 1-9 | Trade Balance for the Dominican Republic

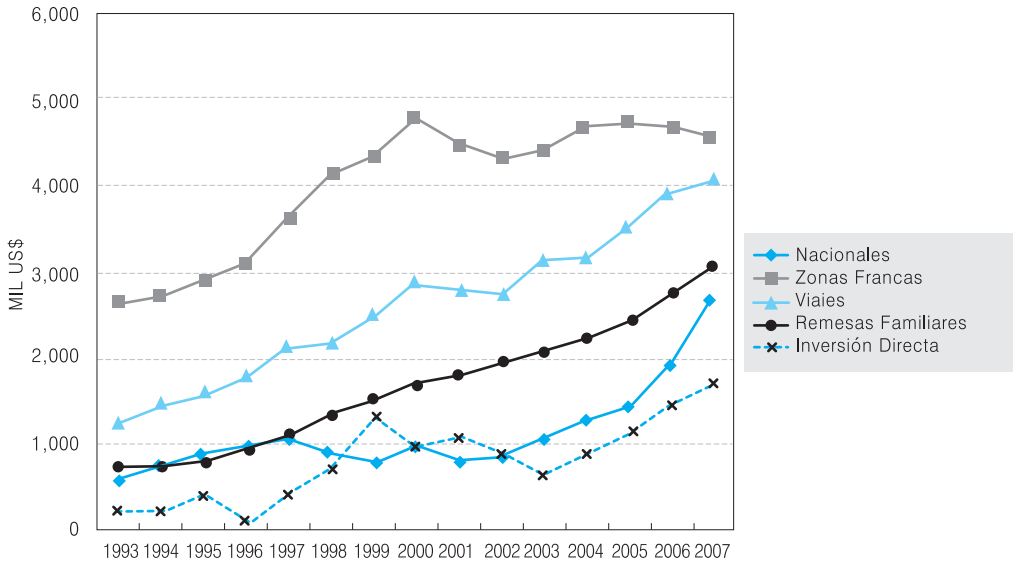


Source : Central Bank of the Dominican Republic

Note : The national account of the Dominican Republic reflects its dual-economy structure, as it reports separate statistics for free trade zones (Zonas Francas) and national economy excluding free trade zones (Nacionales) in calculating the trade balance (Balanza Commercial) based on exports (Exportaciones) and imports (Importaciones).

However, FDI inflows and remittances from overseas Dominicans, two major sources of hard currency at this moment, are not reliable long-term solutions to the external balance problem. FDI may abruptly change its direction and family ties are likely to weaken over time. In contrast, competitive exports based on domestic industrial capabilities can provide a solid basis for maintaining the country's external balance.

Figure 1-10 | Sources of Hard Currency for the Dominican Republic



Source : Central Bank of the Dominican Republic

Note : Hard currency earnings from tourism (Viajes) and remittances from overseas families (Remesas Familiares) have steadily increased since the early 1990s. In contrast, hard currency earnings generated by free trade zones (Zonas Francas) have stagnated since 2000; whereas, those generated by firms outside free trade zones (Nacionales) have increased in recent years. FDI inflows (Inversion Directa) have shown a volatile pattern.

Table 1-12 | Balance of Payments of the Dominican Republic in the 2000s

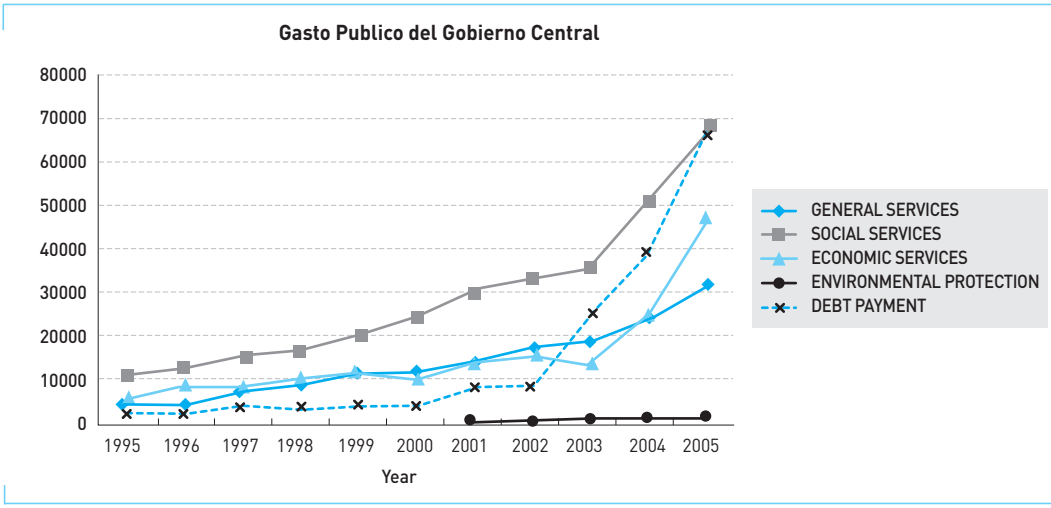
	2000	2001	2002	2003	2004	2005	2006	2007	2008*
I. Current Account	-1,026.5	-740.8	-797.9	1,036.2	1,041.5	-473.0	-1,287.6	-2,095.7	-4,436.8
I.1 Trade balance	-3,741.8	-3,503.0	-3,672.7	-2,156.0	-1,952.1	-3,724.7	-5,563.7	-6,436.8	-9,146.5
I.2 Balance of services	1,854.3	1,826.4	1,757.3	2,249.4	2,290.7	2,456.8	2,985.0	3,020.9	3,092.6
I.3 Investment Rent	-1,041.3	-1,091.7	-1,151.8	-1,393.1	-1,824.6	-1,902.2	-1,853.0	-2,081.0	-1,814.8
I.4 Current transfers	1,902.3	2,027.5	2,269.3	2,335.9	2,527.5	2,697.1	3,144.1	3,401.2	3,431.9
II. Financial & Capital Account	1,596.6	1,703.5	383.1	-16.3	117.6	1,635.9	1,598.5	2,358.5	3,974.5
III. Errors and Omissions	-618.1	-447.8	-139.9	-1,566.3	-979.9	-458.0	-146.7	357.3	142.6
IV. Global Balance (I+ II + III)	-48.0	515.0	-554.7	-546.5	179.2	704.9	164.2	620.1	-319.7

Source: Central Bank of the Dominican Republic (http://www.bancentral.gov.do/)

Note: 2008 Preliminary(*)

Internally, the key to achieving macroeconomic stability is sound fiscal policy. The 2003 economic crisis delivered a huge shock, resulting in a rapid rise in public debt and social spending. Large subsidies, especially for the electric power sector, aggravated the fiscal situation. As a result, the Dominican Republic spends more than 30% of its central government budget on debt service (amortization and interest payments). Not only does this create a serious risk for macroeconomic stability, it also constrains the government's ability to make productive investments in infrastructure and human resource development

Figure 1-11 | Public Expenditure of the Central Government by Category



The Dominican Republic should establish a competitive and stable real exchange rate to eliminate external imbalances. This would restore price competitiveness and help firms to discover promising exports and scale up their production. Industrial and export development is key to macroeconomic stability and vice versa.

The country should also reduce the debt overhang and free up resources for infrastructure investment and human resource development. It should consider selling state-owned assets, strengthen collection efforts to eliminate electricity subsidies, and provide income support (not price support) only to the truly needy. The problem is not not knowing what to do, but not doing what you know.

2.2. Dual-Economy Structure

A number of countries in Latin America and beyond have established free trade zones (FTZs) or free economic zones (FEZs), geographically limited zones in which special laws and regulations regarding production, investment, and/or trade are applied to provide a more market-friendly environment compared with the rest of the country. FTZs are a second-best policy for countries for which improvement on a national level is infeasible, and may serve as a useful stepping stone to general economic reform if integrated into the overall national development strategy; however, they also run the risk of locking in the dual-economy structure and impeding indigenous industrial and trade development. For FTZs, the main policy challenge is not only to attract new investment but also to increase linkages with the rest of the economy so as to maximize positive spillovers.

As in most other Latin American countries, major exporters located in the free trade zones in the Dominican Republic do not source a significant portion of their input materials from local companies. On the contrary, they import most of their raw materials and capital goods from overseas and export processed products. If anything, the FTZs are linked to the global market rather than the domestic market; the rest of the national economy is essentially cut off from the FTZs. The contribution of major exporters located in the FTZs is limited to providing low-wage jobs for assembly workers. This enclave nature of the FTZs limits industrial and export development

Although the Dominican Republic has successfully created the FTZs, attracted FDI inflows, and increased exports, these "accomplishments" have not led to a significant increase in economy-wide investment since intermediate goods used in the FTZs are imported and local sourcing is scarce. Furthermore, the division of labor is mainly dictated by the cost-cutting motives of the headquarters of investing firms. For most firms in the FTZs, the competitiveness of the Dominican Republic lies in low wages and tax incentives rather than local industrial network with knowledge and skill advantage. In fact, while they may invest in the Dominican Republic, they are not overly concerned with the creation of knowledge and organizational assets required for the development of exports with higher technological content and higher value added. In short, the existence of a significant number of footloose foreign firms does not necessarily mean indigenous industrial development.

In contrast, countries such as Singapore have heavily invested in education and infrastructure according to a long-term development plan and actively promoted the integration of domestic suppliers into the global production network. Similarly, Korea has made coordinated investment in human and physical capital, and encouraged companies located in the free trade zones to establish linkages with local companies. The FTZ value added (local costs plus profits) as a percentage of exports from the Masan Export Processing Zone, for example, rose from 28 to 52% between 1971 and 1979 (Esquivel, Jenkins, and Larrain 1998). A

corresponding calculation for the Dominican Republic shows that the FTZ value added was remarkably stable around 30% from 1980 to the mid-1990s, and then increased substantially from 31% in 1996 to 39% in 2002 (Sanchez-Anchochea 2006).

Table 1-13 | Policy Framework Variations and the Dual Economy

	Industry	FTZs	Tourism	Telecoms	Agriculture
Labor Legislation	Min. wage: RD$4920/mo.; less for smaller firms[1]	Min. wage: RD$3561/mo.	Min. wage: RD$3975/mo.; less for smaller firms[2]	Min. wage: Same as Industry	Min. wage: RD$100/10-hour day
	Profit sharing 10% (up to 2 mos. salary)	No profit sharing	Profit sharing 10%	Profit sharing 10%	Profit sharing 10% (except entities with <RD$1mn registered capital); agro-industry firms exempt for 3 years
	6.57% Social security tax, employer's portion; to be raised to 15.32% for employers and 5.88% for employees[3]	6.57% Social security tax, employer's portion; to be raised to 15.32% for employers and 5.88% for employees[3]	6.57% Social security tax, employer's portion; to be raised to 15.32% for employers and 5.88% for employees[3]	6.57% Social security tax, employer's portion; to be raised to 15.32% for employers and 5.88% for employees[3]	6.57% Social security tax, employer's portion; to be raised to 15.32% for employers and 5.88% for employees[3]
	INFOTEP 1.5%[4]	INFOTEP 1.5%[4]	INFOTEP 1.5%[4]	INFOTEP 1.5%[4]	INFOTEP 1.5%[4]
	Pre-aviso	Pre-aviso	Pre-aviso	Pre-aviso	Pre-aviso
	Severance = 1 month salary/year of tenure	Severance = 1 month salary/year of tenure	Severance = 1 month salary/year of tenure	Severance = 1 month salary/year of tenure	Severance = 1 month salary/year of tenure
	Salario doble	Salario doble	Salario doble	Salario doble	Salario doble
Tax Regime	25% Corporate income tax/ 1.5% Minimum tax on gross receipts (refundable)		25% Corporate income tax/ 1.5% Minimum tax on gross receipts (refundable)	1.5% Minimum tax on gross receipts (refundable)	25% Corporate income tax/ 1.5% Minimum tax on gross receipts (refundable)
	16% ITBIS, some exemptions[5]		16% ITBIS, some exemptions[5]	16% ITBIS, some exemptions[5]	16% ITBIS, some exemptions[5]
			10% service tax (earmarked for labor)		
	13% Foreign exchange commission on imports[6]		13% Foreign exchange commission on imports[6]	13% Foreign exchange commission on imports[6]	13% Foreign exchange commission on imports[6]
	5% Export tax (expired July 2004)		5% Export tax (expired July 2004)	5% Export tax (expired July 2004)	5% Export tax (expired July 2004)
	2% Supplemental import tax, expired end-2004		2% Supplemental import tax, expired end-2004	2% Supplemental import tax, expired end-2004	2% Supplemental import tax, expired end-2004
			Some tax holidays		
Competition and Protection	High tariffs	Highly competitive	Highly competitive	Highly competitive	High tariffs
	Import quotas				Import quotas

	State-owned enterprises				Gov't import monopoly of some products
					Gov't intervention in distribution and retail channels

Source : World Bank (2005)
1 RD$3000/mo. in firms with net worth <RD$200,000; RD$3380/mo. in firms with net worth RD$200,000-500,000).
2 RD$2560/mo. in firms with net worth <RD$200,000; RD$2835/mo. in firms with net worth RD$200,000-500,000).
3 When Social Security Law is fully in place, charges will cover pensions (10% total), health (10% total), and accident insurance (1.2%, paid fully by employers).
4 Employers' contribution=1%, employees contribution=0.5%.
5 Raised from 12% under the new tax reform law effective October 2004.
6 Recently raised from 10%.

In addition to achieving macroeconomic stability, the other major policy challenge for the Dominican Republic is to shift away from the dual-economy strategy to achieve broad-based growth and facilitate industrial and export development. The Dominican Republic should adopt tax, tariff, and regulatory reforms to dismantle the dual-economy structure and strengthen investment coordination and human resource development. It should provide enabling public infrastructure such as electricity, build comparative advantage from downstream to upstream and consciously fill in the missing links in the value chain, and use limited resources to create centers of excellence and continuously improve the overall skill level of the workforce.

3. Re-orientation: Export Imperative

In short, a resolute pursuit of coordinated export development is necessary to achieve macroeconomic stability and long-term economic growth of the Dominican Republic. Export development provides a reliable source of foreign exchange. It facilitates industrial upgrading and diversification so that the country will not have to be over-dependent on particular products or trading partners. It also enhances domestic industrial foundation and allows further expansion of competitive edge, a key factor for participating in global production sharing. As result, the economy can create jobs and accomplish stable and broad-based economic growth. To achieve high growth envisioned by the government in its report, *La República Dominicana en 2030: hacia una nación cohesionada* (2008), the Dominican Republic should pursue export development in coordination with human resource development and industrial transformation.

Korea used international trade as an essential component of its development policy. Trade helped Korea to discover its comparative advantage and alleviate coordination failures; overcome the limits of its small domestic market and exploit scale economies; learn from good practices around the world and upgrade its economy; and run a market test for government policies and corporate strategies and devise performance-based reward schemes. In fact, for

Korea, export promotion—for which the nation had to change its mindset and measure itself against global benchmarks—served as the engine of growth and the organizing principle under which industrial upgrading, infrastructure development, and human resource development could be pursued. While relying on global markets, Korea made conscious and concerted efforts to move into higher value-added areas along the value chain by making complementary investments in human capital and infrastructure. In fact, unlike some countries caught in "a middle-income trap," Korea managed to achieve *export-led growth*, not just export growth, by systematically increasing the local content of its exports.

Export Development for the Dominican Republic **Chapter 02**

Industrial Upgrading and Export Diversification

Chapter 02

Industrial Upgrading and Export Diversification

This chapter analyzes the industrial and export structure of the Dominican Republic in comparison with Korea, focusing on the role of policy in industrial and export development. Korea has achieved a rapid industrial transformation as well as high growth in a short time period. Korea's experience implies that there exists room for the Dominican Republic to spur economic growth through industrial transformation. In Section 1, we analyze the industrial and trade structure of the Dominican Republic from a critical perspective. In Section 2, we explore industrial transformation and export development of Korea to see how they contributed to rapid growth and discuss the role of industrial and trade policy of the Korean government. Based on this industry-level analysis, we discuss what the Dominican Republic should do to promote industrial and export development

1. Industrial and Export Structure of the Dominican Republic

1.1. Industrial Structure of the Dominican Republic

The Dominican Republic is principally a service economy. The service sector now accounts for almost 60% of GDP, and its share in GDP has been steadily growing over time. The level of services share is comparable to those of high income countries, whereas that of agricultural share is much higher. Tourism is the major foreign exchange-earning industry and the recent growing share of construction is closely related to the boom in the tourism sector. In contrast, the share of manufacturing is low, much lower than manufacturing-oriented countries like Korea. According to the study of Chenery et al. (1986), the typical pattern of industrial structure is that the shares of services and manufacturing are around 45% and 25%, respectively, in the countries of the income level similar to the Dominican Republic.

The compositional trend of the Dominican Republic's GDP shows no sign of significant structural change in the last three decades except for a noticeable shift from agriculture to services. Particularly, the Dominican Republic does not exhibit the typical pattern observed in most growing economies: a rapid increase in the share of manufacturing over time. Since the

late 1990s, the share of manufacturing sector has been declining. In contrast, overall services including construction have been adding their weights, which intensify the services-orientation of the economy.

This pattern is in sharp contrast with the Korean experience. In Korea, the initial takeoff of economic growth in the 1960s was followed by a dramatic compositional change from agriculture to manufacturing.

The sectoral growth rates in the Dominican Republic provide an unusual observation that the growth rate of manufacturing sector is lower than that of services. In most developing countries, the growth rate of manufacturing sector is higher than services, although in the growth of developed countries since the 1970s, the higher growth rate of services is observed. With this low growth, the contribution of manufacturing to economic growth is relatively small at 15-18%. According to Chenery et al. (1986), manufacturing contributed to growth in Korea and Taiwan over 30%, and in some years as high as 50%. During the developing period of currently developed countries, the contribution of manufacturing was at least higher than 20%.

Table 2-1 | Industrial Production Structure of the Dominican Republic

	Agriculture	Mining	Manufacturing	FTZ Manufacturing	Construction	Utilities	Services
GDP Share (%)							
1971	22.1	1.4	18.9	0.0	6.3	1.2	50.1
1981	16.4	4.2	18.4	0.5	6.7	1.7	52.6
1991	13.9	3.1	18.3	3.3	7.5	.6	55.7
2001	11.8	1.5	15.9	2.8	12.7	2.4	55.7
2003	11.3	1.5	15.5	2.6	11.5	2.3	57.9
Growth rate (%)							
1972-1980	3.2	18.5	6.2	43.6	7.2	10.1	7.0
1982-1990	-0.2	-1.1	2.0	20.9	5.5	0.5	2.6
1992-2000	4.1	0.8	5.3	5.4	12.5	9.6	6.1
2002-2003	-0.3	2.8	0.6	-2.4	-2.8	-0.7	3.8
1972-2003	2.5	4.9	4.0	20.1	6.5	6.6	5.0
1992-2003	3.7	-0.3	4.0	3.2	8.9	8.5	5.7
Contribution to growth (%)							
1972-1980	9	8	18	2	7	2	56
1982-1990	-1	-2	17	17	19	0	67
1992-2000	8	0	15	3	21	3	54
2002-2003	-2	2	5	-3	-18	-1	114
1972-2003	9	2	15	6	12	2	60
1992-2003	9	0	13	2	16	3	60

Source : Estadisticas del Banco Central de la Republica Domincana, 1947-2003
Note : Growth rates are the average annual rates and the contribution to growth is the share of growth rate attributable to each sector.

Employment structure also shows the services-oriented nature of the Dominican Republic. The current employment share of the service sector is not so much different from that of high income countries. However, the share of agricultural sector is much higher and thus, that of manufacturing is lower. The high share of agricultural employment implies that there still is room to boost economic growth by moving workers from rural agriculture to urban industries. The current situation of high unemployment and large share of rural employment necessitates another spurt of industrialization if the Dominican Republic is to boost economic growth and join the group of high income countries.

The need for further industrialization becomes more obvious when we compare the labor productivity across industries. Except for mining and utilities, whose shares are small in total employment, the manufacturing sector is relatively high value-adding and shows the steady increasing trend in labor productivity over time. Thus, the problem is the small size of manufacturing employment, even though it could provide relatively high value-adding jobs. A low manufacturing share and relatively high manufacturing labor productivity means that there is a potential role of manufacturing-oriented structural change in accelerating the growth. However, the trend in recent years shows the opposite direction of declining manufacturing employment.

Table 2-2 | Sectoral Employment and Labor Productivity of the Dominican Republic

	Agriculture	Mining	Manufac-turing	FTZ Manufacturing	Construction	Utilities	Services	Total
Employment share(%)								
1991	20.3	0.3	18.1	6.0	4.1	0.4	56.8	100.0
1996	19.9	0.4	18.5	6.5	6.7	0.5	54.1	100.0
2001	14.9	0.2	15.3	5.5	6.6	0.9	62.1	100.0
2003	16.2	0.2	14.4	5.2	5.5	0.9	62.8	100.0
Per worker value added (1000 RD$)								
1991	33.4	239.2	66.2	41.2	62.7	189.9	45.1	48.4
1996	35.1	189.0	80.2	47.9	59.6	217.7	57.2	58.5
2001	43.2	290.0	98.9	63.5	60.1	159.6	53.2	60.6
2003	39.8	318.3	107.5	66.2	59.7	163.2	56.4	62.7

Source : *Estadisticas del Banco Central de la Republica Domincana, 1947-2003*

Table 2-3 | Sectoral Employment and Labor productivity Growth of the Dominican Republic

	Agricul-ture	Mining	Manufac-turing	Free Zones	Construc-tion	Utilities	Services	Total
Employment Growth Rate (%)								
1992-2000	1.4	-1.8	3.2	4.1	8.5	12.5	4.4	3.9
2002-2003	6.2	3.3	-1.0	-0.5	-6.8	0.0	2.7	2.1
1992-2003	1.3	-1.5	1.3	2.1	5.6	10.5	4.1	3.2
Labor productivity Growth Rate(%)								
1992-2000	2.7	2.6	2.1	1.3	4.0	-2.8	1.7	2.4
2002-2003	-6.4	-0.5	1.6	-2.0	3.9	-0.7	1.0	-0.2
1992-2003	2.3	1.2	2.6	1.2	3.3	-2.0	1.6	2.1

Source : Estadisticas del Banco Central de la Republica Domincana, 1947-2003
Note : The figures are average annual growth rates.

1.2. Free Trade Zones and Domestic Industrial Linkages

The current situation in international trade environment sheds not so promising prospects for the manufacturing sector of the Dominican Republic. It is reflected in the recent trend of declining contribution of manufacturing and shrinking FTZ exports. It enforces the service-orientation of the Dominican Republic. This trend is worrisome for future growth because the contribution of services to growth alone cannot bring about high growth.

One might say that the comparative advantage of the Dominican Republic is in services such as tourism and business services so the country should pursue the economic growth based on services. Although it is desirable for the Dominican Republic to develop further its competitive edge in services, it should be noted that the contribution of services to growth has serious limitations.

First of all, services growth is, in most cases, an effect rather than a cause of economic development. The reason why the share of services is increasing in most developed countries is due to the rise in relative price of services. Since the services production is labor intensive, or human-contact intensive, its productive efficiency could not improve so much as the manufacturing sector which can enhance productivity through capital depending on economies of scale. Therefore, the unbalanced growth of productivity between services and manufacturing makes services more expensive as economy grows. Although the production system of services is changing rapidly with the advance of information and communication technology, the productivity and wage in most service sectors are still determined by the overall development of the economy. It is clear once we compare the wage levels of haircutters in different countries. Second, the share of knowledge intensive services such as investment banking, marketing,

design, research and development are relatively not so large in total service demand. The lion's share of export in knowledge intensive services is occupied by a small number of developed countries, particularly the US. Furthermore, to enter high value adding services export market, it needs not only human capital but also institutional capital, in a sense, the historical consequences of world economic evolution which cannot be accumulated easily. Third, with the population of about 10 million, the Dominican Republic is not a small country on an island. It should be reminded that the currently service-oriented economies such as Singapore and Hong Kong undertook the business of manufacturing exports and diversified and upgraded commodity exports in their high years of growth. Finally, the Dominican Republic has a large number of unemployed and unskilled workers. To provide jobs to these workers, the economy should retain a range of industries which require various skill levels.

Another reason why the industrial upgrading in manufacturing industries is important for long term economic growth is the dense industrial linkage of manufacturing production. Since manufacturing production involves the supply chain of many types of intermediate goods, it is critical to coordinate production. This coordination of internal and external the current situation in international trade environment sheds not so promising prospects the manufacturing sector of the Dominican Republic. It is reflected in the recent trend of declining contribution of manufacturing and shrinking FTZ exports. It enforces the service-orientation of the Dominican Republic. This trend is worrisome for future growth because the contribution of services to growth alone cannot bring about high growth.

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Another reason why the industrial upgrading in manufacturing industries is important for long term economic growth is the dense industrial linkage of manufacturing production. Since manufacturing production involves the supply chain of many types of intermediate goods, it is critical to coordinate production. This coordination of internal and external production networks requires the managerial and organizational skills. Moreover, this sophisticated supply chain allows large room to innovate and differentiate and hence find a competitive niche. This managerial and organizational knowledge is the core of industrial competitiveness. The business in detail could change a lot with the evolution of market condition but it is these intangible assets that sustain the business, the core of economic growth.

Exports from FTZs accounted for more than 80% of total exports in the Dominican Republic during the 1990s, and 60% of total exports in the mid-2000s. In addition, FTZ exports helped the country to transform its export structure. Thanks to the expansion of FTZs, the share of non-primary goods increased substantially to over 80% of total exports, whereas the share of primary exports declined from more than 50% in the late 1970s to less than 10% in the 2000s.

In spite of the success, the contribution of FTZ exports to GDP is surprisingly small, still less than 3% of GDP. Also, the contribution to economic growth is not so impressive as well. The export growth and structural transformation into non-primary products since the 1980s did not induce rapid economic growth unlike Korea. It is due to the enclave nature of FTZs. The production system of FTZs is concentrated in labor intensive assembly of materials imported from abroad. The success factors of the FTZs so far are inexpensive labor and tax incentives. This cost effectiveness of FTZs induced FDI inflows through the establishment of local affiliates of foreign firms. Therefore, most inputs and raw materials are produced abroad and imported into the FTZs based on the strategic decision of global production sharing. The ability of local production to establish linkages is limited by the fact that most inputs are produced in-house and are imported from other subsidiaries of firms. Unless the Dominican Republic has a competitive edge of local industrial network, it is difficult to expand local suppliers to meet a number of requisites established at the corporate level. Therefore, the local contents of exports are very small. According to Sanchez-Anchea (2006), for 10 of the 17 years during 1986-2002, value added constituted less than 25% of total exports. By comparison, domestic value added of

the Masan export processing zone in Korea was 52% already in 1979, up from 28% in 1971.

Therefore, although the expansion of FTZs was a fundamental force behind the export growth of manufactured products during the 1980s and 1990s, its role in economic growth has been confined in creating jobs for low wage workers. It is by all means important in easing the financial constraints of low-income families and reducing the negative impact of high unemployment. However, it could not induce rapid and intensive growth. Furthermore, the growth based on cost-effectiveness in labor intensive assembly is self-defeating. With the expansion of global production sharing, multinational firms establish more networks in intact and low wage regions. The result is the decreasing long-term export prices and intense competition from many countries. Therefore, as more successful development leads to higher wages, the country becomes less competitive and thus less attractive for FDI. This worrisome phenomenon seems to be already happening. Facing the deteriorating terms of trade with declining relative prices of major exports such as apparel and shoes, FTZ exports have been stagnating since the late 1990s.

In sum, the strategy of export promotion through FTZs has limits in creating a virtuous cycle of trade and investment. Since an FTZ is self-contained, its activity does not spill out to the local industrial activity much. Furthermore, the Dominican Republic has experienced a rather limited creation of knowledge and organizational assets required for the expansion of exports into sectors with higher technological content and higher value added, although the industries in the FTZs have diversified into electronics and medical devices, more sophisticated than apparel and shoes. The existence of a significant number of foreign firms that could move away easily does not necessarily induce indigenous industrial development.

1.3. Export Structure

The export structure directly reflects the characteristics of industrial structure. Currently the most important export industry is tourism. Among merchandise exports, the two pillars of exports of the Dominican Republic are labor-intensive consumer non-durables (SITC 6, 8) and agricultural products (SITC 0, 1). The export structure shifted markedly in the mid-1980s from traditional agricultural goods to labor-intensive products such as apparel and textiles. Under the rigorous trade policy toward openness, the exports of FTZs drove the export growth in the 1990s. The share of traditional commodities in exports steadily declined from above 90% in 1950 to less than 10% in 2000.

However, the exports of FTZs, the driving force of export growth so far, recently declined due to a sharp downturn of apparel exports to the US. The rising trend of FTZ exports leveled off in the late 1990s with decrease in exports of apparel and textiles. Overall, Dominican apparel exports to the United States increased significantly until 1998, tripling during 1989-98. Since 1998, Dominican exports to the United States and its market share have steadily decreased.

During 1998-2004, apparel exports to the United States decreased from US$2.4 billion to US$2.1 billion. Meanwhile, the market share in value terms fell from 4.2% to 2.5% in the same period. The phase-out of MFA removing the quota on textile and clothing exports from Asia including China was a critical factor in this. The elimination of all quotas in the apparel sector in January 2005 worsened the competitive position of the Dominican Republic even further because of its high labor costs when compared to China. Thus, the share of apparel and textiles has declined from more than 60% of FTZ export in 1995 to round 30% recently. Instead, electrical products, jewelry, and pharmaceutical products show rising trends. Now, the assembly of electronic products and jewelry together with the production of tobacco products and medical equipment and health-related products account for more than half of total FTZ exports. However, the growth of these products is not large enough to restore the rising trend of exports in the 1990s.

Table 2-4 | Export Structure in Terms of Revealed Comparative Advantage

	1965	1970	1975	1980	1985	1990	1995	2000	
SITC 0,1	5.03	6.38	6.86	5.82	4.41	2.67	1.82	1.92	Food and beverages
SITC 2,4	0.72	0.66	0.32	0.41	0.10	0.13	0.11	0.23	Crude materials
SITC 3	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	Mineral fuels
SITC 5	0.26	0.42	0.07	0.29	0.14	0.07	0.15	0.08	Chemicals
SITC 6,8	0.00	0.01	0.39	0.96	1.71	2.22	2.59	2.88	Manufactures
SITC 7	0.00	0.00	0.03	0.06	0.07	0.16	0.16	0.21	Machinery & transport equipment

Note : Revealed comparative advantage (RCA) computed from the data obtained from world trade flow database constructed by Feenstra et al. (2005). A figure greater than one implies that the industry's share in the country's exports is higher than world average and thus the country has a comparative advantage in that industry

This downturn of FTZs is, in some sense, the result of past success according to the World Bank (2005). The successful expansion of FTZ exports in the 1990s took advantage of preferential access to the US markets under the Caribbean Basin Initiative and its successor the Caribbean Basin Trade Partnership Act. With the agreements providing preferential access to the US market, FTZ investors and producers benefited from larger demand from the US with relatively advantageous price. However, due to the ceilings on third-party content for Dominican exports, the exporters in the Dominican FTZs became more dependent on the intermediate inputs imported from the US. Thus, bilateral trade between the Dominican Republic and the US increased rapidly. As a result, the exports of the Dominican Republic became more concentrated in apparel and textile destined for the US. The share of the US reached as high as 90% in 2000, although it declined in the 2000s with declining apparel exports.

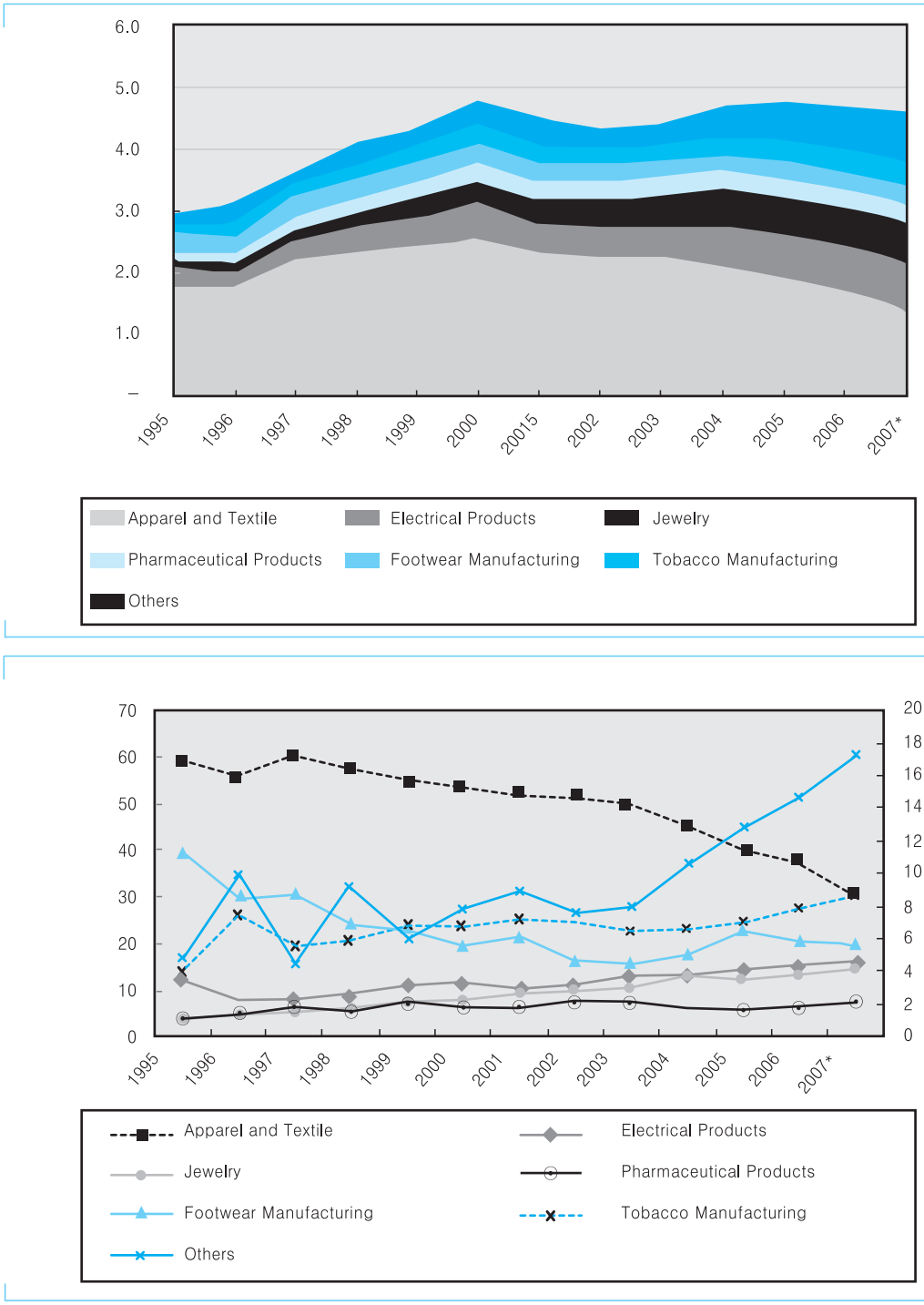
Table 2-5 | Trade Structure of the Dominican Republic

(Unit: Mil. US$, %)

	1980	%	1990	%	2000	%	2005	%
Total Exports (FOB)	**1,079.0**	**100.0**	**1,585.0**	**100.0**	**5,735.0**	**100.0**	**6,145.8**	**100.0**
National Exports I+II+III	**961.9**	**89.1**	**735.0**	**46.4**	**966.0**	**16.8**	**1,395.1**	**22.7**
I. Traditional Agricultural Produce	**488.6**	**45.3**	**291.9**	**18.4**	**193.5**	**3.4**	**458.3**	**7.4**
Sugar	290.2	26.9	142.7	9.0	70.9	1.2	101.1	1.6
Coffee	51.8	4.8	46.5	2.9	20.8	0.4	7.6	0.1
Tobacco	51.8	3.2	16.1	1.0	24.2	0.4	18.3	0.3
Cacao	34.7	4.7	41.3	2.6	21.7	0.4	41.6	0.7
Other traditional agri. products	60.8	5.6	45.3	2.9	55.9	1.0	289.7	4.7
II Nontraditional Produce	94.2	8.7	134.1	8.5	535.1	9.3	556.0	9.0
Dry Coconut	-	-	5.0	0.3	6.2	0.1	9.1	0.1
Yam	-	-	3.7	0.2	8.1	0.1	3.6	0.1
Pigeon Peas	-	-	5.3	0.3	9.1	0.2	—	—
Coconut Emulsion	-	-	7.7	0.5	2.8	0.0	—	—
Bananas	-	-	2.0	0.1	19.3	0.3	47.1	0.8
Others	-	-	104.4	7.0	489.8	8.5	496.2	8.1
III Minerales	379.1	35.1	309.0	19.5	237.4	4.1	380.8	6.2
Ferro-Nickel	101.2	9.4	249.0	15.7	237.4	4.1	380.8	6.2
Gold and Platinum	259.4	24.0	57.0	3.6	-	-	-	-
Otros	18.5	1.7	3.0	0.2	-	-	-	-
FTZ Exports	117.1	10.9	850.0	53.6	4,771.0	83.2	4,750.7	77.3
Total Import.	1,579.0	100.0	2,357.0	100.0	9,479.0	100.0	9,876.3	100.0
National Imports	1,498.0	94.9	1,785.0	75.7	6,416.0	67.7	7,365.8	74.6
Petroleum and Derivative Prod.	449.0	30.0	517.0	29.0	1,505.2	23.5	3,451.1	24.8
Food	113.0	7.5	85.3	4.8	402.5	6.3	-	-
Otros	936.0	62.5	573.0	24.3	3,063.0	32.3	3,914.7	0.6
FTZ Imports	80.0	5.1	1,182.7	66.3	4,508.3	70.3	2,510.5	25.4
Trade Balance	-500.0	100.0	-773.0	100.0	-3,742.0	100.0	-3,730.5	100.0
National Balance	-537.0	107.4	-1,050.0	135.8	-5,450.0	-145.6	-5,970.7	160.1
FTZ Balance	37.0	-7.4	278.0	-36.0	1,708.0	45.6	2,240.2	-60.1

Source : Central Bank of the Dominican Republic and CEI-RD

Figure 2-1 | **Trend of Free Trade Zone Exports**



Source : Banco Central de la Republica Dominicana, http://www.bancentral.gov.do/

Note : The first figure is the amount of each product in million US dollars, and the second one is the share in total exports of free trade zones in percentages. The scale on the left axis is for apparel and textiles and the one on the right is for all the others.

As a result of this trade policy of FTZ export promotion, the export performance of the Dominican Republic became vulnerable to the fluctuations of the US market. The degree of dependence on the US market is abnormally high in most Central American countries compared with other regions. The US has been also one of the important export partners for East Asian countries but the level of dependence was much lower. It is due to the lack of intraregional trade in the Central American unlike East Asia. Korea's largest export partner was the US until China replaced the US in the 2000s. Korea is now exporting many types of intermediate goods to China's export industries with the establishment of East Asian production network. The Korean experience also shows that the export growth could be sustained with finding more export partners over time. In contrast, the number of export partners of the Dominican Republic has stayed constant for the last forty years.

Table 2-6 | Diversification of Export Destination: Dominican Republic vs. Korea

Dominican Republic	1965	1975	1985	1995	2000
1st	USA	USA	USA	USA	USA
(share in %)	78.61	65.91	86.98	87.15	89.32
2nd	W. Germany	France	Belgium-Luxemburg	Germany	Netherlands
	3.58	4.13	2.06	2.66	2.51
Number of partners	31	48	23	61	41
Korea	1965	1975	1985	1995	2005
1st	USA	USA	USA	USA	China
	32.73	31.68	39.58	20.67	21.90
2nd	Japan	Japan	Japan	Japan	USA
	25.10	26.57	15.15	14.35	14.54
number of partners	51	134	128	161	217

Source : World trade flow database constructed by Feenstra et al. (2005).

Table 2-7 | Share of the US market in Export of Central American Countries

	1965	1975	1985	1995	2000	Number of partners (2000)
Dominican Republic	78.6	65.9	87.0	87.1	89.3	41
Costa Rica	45.8	37.5	56.5	58.4	57.6	53
El Salvador	23.0	31.7	62.4	64.7	82.8	37
Guatemala	31.9	24.4	50.8	62.3	74.4	53
Honduras	49.5	47.3	55.0	70.2	84.0	42
Nicaragua	22.5	30.6	18.9	54.8	70.6	39
Malaysia	13.4	18.3	13.6	21.3	22.3	151
Thailand	6.4	9.9	20.8	21.1	22.9	163

Note : The shares are in percentage computed from world trade flow database constructed by Feenstra et al. (2005).

Compared with other outward-oriented and industry-based developing countries, the Dominican Republic's export structure needs more diversification in products as well as destinations. It is overly concentrated in agricultural goods (SITC 0,1) and a small number of consumer non-durables such as apparel (SITC 6,8). If we count the key export products over 1% world market share, the Dominican Republic's key exports are small in number and most of them belong to agricultural goods or consumer non-durables. There are no key export industries in machinery and equipment (SITC 7), which have a large number of components and intermediate materials and are the areas of active international production sharing. The newly industrialized countries in East Asia have many key products in SITC 7 as well as in SITC 6 and 8.

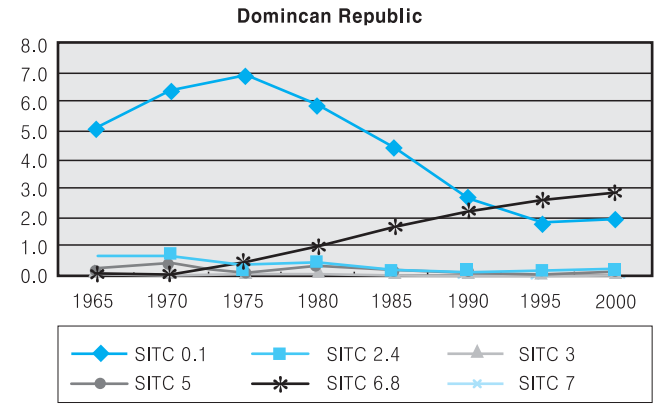
Table 2-8 | International Comparison of Export Competitiveness

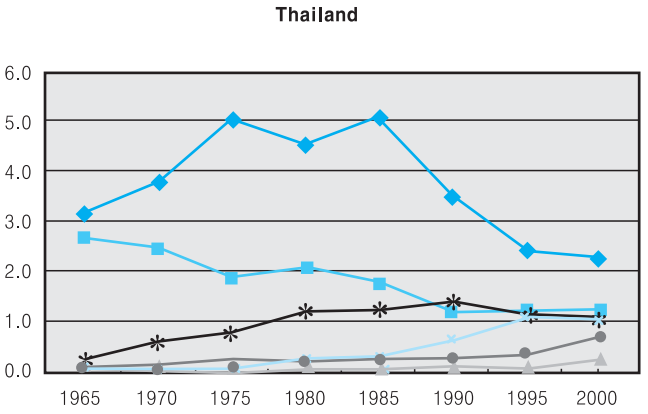
	SITC 0,1	SITC 2,4	SITC 3	SITC 5	SITC 6,8	SITC 7	total
Dominican Rep.	6	0	0	0	13	0	19
Costa Rica	8	3	0	0	4	2	17
El Salvador	2	0	0	0	4	0	6
Guatemala	5	1	0	0	7	0	13
Honduras	3	1	0	0	8	0	12
Nicaragua	2	1	0	0	0	0	3
Japan	22	34	8	103	222	185	574
Korea	17	22	9	52	196	129	425
Malaysia	21	38	5	23	77	52	216
Thailand	42	28	3	17	126	56	272
China	72	70	11	89	295	147	684
USA	111	101	22	125	314	218	891

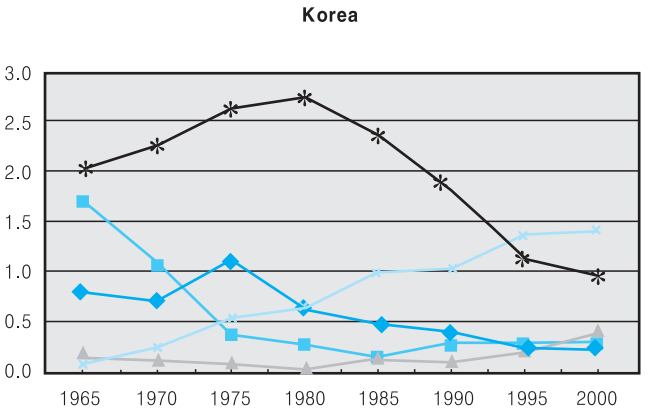
Note : The figures are the number of products with more than 1% world market share in SITC 4 digit level product classification based on the data from Feenstra et al(2005).

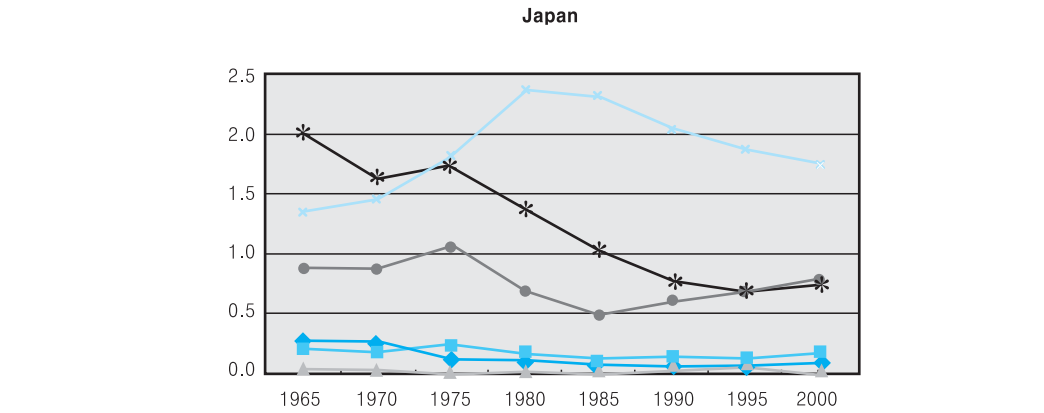
Figure 2-2 compares the evolution of export structures of the Dominican Republic with three countries in East Asia in various development stages. Both the time series and cross country patterns indicate the evidence of product cycle in which the evolution of export structure shows a typical pattern of transition from primary export (SITC 0, 1) to consumer nondurables (SITC 6, 8) and high-tech equipment (SITC 7). The Dominican Republic was successful in moving its weight from primary products to consumer non-durables but seems to be moving rather slowly in the transition toward more sophisticated industrial products. In comparison, Thailand, which has a competitive edge in agriculture and primary products similar to the Dominican Republic, shows continuous export development into consumer non-durables and further into SITC 7 products. In terms of PPP GDP per capita, the two countries are almost the same, $6497 for the Dominican Republic and $6473 for Thailand in 2000 according to the Penn World Table but the prospect of export development is more promising in Thailand, which is active in global network of production in sophisticated industries of SITC 7.

Figure 2-2 | International Comparison of Export Structure







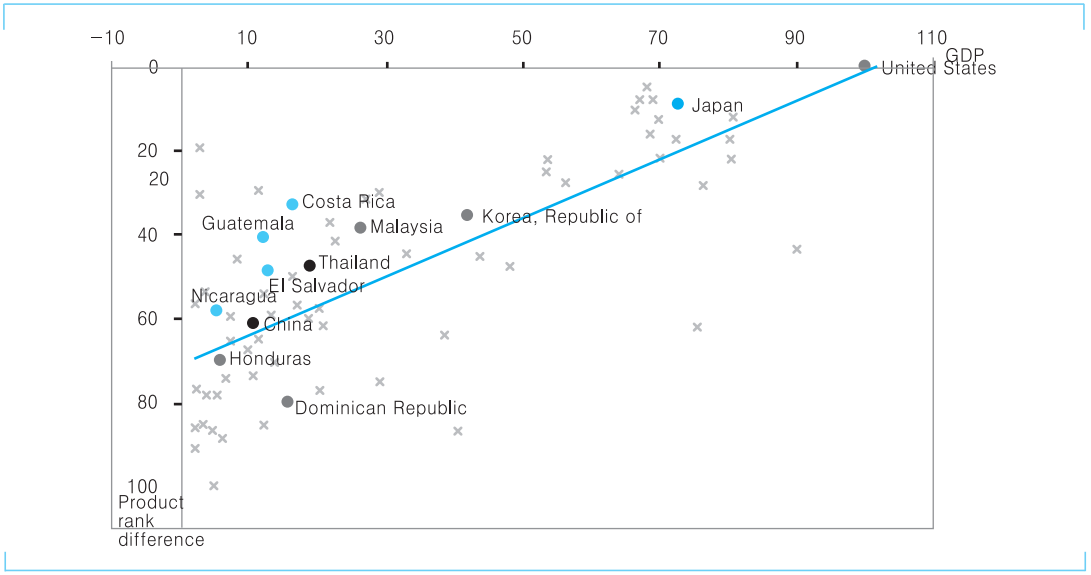


Note : Revealed comparative advantage computed from the data obtained from world trade flow database constructed by Feenstra et al. (2005).

Following the theory of product cycle, we can measure the level of export development based on the export structure. Since the export structure and per capita income has a close correlation, we can judge the level of export development from the fact that the more similar a country's export structure is to the current structure of developed countries, the more advanced the export is. Figure 2-3 shows the level of export development measured by Kim and Lee (2006) based on the aforementioned assumption. Although there is a positive and close correlation between two variables, some countries have less developed structure of commodity exports. For example, Iceland's export structure is less advanced relative to its income level since it has a large share of primary exports in fishery. As most developed countries have the export structure heavily weighted in high tech industries in SITC 7, countries such as Japan and Korea which export much in this category are assessed to have more developed export structure relative to its per capita income. Since the Dominican Republic has exports concentrated in a small number of products in agricultural and light industrial products, its export structure seems relatively less developed than even other Central American countries.

In sum, the current export structure needs further development for the Dominican Republic to achieve a stable and continuous export growth. For this, the Dominican Republic should overcome weakness and risk from low diversification. It should find more exportable goods in consumer non-durables and, furthermore, discover its niche in the global supply chain of high-tech products. By advancing into more diversified areas of exports, it can reduce its reliance on the US market with a small number of consumer non-durables. To do this, enhancing competitiveness of current exports, finding new markets, upgrading industries, and addressing inefficiencies from institutional and regulatory distortions seems indispensable.

Figure 2-3 | **Per Capita GDP vs. the Level of Export Development**



Note : The rank difference indicates the gap between each country and the US in the development of export structure based on the measurement of Kim and Lee (2006).

2. Korea's Economic Development and the Role of Government

2.1. Structural Transformation and Export Development

The patterns of modern economic growth in most developed and newly developed countries reveal regularity in structural transformation well documented by Chenery et al. (1986): industrialization. Korea was no exception. In the early 1960s, the share of agricultural production was almost 50% of total GDP and that of manufacturing less than 10%. Also, more than 60% of workers were in rural areas and among them were a large number of underemployed peasants working on traditional rice farming. However, within ten years after the takeoff, the share of manufacturing sector exceeded that of agriculture and the employment share of the manufacturing sector reached more than 20% of total employment. The manufacturing sector was truly the main engine of growth in Korea. It achieved impressive labor productivity growth as high as 10% per annum during the initial period of industrialization.

The characteristic that distinguishes Korea is the speed and depth of its industrialization. Korea's industrialization was accomplished within a generation, much faster than any other developed countries. In the 1990s, Korea even entered into the phase of deindustrialization as the share of manufacturing employment began to decline, the common phenomenon we observe

in the last 30 years of post industrialized growth of the developed countries. The structure of manufacturing sector in Korea is more oriented than other developed countries toward heavy and chemical industries, which require a higher level of scale and depth in capital and technology. As Table 2-9 shows, the initial industrialization started with labor-intensive sectors such as food and textile, which accounted for more than 70% of total manufacturing production. However, immediately after the initial takeoff, the intermediate good-supplying sectors such as chemical products, machinery, and equipment began to grow, responding to the increase in domestic demand. Since the 1970s when the government intentionally pushed deeper industrialization into heavy and chemical industries, the structure of manufacturing sector has changed dramatically. In the 1980s, the share of light industries such as textiles sharply declined, whereas heavy and chemical industries grew rapidly. Now, the share of heavy and chemical industries at about 80% of total manufacturing is higher than any other developed countries in OECD.

Table 2-9 | Sectoral GDP and Its Growth of Korea

	Share of GDP(%)						Annual average growth rate(%)		
	1954	1961	1974	1980	1990	2000	1954-61	1962- 74	1980-00
Agriculture, forestry & fishing	50.3	45.2	24.6	16.2	8.9	4.9	2.3	4.2	2.4
Mining & quarrying	1.0	1.5	1.2	1.9	0.8	0.4	11.4	6.6	-2.3
Manufacturing	5.9	9.4	27.2	24.4	27.3	29.4	11.2	18.4	9.5
Construction	1.9	2.7	5.5	8.0	11.3	8.4	8.9	15.4	11.6
Utilities	0.3	0.6	2.0	2.2	2.1	2.6	12.9	19.1	6.1
Services	40.5	40.5	39.6	47.3	49.5	54.4	3.9	9.0	6.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	3.9	9.1	6.9

Source : Kim and Roemer (1979) up to the 1970s, afterwards own estimation based on the National Accounts.

Table 2-10 | Sectoral Employment and Labor Productivity Growth of Korea

	Employment share (%)					Labor productivity growth rate (%)	
	1964	1975	1980	1990	2000	1964-75	1980-00
Agriculture, forestry & fishing	62.5	47	31.0	16.0	10.6	1.7	5.6
Mining	0.7	0.5	0.9	0.4	0.1	6.3	7.6
Manufacturing	8.1	18	22.7	27.9	20.3	9.5	7.9
Construction	2.4	4.1	6.4	7.6	7.5	6.0	3.2
Social overheads & services	26.3	30.4	38.9	48.1	61.5	5.6	2.1
Total	100	100	100.0	100.0	100.0	6.7	4.7

Source : Kim and Roemer (1979) up to the 1970s, afterwards own estimation based on the Survey on Economically Active Population and National Accounts.

The key factor that enabled Korea to develop heavy and chemical industries to such a high degree is the export. Since the heavy and chemical industry needs a scale of operation large enough to take advantage of scale economies, domestic demand usually falls short of supply for a small country to accommodate the industry. This is the reason why the discussion on the industrialization strategy in the early 1950s considered the size of countries as an important relevant factor in judging the appropriateness of sectors to promote. In the 1960s and 70s, Korea was rather a small country in terms of both GDP and population size. Therefore, the promotion of heavy and chemical industries in Korea created concerns for many experts. It was true that it brought about many distortionary effects and legacies on the Korean economy so far. However, it is also true that despite the limits of size, Korea was able to promote heavy and chemical industries so that they may become the major industries during that time. One key factor for the sustained promotion was the export which compensated the small size of domestic demand. Unlike other big industrialized countries such as Brazil and India which promoted import substitution industrialization in the 1950s, Korea targeted the export market from the initial stage of heavy and chemical industrial promotion.

Table 2-11 | Structure of Manufacturing Sector of Korea

	Share in value added (%)						Growth rate (%)		
	1954	1961	1974	1980	1990	2000	1954-61	1962-74	1980-00
Food, beverages, tobacco	44.6	34.9	21.5	11.7	8.2	6.9	8.6	13.3	4.9
Textiles, Textile products, leather and footwear	27.8	28.9	30.7	21.9	12.0	6.9	11.0	19.5	1.9
Wood products	5.2	3.7	2.1	1.0	0.8	0.6	5.1	13.9	3.1
Pulp, paper products, printing and Publishing	5.7	6.6	3.4	4.5	5.0	4.3	12.6	13.2	8.9
Chemical, rubber, plastics and fuel products	5.1	8.3	15.5	19.8	16.6	18.1	17.6	25.0	11.0
Non-metal mineral products	2.2	3.5	4	6.4	6.4	3.9	18.0	20.0	7.9
Metal products, machinery and equipment	7.6	12.5	44.3	31.9	48.0	57.3	18.6	22.4	14.8
Basic metals and metal products				10.3	14.3	12.8			10.6
Machine and equipment				16.3	22.5	33.3			16.8
Transportation equipment				5.2	11.2	11.3			15.3
Miscellaneous	1.6	1.5	3.7	2.7	2.9	1.9	13.0	25.3	7.0
Total	100	100	100	100	100	100	11.1	18.4	9.5
Light industries	85	77	61.5	41.9	29.0	20.7	13.7	16.3	4.5
HC industries	15	23	38.5	58.1	71.0	79.3	4.9	23.2	13.2

Source : Kim and Roemer (1979) up to the 1970s, afterwards own estimation based on National Accounts.
Note : Heavy and chemical industries (HCIs) are chemicals, non-metal and metal products, machinery and equipment manufacturing.

Thus, the structure of exports has coevolved with that of the manufacturing sector over time. Within 10 years after the takeoff, the share of manufacturing exports took more than 80% of total exports. In the 1960s, the initial manufacturing export growth was driven by the increase of labor-intensive goods such as garments, wigs, and plywood. The light industry was replaced by high-tech capital-intensive industries as the major export engine in the 1990s, just one generation after the crude materials-exporting country entered the world export market of manufacturing goods. The top 10 export merchandises shows the dramatic transition of leading exports from crude minerals to textiles, and further into electronics, chemicals, and transport equipment. One should notice that the absolute amount of exports in light industries, despite their declining share in recent years, increased over time by adjusting the way of business to the rising wages. That is, the industrial and export transformation is not the replacement of the declining by the rising sectors. However, no country can possess all the sectors within the border forever and it should give away sunset sectors to cost-effective countries. It happens with deindustrialization which slows down the growth rate. During the period of high growth and industrialization, an economy should expand the width of production by stretching into newly discovered sectors with active existing sectors intact.

Table 2-12 | Export Structure of Korea

Category (SITC Code)	1954	1961	1972	1980	1990	2000
Food and beverages(0,1)	5.9	32.1	10.1	15.2	4.0	1.6
Crude materials(2,4)	86.9	44.0	4.3	0.8	0.6	1.2
Mineral fuels(3)	2.7	4.8	1.9	0.2	1.1	5.8
Chemicals(5)	0.6	1.5	1.7	10.9	7.8	11.1
Manufactures(6,8)	3.7	13.2	67.9	45.6	41.9	18.3
Machinery & transport equipment(7)	0.3	1.9	13.9	26.9	43.5	60.6
Unclassified(9)	-	2.6	0.3	0.5	1.1	1.3
Food, fuel & raw materials(0-4)	95.3	80.9	16.3	16.1	5.7	8.6
Manufactured goods(5-8)	4.6	16.6	83.4	83.3	93.2	90.1

Source : Kim and Roemer (1979) up to the 1970s, afterwards own estimation based on the UN COMTRADE DB.

Table 2-13 | Top 10 Export Merchandises of Korea

rank	1961		1970		1980		1993	
	product	value	product	value	product	value	product	value
1	iron ores	5.3	textiles	341	textiles	5,014	electronics	24,233
2	tungsten	5.1	plywood	92	electronics	2,004	textiles	15,877
3	raw silk	2.7	wig	90	steel	1,854	steel	6,612
4	anthracite	2.4	iron ores	49	footwear	904	chemicals	4,634
5	cuttle fish	2.3	electronics	29	ships	618	automobiles	4,493
6	other fish	1.9	vegetables	19	plastic products	531	ships	3,727
7	graphite	1.7	footwear	17	metal products	433	machinery	3,055
8	plywood	1.4	tobacco	13	plywood	352	footwear	2,309
9	cereals	1.4	steel	13	ocean fish	352	petroleum products	1,795
10	hide or rawhide	1.2	metal products	12	electric appliances	324	plastic products	1,503
	sum	25.3	sum	660.6	sum	24,337	sum	68,238
	share of above(%)	62	share of above(%)	77	share of above(%)	80	share of above(%)	83
	total export	40.9	total export	835.2	total export	30,283	total export	82,236

Source : Hong (1994)
Note : Values are in millions of US dollars.

In Table 2-14, the sources of growth are decomposed based on the input and output table by estimating the production inducement of each factor of final demand. Before the takeoff in the 1960s, the growth of the manufacturing sector was mostly attributable to the rising domestic demand and import substitution. Afterwards, the export expansion was the main driver up until now, which explains more than 50% of the manufacturing growth in most periods. In Korea, the initial spurt of exports came from the light industries. Then, it stimulated the growth of chemical and basic metal industries in the late 1960s with growing domestic demand on these industries. However, the major transformation of industrial structure started after the Korean government declared the policy of heavy and chemical industry promotion in 1973. The heavy and chemical industries require huge lump-sum investment with a long gestation period, which intrinsically involves high risk. Thus, unless the financial market is large enough and functioning well, it is hard for the private sector alone to initiate the development of large scale industries. Furthermore, the industries usually face the bottleneck of demand and supply without some kind of coordination along the forward and backward linkages. According to the historical observations such as Gerschenkron (1962), most latecomers among currently developed countries have relied on political leadership, that is, the industrial policy of the state. The heavy and chemical industrial promotion in Korea targeted a wide range of industries such as iron and steel, electronics, petrochemicals, automobiles, shipbuilding, and machinery. It was exemplary of full-blown government-pushed industrial promotion. One exception was that the Korean government targeted export market at its conception of policy. In short, the dramatic

transformation of industries and exports in such a short period cannot be explained without discussing the role of the government.

Table 2-14 | Sources of Manufacturing Growth

	Domestic demand expansion	Export expansion	Import substitution	Technical change
〈1955 ~ 63〉				
1. processing food	64.6	6.5	16.1	12.9
2. light industries	78.9	16.1	52.3	-47.3
3. HCI	45.4	8.9	28.6	17.1
4. machinery and transport equipment	43.9	6.6	32.7	16.8
total manufacturing	61.6	10.6	34.6	-6.8
〈1963 ~ 75〉				
1. processed food	88.1	12.1	2.8	-3.0
2. light industries	47.1	52.7	1.8	-1.5
3. HCI	42.9	33.8	19.9	3.5
4. machinery	42.0	43.9	10.5	3.6
total manufacturing	50.4	39.9	8.9	0.8
〈1975 ~ 90〉				
1. processed food	64.0	16.0	4.4	15.6
2. light industries	34.4	56.9	1.2	7.5
3. HCI	50.8	50.6	4.5	-5.9
4. machinery	36.5	46.8	11.4	5.3
total manufacturing	43.0	48.3	5.7	3.0

Source : Hong (1994)
Note : The figures are estimated by Syrquin's method based on the input-output table.

2.2. Export Growth and the Role of Government in Korea

To explain the sustained high growth of Korea, one should discuss not only how Korea initiated the growth in the early 1960s but also how the country sustained the initial spurt to achieve the remarkable economic transformation. It is not surprising that there are many explanations, even conflicting each other, but the most controversial is the role of government intervention. The neoclassical views presented by economists such as Krueger (1985) give emphasis on the government action in the early 1960s toward functioning of market by devaluing national currency and adopting export-oriented policy. They argue that export-oriented policy, unlike import-substitution with infant industry protection, is inherently pro-competition and allows market-based incentive system such as performance-based support.

However, interventionists such as Amsden (1989) and Wade (1990) have argued that the reforms of the 1960s went considerably beyond the market signals, and the Korean government actively set industrial priorities and did not hesitate to intervene to upgrade industries through subsidies, trade restrictions, administrative guidance, public enterprises, and credit allocation. The truth would lie in between the two extreme views. The World Bank (1993) has attempted to incorporate the role of government intervention with credit rationing into the neoclassical views.

To understand the role of the government in the initial spurting periods of the early 1960s, one should consider the economic situation of Korea at that time. Less than ten years after the devastating Korean War, the initial condition in the late 1950s was abnormally unfavorable in every aspects of growth except for abundant labor with rapid population growth, high unemployment, and a large number of underemployed farmers. The aid from the US was the largest source of foreign exchange under the chronic shortage of capital. To maximize the aid revenue, the Korean currency was set overvalued and the import substitution, a fashionable development strategy at that time, was pursued for light industrial products to save foreign exchange. The result was severe macroeconomic instability. However, with the realignment of Korean currency, the export increased rapidly although overall growth was slow. With the global trade boom and favorable exchange rate, Korean exporters could find a foreign market based on comparative advantage of labor intensive products. The shortage of foreign exchange itself worked as an incentive to export since exporters could retain the exchange earnings. Thus, the favorable change in business environment for exports led to the increase in exports with absence of policy incentives provided later in the period of economic growth

However, the government found the export to be an effective tool for growth from the booming export business. After taking over the government, the military regime gave a priority to economic growth. Export could earn foreign exchange and create jobs. Thus, the government removed the anti-export bias and aligned the policy towards export promotion. The Korean Won was devalued in 1964-65, and was flexibly maintained to keep the real exchange rate stable. Along with trade policy reform, the Korean government institutionalized the export subsidizing administrative tools and coordinated the investment through allocation of scarce foreign exchange and financial credit to promote export.

Rodrik (1995) appraises that the impressive investment growth synchronizing with the GDP growth seems to have played a significant role rather than export promotion itself. He argues that the contribution of exports to GDP growth might be meager because of the low export-GDP ratio in the early 1960s. However, we cannot determine in the case of Korea whether export or investment is more significant to economic growth. Although there may be some lags and leads between two variables, dynamically both variables are interrelated in the path of economic growth. Export growth should accompany investment growth for the expansion of domestic

industrial capacity to be sustained. In this respect, the initial action by the Korean government giving industrial investment the first priority cannot be ignored. Investment in export industries was consistent with the comparative advantage of a cheap labor abundant country. Investment ratio increased up to 25% and high unemployment rate in the early 1960s fell to half less than ten years after the initial spurt of growth. High investment was also accompanied by high savings. Job creation led to income increase which resulted in a rise in savings thanks to institutional factors such as lack of social safety net, limited housing loans, scarce consumer credits, and accessible postal deposit system. In this respect, Korea was able to have a virtuous cycle among export, investment, savings, and economic growth with more employment and higher income which was assisted by the cultural and institutional factors.

A. "Export Above All" Policy Established in the 1960s

With a view toward securing economic and political independence, Korea introduced a number of export promotion measures in the 1960s. To provide institutional support in the area of foreign marketing and technology imports, the government established the Korea Trade Promotion Corporation (KOTRA) in 1962 while an elaborate network of exporters' associations provided more industry-specific services. The short-term export credit system had been streamlined as early as 1961. The essence of the new system was the automatic approval of loans by commercial banks to those with an export letter of credit (L/C), which allowed businesses to have access to trade financing without having to put up collateral

The government also gave exporters various tax deductions, generous wastage allowances, tariff exemptions, and concessional credits. For example, exporters were entitled to automatic import rights and to easy customs clearance. Furthermore, exporters were allowed to import more inputs than was essentially needed as "wastage allowance" to a certain level. Given that the value of imports was still very high, this helped to increase the profitability of exports. The interest rate on export loans was also subsidized from the mid-1960s to the beginning of the 1980s. The role of Korea's export subsidies should not be exaggerated, however. The average effective rate of subsidy on total exports in the second half of the 1960s was basically offset by the degree of currency overvaluation. More importantly, this subsidy, consisting of internal tax exemptions, custom duties exemptions, and interest rate reductions, took the form of a performance-based reward in a competitive setting rather than a handout with no strings attached. For instance, eligibility to receive export credit support was limited to only those whose past year's exports exceeded the target amount specified in the loan contract.

Strong export performers even received medals and national recognition on Export Day, which was established in 1964 to commemorate the day when Korea's annual exports exceeded $100 million for the first time. Traditionally at the bottom of the social hierarchy, merchants were now presented as patriotic entrepreneurs contributing to the nation's modernization.

After Korea achieved the annual exports reached $100 million in 1964, the Minister of Commerce and Industry asked the President to chair monthly export promotion meetings, and after a few trial runs in 1965, the President chaired these meetings on a regular basis from January 1966. Attended by high-ranking government officials and business representatives, monthly export promotion meetings provided a forum to monitor progress and devise institutional innovations and solutions to emerging problems. At each monthly meeting, the Minister of Commerce and Industry gave a progress report on export performance by region and product relative to the targets set out in the annual comprehensive plan for export promotion. Deputy-director-level officials were tasked to monitor export performance by major industry. The integration of trade and industry functions in the same Ministry enhanced policy implementation. At each monthly export promotion meeting, the Minister of Foreign Affairs gave a briefing on overseas market conditions. Government officials and business representatives then tried to identify emerging bottlenecks and constraints that impeded export performance and devise solutions to these problems. Subsequent meetings monitored progress. Export insurance was one of many institutional innovations that were introduced as a result of recommendations from monthly export promotion meetings. In short, these meetings between the government and the private sector provided opportunities to secure sustained attention from top leadership, monitor progress on a long-term vision, and detect and mitigate constraints as they emerged. Government officials had to come prepared to respond to queries from the President and business representatives. These meetings provided a real-time forum to demonstrate their competence—or lack thereof.

In addition, the Export Promotion Special Account Fund was established within the Korea International Trade Association (KITA) in 1969 as a public-private initiative to secure non-government funding for export promotion activities. It provided support for collective activities such as the dispatch of delegations to international trade fairs, improvement of design and packaging, and establishment of quality certification facilities. A small levy was imposed on imports to provide the funding.

On the huge electronic billboard mounted on top of its building, KOTRA posted the daily and year-to-date export figures. The government opened an Export Information Center, ran an Export Idea Bank to solicit new ideas, and undertook domestic/foreign research and studies to expand export markets to generate more demand for the private and public sector. The government, export industries, and related support institutions came together to promote exports. With the booming world economy, these efforts resulted in Korea's exports increasing at an average annual rate of 35% in real terms from 1963 to 1969.

B. Export Promotion Combined with Industrial Policies in the 1970s

Export promotion policies in the 1960s did not target specific industries or firms when providing incentives for export promotion. Overcoming the initial export pessimism ("Who

would buy our products?"), the government let comparative advantage operate and encouraged private firms to concentrate on labor-intensive industries.

In the second half of the 1960s, however, the government started making plans to promote heavy and chemical industries (HCIs) as a part of its "industrial upgrading" program. While relying on global markets, Korea was well aware that outward orientation was not enough to sustain growth. Korea had to make conscious and concerted efforts to move into higher value-added areas along the value chain by making complementary investments in human capital and infrastructure. It had to increase the domestic value-added content of its exports.

In fact, the Second Five-Year Economic Development Plan (1967-71) set out "to lay the foundation of industrialization by promoting chemical, steel, and machinery industries" and "to improve the balance of payments through import substitution," by filling the missing links in the domestic value chain, up the quality ladder. The newly established state-owned enterprises began construction of a petrochemical complex and an integrated steel mill in the late 1960s.

A new urgency was added in the early 1970s as the U.S. announced that it would reduce its forward-deployed troops in Asia in the wake of the Vietnam War. One of the two U.S. infantry divisions stationed in Korea since the end of the Korean War departed in 1971, forcing the Korean government to embark on a crash program of military modernization. The government felt that Korea must develop the heavy and chemical industries if it was to have the ability to manufacture its own weapons.

Korea had a strong and increasing comparative advantage in light industries when it made its strategic gamble to promote heavy and chemical industries in 1973. After benchmarking advanced industrial nations with similar natural endowments as Korea's, such as Japan, it recognized that it had a potential comparative advantage in machinery and equipment industries and began to remove obstacles to achieving this objective, such as lack of technicians and engineers with requisite skills in sophisticated industries.

The government had already established the Korea Institute for Science and Technology (KIST) in 1966 to conduct R&D and the Korea Advanced Institute for Science and Technology (KAIST) in 1971 to produce scientist and engineers. In addition, it passed the Technology Development Promotion Law in 1972, providing tax and other incentives to encourage private-sector R&D.

To support the HCI drive, the government expanded vocational training and educational opportunities, strengthened science and technology education, and set up government labs to conduct research and development. It established a number of government research institutes (GRIs) in shipbuilding, electronics, machinery, and chemical industries according to the Specialized Research Institute Promotion Law of December 1973. The government also

provided benefits such as employment opportunities to qualified technicians through the National Technical Certification Law of December 1973. In addition, it established a number of model technical high schools as centers of excellence with incentives for students, including job guarantees upon graduation. These students went on to win medals at the International Vocational Olympics and serve as "the flag-bearers for the nation's modernization."

To take advantage of agglomeration economies and to strengthen backward and forward linkages, the government enacted the Industrial Complex Development Promotion Law in December 1973 and set up a machinery complex in Changwon, chemical complex in Yeocheon, and an electronics complex in Gumi. National universities located near these industrial complexes were encouraged to specialize in related engineering fields. A cluster approach was evident in the HCI drive.

In order to minimize time and exploit scale economies in establishing the capital-intensive intermediate goods sector, the government decided to rely on a select group of large business groups and provide them with extremely generous financial support. Known as the chaebol, these large family-based business groups would drastically increase their share of GDP thanks primarily to government support.

In December 1973, the government also established the National Investment Fund (NIF) to finance long-term investment in the heavy and chemical industries. For the 1975-80 period, the NIF amounted to approximately 10.7% of all bank loans, but accounted for more than 60 % of long-term HCI financing. In 1974, the NIF interest rate was set at 9.0 % when the prevailing three-year interest rate on bank loans was 15.5%. In real terms, the NIF provided loans at a significantly negative rate. The banks also supported the HCI drive by providing policy-oriented loans on favorable terms. This was a dramatic departure from the second half of the 1960s. The interest rate could no longer operate as an effective price signal in the resource allocation process.

The HCI drive entailed specific projects for the following industries: steel, petrochemicals, shipbuilding, industrial machinery, nonferrous metals, and electrical industries. The government provided these industries with various supports and aligned the export promotion policy with the goals of the HCI drive.

In order to develop new export markets an efficient overseas distribution network was needed, thus, the General Trading Company (GTC) System was born in 1975. The eight initial GTCs designated by the government were Samsung, Ssangyoung, Daewoo, Hyosung, Lucky Goldstar (currently LG), Sunkyung (SK), Hyundai, and Koryo. Except for Koryo which was set up by a government initiative to assist SMEs, these corporations represented major business groups in Korea at that time. GTCs received priority claims in international biddings, received low interest prime rates from banks, and received working capital increases for the operation

and marketing activities of overseas branches. GTCs played a leading role in exports and greatly contributed to the exports of plants and HCIs. In 1982, GTCs accounted for over 50 % of total exports.

C. Structural Adjustment and Import Liberalization in the 1980s

Although the government called off its ambitious HCI drive in April 1979 to stabilize the economy, the second oil shock and the assassination of Park Chung Hee in October 1979 made things worse. In 1980, the Korean economy registered a negative 3.7% growth rate, a shocking figure for a nation that had become used to an annual growth rate of around 8%. A new military regime, led by General Chun Doo Hwan, came into power and introduced drastic measures to control inflation. The government devalued the won, imposed an IMF-backed austerity package, and cut subsidies to the HCIs. In addition, the technocrats who were entrusted by Chun to run the economy advocated a transition to a more market-oriented system. They felt that excessive state intervention had produced serious moral hazard and had driven the economy to the verge of a debt crisis. They wanted to enhance private sector initiatives by reducing government interference and by opening up the domestic market to greater foreign competition.

Export incentives and investment promotion measures with related government regulations which had been applied until the 1970s were also removed and/or reduced to enhance private sector initiatives. For instance, sector-specific promotion laws established during the 1960s and 1970s to provide incentives and protective measures were abolished and replaced with the Industrial Development Law in 1985.

In order to introduce greater competition, the Korean government opened up the domestic markets to imports and inaugurated the Import Liberalization Committee in 1978. In 1984, a second round of import liberalization was held, followed by a government announcement that foreign commodities in almost all sectors would be allowed into the country.

This announcement made amidst conflicting views that opening the market would strengthen industrial competitiveness or erode the domestic industry. To protect domestic industries from market liberalization, an import diversification system was adopted, in which imports from trade deficit countries were restricted. The Trade Commission, established in 1986, implemented an industrial injury relief system protecting domestic industries.

Trade negotiations were carried out differently according to the countries. With trade surplus countries such as the US and Canada, self-regulation measures of local industries were taken. With trade deficit countries such as Japan and Australia, efforts were focused on enhancing trade reversal and promoting trade surpluses.

D. New System of Export Promotion in the 1990s

The WTO system, which was established immediately after the Uruguay Round, obliged many countries, including Korea, to change trade policy orientations as direct financial and/or fiscal assistance for the purpose of trade promotion was strictly prohibited by the WTO. The Korean government transformed trade policy tools to provide indirect support for exporting industries and terminated direct financial and fiscal assistance.

In order to provide indirect support to exporting firms seeking new but risky markets, the Korean government established KEIC (Korea Export Insurance Corporation) in 1992. For a similar purpose in the same year, the Korean government established a fund for overseas market exploration for firms exploring new markets.

The Korean government substituted the registration system for export and import businesses with a report system. The government also transformed the positive approval system for exports and imports into a negative one. Furthermore, the government gradually reduced the number of import restricted items as well as the number of items for import diversification.

For the purpose of diversifying export products and enhancing quality, the Korean government executed various measures to recognize and support items deemed as "world-class goods," promote parts and materials, promote plant industries, develop new technology, and facilitate exports of knowledge-based services.

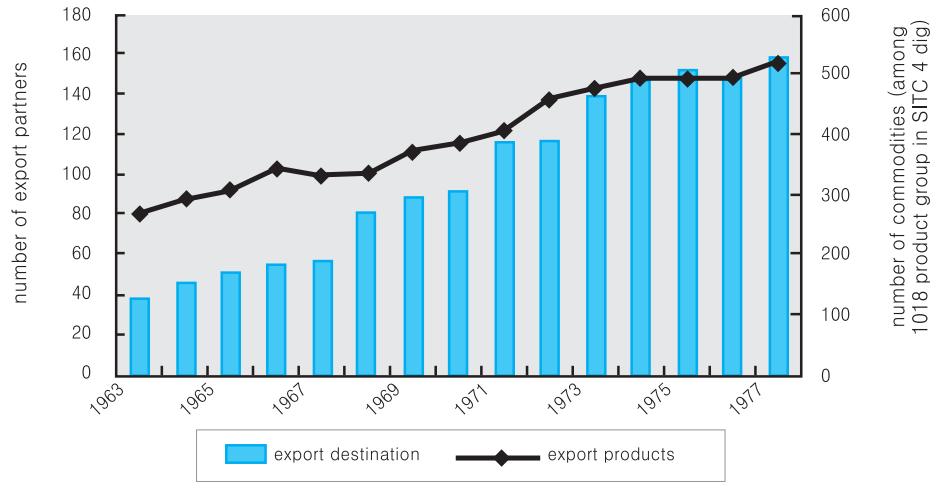
In order to expand the base for exports, the Korean government emphasized support for SME exports. The government strengthened financial assistance systems such as export insurance and export/import credits, provided more support for overseas marketing such as exhibitions and market survey teams, and expanded trade infrastructure such as paperless trade, exhibitions, and the training of trade specialists.

2.3. Industrial Transformation and the Role of Government in Korea

Although in the 1960s there was more active government intervention than before, the policy actions at that time are appraised as market friendly. The incentives provided through major policy measures such as subsidized export credit and tariff exemptions were performance-based. They were not the selective promotion of particular industries but the general measure toward export promotion. Since exporting firms competed in the world market, the incentives were enforcing the market signal to the competitiveness of firms. Also export growth of labor-intensive goods reflected the market signal to the comparative advantage of Korea at that time. The export expansion mostly came from widening the extensive margin of

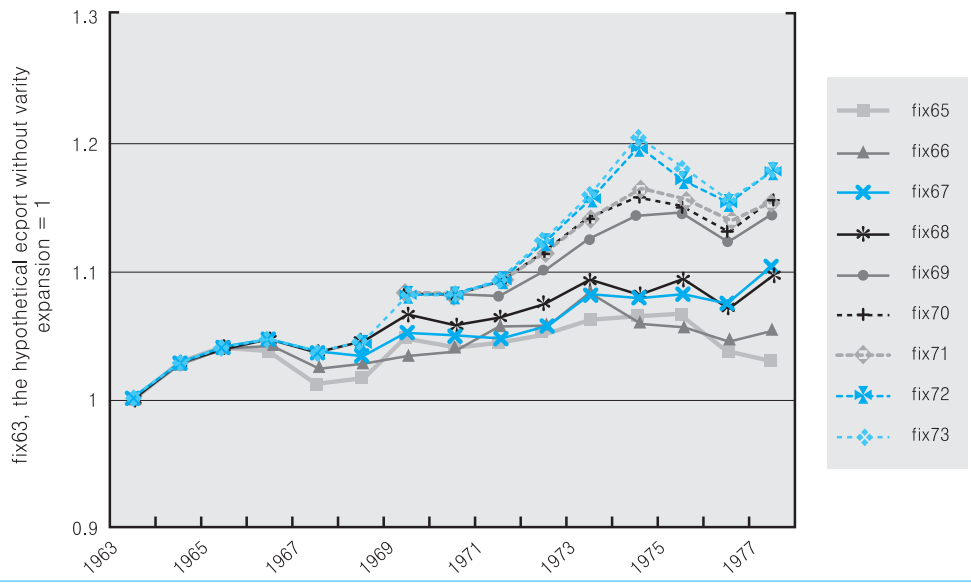
labor intensive exports until the mid 1970s. The kinds of exported commodities increased although most diversification occurred within light industries. Number of export partners also increased although exports mainly concentrated on a small number of countries such as the US and Japan.

Figure 2-4 | **Diversification of Korean Exports in the Early Years of Development**



Source : UN COMTRADE DB

Figure 2-5 | **Effect of Diversification on Export Expansion**



Note : Based on the SITC 4 digit level export data of Korea from UN COMTRADE, different paths of export are estimated under the assumption the variety of export commodities is fixed in each specified year and the ratio between each path and no diversification case, fix 63, which is path with variety of commodities fixed in 1963, the initial period of the data.

In Figure 2-4, the contribution of diversification to export growth is presented by the ratio of actual and hypothetical amount of exports under the assumption that the variety of export commodities is fixed. For example, 'fix 65' shows how much difference the commodities newly introduced since 1963 up to 1965 make with respect to 'fix 63', the hypothetical path of export under the assumption of no diversification. If we compare the 'fix 63' and 'fix 73', the 10 year expansion of varieties of export after the takeoff in the 1960s made 20% difference in the total amount of export. The magnitude is not so impressive regarding the number of newly introduced commodities in Figure 2-5. That is, export growth could be mostly accounted for by high growth of existing major export commodities in the light industries. That is, the export promotion in the 1960s stayed in diversification through proximity. It could be an efficient strategy for export expansion since it is easy and safe by utilizing the learning by doing. Industries have different levels of generic technology and thus, different width and depth of innovation and application. Thus, finding an export path which allows continuous learning and cumulative diversification through moving toward proximity is a natural way of export development but the effectiveness of searching around is limited by the characteristics of generic technology the industry utilizes. Therefore, for a continuous growth and diversification of exports, entering fundamentally different industries with new generic technological and managerial capabilities is required. This kind of leaping over a distance happened in Korea in the 1970s with aggressive government intervention.

Industrial upgrading towards heavy and chemical industries started in the late 1960s but it was pursued in full scale with the declaration of heavy and chemical industry promotion policy in 1973. Active state intervention with direct credit allocation selectively promoted industries such as petrochemicals, shipbuilding and machinery. The selective promotion was accompanied by the side effects such as concentration of economic power and financial distortions, two fundamental problems relevant to even recent economic crisis in 1997. However, judging retrospectively from the current situation, it is out of question that industrial promotion initiated by active government intervention in the 1970s laid the foundation for major export industries at present. Skeptical question could be also raised. Is the success of industrial transformation mainly due to industrial policies? Then, why do we see more failures than success from the cross-country observations? Does the key success factor lie in other than government intervention?

We cannot answer these questions in detail here but may suggest how Korea could achieve industrial transformation without causing so much negative effects of interventionism as to interrupt the long run growth. First of all, as told previously, although industrial promotion initiated with the purpose of import substitution, it also targeted world market at the beginning of promotion, so that it may be called export substitution. Second, although the government took the initiative, private sectors such as big conglomerates implemented the investment and accumulated the organizational and technological assets to manage the unfolding dynamics of industry. From the 1980s, with the policy stance shifting from the directive to the indicative, the

private sector took over the role in upgrading industries and faced competition as the government steadily liberalized the domestic markets. In sum, the market competition was continuously pursued to sanitize rent-seeking behavior that selective industrial promotion might fall into.

2.4. Lessons from the Korean Experience

The Korean experience implies that the enhancement of the industrial capability is indispensable to the long-run economic growth. Export growth alone cannot contribute to long-run growth without foundation of domestic industrial capability. In the long run, not only enlarging the markets for existing major exporting goods but also finding new varieties is important. To sustain growth, the industry should continuously adapt itself to changing environment, which creates new varieties. The ability of adaptation and diversification is the indicator of industrial strength.

Moreover, export growth is path dependent. Current export structure determines the path of future exports through learning by doing and using. Therefore, finding the export path which allows continuous learning and cumulative diversification is the key to export development. Diversification through proximity could be an efficient strategy for export expansion but leaping over technological and financial barriers and taking considerable risks are indispensable to pave the new way toward more sophisticated and high value adding industries. Korea drastically expanded industrial diversity through deliberate efforts led by the government in the 1970s which changed the path of export growth. Although there are controversies on the extent the government may intervene to promote industries, the industrial policy can make a positive difference if it is congruent to the technological and social capabilities of the country. Any government intervention in industrial transformation should maintain the balance between the risk of static inefficiency and the benefit of dynamic efficiency. It could be achieved by flexibly adjusting policy stance according to the market signal, and orienting policy measures toward stimulating self-discovery process of the private sector through competition.

3. Policy Recommendations for Industrial and Export Development

The current trend in exports of the Dominican Republic reveals the limits of old export-promotion strategy based on FTZ-based export promotion policy. Regardless of the current situation of declining exports from the FTZs, the contribution of export to economic growth has been minor because of the enclave nature of FTZs which are lacking domestic industrial linkages. Furthermore, the FTZ strategy is basically dependent on the cost advantage of FDI in the Dominican Republic for its cheap labor and fiscal incentives. Without productive efficiency

and sustained comparative advantage of the economy, this strategy of export promotion is self-defeating. The long-run boom in export industries invites the downturn as the footloose firms move away to escape the rising wage of the workers caused by the boom itself. Also, the elimination of differential treatment of export industries under the WTO and lower wage countries entering world market shed discouraging prospects on the Dominican export if there is no structural transformation toward higher productive efficiency and industrial upgrading.

However, currently changing international trade order may be a stepping stone to upgrade industries and intensify domestic industrial linkages. Tariff advantage of US inputs for exports to the US becomes less significant under the new regime of the DR-CAFTA with the current export structure. The additional benefit from the new trade arrangement could be taken only with the development of regional economic integration and domestic industrial network. Furthermore, the dual policy of preferential subsidization to FTZs while protecting import-substitution of local industries with high tariff becomes untenable and should be phased out to observe the rule imposed by the WTO. It can provide a kind of external anchoring which could lessen the political burden of policy reform. Thus, the changing international environment gives the Dominican Republic not only the challenge by inviting more competition but also the opportunity of industrial policy reform to integrate FTZ and non-FTZ industries and enforce domestic industrial linkages.

To achieve industrial and export development, both the policy reform and strategic promotion are required, which means more active role of the government. Although policy reform such as removing trade barriers, enhancing competition through privatization and deregulation, tax reform and fiscal discipline is important, the policy reform itself cannot bring about industrial development without coordination of investments and socialization of accompanying risks. Market is important but market alone can not accomplish the dynamics required for significant economic growth. As Rodrik (2004) argues, economic growth is a self-discovery process and the discovery is not only privately valued but also socially valued. Sometimes costs should be shared, while profits from the search activity often cannot be fully recovered in the market. Moreover, discovery is not independent process, which needs concerted efforts.

This logic is consistent with the conclusion of a recent empirical study by Moreno-Dodson (2008). The study found that well defined public spending exerts a positive impact on economic growth as long as macroeconomic stability is sustained. From the statistical analysis on the rapidly growing countries such as Korea, Singapore, Malaysia, Thailand, Indonesia, Botswana, and Mauritius, it is found that in these countries the composition of public spending evolves to focus on the productive sectors and activities that are more conducive to growth although the size of the government budget remains relatively small.

The full-set industrial development like Korea is not desirable anymore in the era of global

production sharing but finding an edge in global value chain is critical. Although selective industrial promotion and preferential support to export industry may not be allowed in the new trade order, the systematic and consistent pursuit for competitive edge is undeniably a right policy target. The trade and industrial policy of the Dominican Republic so far seems to have been too general and too broad with no strategic targets. From the promotion of the FTZs of Exportation (Law 8-90) to the current tax incentives for the development of renewable sources of energy and its special regiments (Law 57-7), most policy measures consist of broad tax incentives without providing coordination services and financial assistance for specific activities critical for strategic transitions. Tax incentives are too general and often its benefits are too small to activate specific private actions toward strategic targets. Giving tax cuts could be an easy measure but it may spread the incentives too thinly to stimulate long-term strategic planning of private sectors. Also it could waste the valuable fiscal revenue under tight fiscal constraints. In short, more active and systematic government actions are needed in sending signals to private efforts.

In this regard, policy makers should jointly plan and implement social and economic spending, as part of an integrated strategy, and attempt to gradually reduce allocations to unproductive spending. Distinguishing a priori between productive and unproductive outlays may not always be easy and thus, policy should be well tuned to the private sectors, both domestic and foreign, in order to leverage human and physical capital, and to allow public spending to focus. Thus, there should be the economy-wide recognition of the importance of industrial and export development and consensus for the establishment of cooperative channel between the private and public sectors, furthermore among different agents of governments. Based on the consensus, the institutional arrangement should be established to pool knowledge spread across economies. In addition, the policy coordination of strategic movement should be pursued systematically and persistently to bring about a significant impact on the long term path of economic growth. We can summarize the policy agenda which needs more active role of the government as follows.

- Upgrading major exports such as agricultural and consumer non-durable goods
- Diversifying export structure by discovering new industries
- Intensifying industrial linkages: dissolution of dual economy
- Developing international trade networks

3.1. Upgrade Major Exports: Agricultural and Consumer Goods

Agricultural and consumer non-durable goods will play an important role in earning foreign currencies and providing jobs for unskilled workers for the time being. However, agricultural products are vulnerable to the volatile international price and consumer non-durables such as apparel and textiles suffer from declining price and intense competition with China. The private

exporters are struggling to survive in the export markets and making progress finding new ways of doing business. However, business people in the private sectors particularly in the agriculture and textile industries, the common complaints were about the insufficiency of government actions in providing basic infrastructure for business, let alone the financial incentives for innovation.

The tax incentives for FTZ exporting industries worked well to induce FDI into the region and expand the export of labor intensive products during the 1990s. As the declining trend shows, this old strategy is not working well in the 2000s. The Dominican Republic is no longer a low wage country compared with other Central American countries and China. Many foreign firms already closed their businesses and existing firms in operation are sensitive to the exchange rate movement and arrangement for labor relations. To keep these industries in the Dominican Republic, which is critical in sustaining employment of unskilled workers, more government action is needed to provide stable business environment. Above all, exchange rate should be flexibly adjusted to the market conditions and the continuous improvement in infrastructure provision should be pursued such as electricity, internal transport, port management, and legal framework for customs.

In addition, systematic and persistent upgrading of existing export industries should be incentivized. Last decade's export expansion created a number of large Dominican firms in export industries. Grupo M, one of the large firms in the apparel industry, has introduced a full package system shifting from simple assembly. The full package system, which is upgrading of apparel exporting, gives more autonomy to suppliers and creates more possibilities for innovation and learning. However, according to Sanchez-Ancochoa (2005), the introduction of full package was more of a survival strategy demanded by foreign partners than an autonomous search for long-term strategic movement. Moreover, its current strategy still seems to focus on reducing labor costs rather than changing the way of business through functional upgrading and diversification of markets and products. It invested in Haitian borders to cut the labor cost but now faces a severe financial burden. It implies that without upgrading and diversification, the old way of management based on low wage labor cannot be sustained. So far, the business strategy of large Dominican enterprises seems too defensive without aggressive search for new business model with wide horizon of industries to enter. It may be due to the lack of commitment of the state and domestic capital to further development.

A government should show the vision, make a commitment by providing incentives, and coordinate the public and private sectors to develop more dense industrial clusters. Since the clusters are the supply chain consisting of large and small enterprises, it is critical to activate the strategic movement of large firms, which have financial and organizational capacity. For example, in apparel export, large firms should shift from narrow and simple assembly to widened coordination of production system such as full-package production and lead the whole industry towards it. Thus, policy encouragement should be focused on the leading firm's role as

a network manager but not so much on taking advantage of low wage workers such as near Haitian border development. In this respect, the Special Border Development Zone (Law 28-01) is not a desirable policy tool since it just gives an incentive for adhering to the old strategy of assembly-oriented low-wage labor-intensive production. Instead, leading firms should be given an incentive to expand the range of their value chain participation into production coordination by shifting into design and marketing. The lack of domestic vertical integration could be overcome with international vertical networks stretching into Central America and more niche markets could be found based on geographical advantage such as just-in-time shorter turnaround time for orders.

Again, adjusting the exchange rate close to the competitive level is truly critical for consumer non-durables exporters since their products are under intense price competition. The makeshift measure temporarily subsidizing the labor cost to compensate for the overvalued peso could relieve the exporters temporarily but may waste the valuable public spending in the long-term perspective. It just spreads limited funds thinly across firms without specific policy targets.

The export of agricultural products has shown a rising trend recently and is counted as promising export industries for future growth. Recent export growth of organic products to New York City utilizing the geographic advantages indicates a potential for finding more niche markets. Also, the development of agricultural export could induce forward and backward linkages such as seed producing, packaging and storing, and processing into manufactured products. However, restricted access to financial and technological resources, unsecured supply of agricultural products, and little effort in searching for new market niches are hampering this from happening. Particularly, the setbacks pointed out by both the public and private sectors in the areas of certifications, quality control, and standardization, etc. are truly areas that should be treated by government actions. These areas have large spillover effects which make the social benefits larger than the private. Incentives such as matching fund could be utilized to establish institutional arrangement for innovation, diffusion, and learning in this area to induce the creativity of private sectors.

3.2. Diversify Export Structure: Discovery of New Varieties

Discovering new promising fields is important not only for immediate export growth but also for long term economic development since it is a learning and evolutionary process. What you are doing now determines what you will be doing tomorrow. In this regard, the export growth just based on simple processing of imported materials is not promising. Particularly, the growth based on the FDI of foreign subsidiary is intrinsically apt to be extensive, just creating unskilled employment. Thus, more indigenous enterprises which accumulate the knowhow of doing business and search for new way should be created.

To discover the new varieties, government's initiative to compensate for the risk of

adventurers is needed. Venture into new business deserves public support since it teaches economy through both failure and success. To project the effects of DR-CAFTA in 2005, Chemonics Market Research Study selected 391 most promising exports to the US. Within a year after the projection, there was a big downturn of apparel and textiles exports, even though they were selected as most promising in the study. The study selected products mostly based on static projection of existing export structure and could not reflect dynamics of the environmental change, even though it was the most thorough and well researched one with survey amongst Dominican Republic's top business leaders. It exemplifies how the static projection based on status quo trends of demands and simple price sensitivity such as tariff change could fail to predict even near future. A conclusion could be made that diversifying into new export varieties and entering into new industrial competition require creative ideas and political leadership.

Benchmarking multiple success stories and experiments in various industries are worth trying and deserve policy incentives. Export development could come from any sectors such as services such as IT/BPO-Call center as well as commodities of high tech industries. Under global sharing of production and international mobility of productive resources, entering into new industries may be easier than before if one can find a niche in global value chain but upgrading in global value chain could be even more demanding. As Korean experiences show, although gradual upgrading could be pursued by the self-discovery efforts of private sectors, to jump over product spaces, the private self-discovery should be complemented by public efforts. Finding new discovery is high risk and high returning business. For countries with a large pool of risk-taking entrepreneurs, the private motivation could be enough, but for countries without scarce actions and funds, the public risk-pooling is needed. There are intrinsically positive externalities in searching activities. First, there is informational externality: discovery is socially valued and we learn even from the failure. Second, there is coordination externality: discovery is not an independent process but needs concerted efforts.

To embed risk-taking aggressiveness in private sectors, the government action for industrial transformation should be targeted and systematic. There is no other way but to choose promising sectors administratively, since concentration of limited resources is unavoidable under the constraint of fiscal resources. Moreover, demonstration effect may be an effective tool to initiate broad private actions. General protection or broad subsidization should be replaced by strategic selective measures. Entry into new industries requires not only incentives in fiscal and financial terms but also infrastructure such as human resources and public utility. Thus, the policy efforts should be a full ranged package.

In 1998, the Dominican government created the Cyberpark in Santo Domingo to promote investment from domestic and foreign firms in high-tech sectors such as electronics, medical machinery and new services such as software, consulting, and call centers. Yet the initiative received not much support from the Dominican Association of FTZs or from foreign investors,

and the subsequent administration did not place promotion of the park at the top of its agenda. Although Cyberpark project has received more attention from the administration, it is not yet proven to give a significant impact on the business atmosphere of the private sector.

To be selective, the question is how and who can find promising new varieties. Policy frame should allow rooms for trial and error but should monitor the problem of moral hazard and corruption. To reduce the risk of government failure, public-private alliance through transparency and fairness in resource allocation should be established. In addition, there should be flexible readjustments of policy process continuously following changing situation of economic environment.

Judging from the current situation of the Dominican Republic, following industries could be given a priority as a target for industrial policy. First, for further diversification of manufactured exportables, detailed analysis of current business in FTZ, particularly in the industries of electronics, auto parts, and pharmaceutical products should be done. As Figure 2-7 illustrates, the share of declining exports in apparel and textiles is taken by various minor exporting businesses over time. It is important to unearth and realize the potentials of hidden export industries. Also, benchmarking the strength of East Asian countries is needed. For example, Vietnam's export credit capital loan gives a priority to the whole set equipment, electrical engine and diesel engine, electricity transformer, plastic product for industrial and construction use, domestic electric wire and cable, ocean ship, electric cable and bulb, and personal computer among industrial goods along with agricultural products. The essence of choosing a priority is to locate the realizable potential for industrial diversification and upgrading.

Second, there is a chance to find niches based on geographic and cultural backgrounds. Above all, tourism should not be contained in the employment of low wage workers. To develop tourism related exports, more efforts should be given to developing souvenirs, bundling tourism with medical services, and marketing leisure goods with country brand. Some knowledge-intensive services such as applied research and testing in science based industries such as pharmaceutical and medical sectors also have a potential due to geographical affinity to the US. Related with this, establishing the networks with more than a million of immigrants in the US could be helpful to recruit experts and investors of Dominican origin. Further government's effort is needed to collect the information and make networks of overseas Dominicans and incentivize investing their resources in the Dominican Republic. It should be reminded that China's initial spurt benefited a lot from the networks and investment of Chinese abroad.

Finally, logistical advantage such as proximity to the US market could find many niche markets. There could be comparative advantage in the industries requiring just in time production with location sensitive demand. Medical device and IT-BPO/CT are those industries. Call Center could be an appropriate candidate with geographical and linguistic affinity to the

US. In this respect, production networking with the US should be strengthened. However, it should not stay in the old way of export processing but should find a role as the upgraded affiliates with more value adding skills and technologies.

3.3. Intensify Industrial Linkages: Dissolution of Dual Economy

Korea's export could be called the engine of growth since it led to the virtuous linkage from export to investment and technical advance. Furthermore, the activities in export sectors not only provided jobs for the workers but also created the valuable organizational assets by stimulating the establishment of subcontractor networks in domestic supply chain. Unlike Korea, the major export industries in the FTZs form an enclave insulated from local Dominican industries in non-FTZs. This dual nature is originated from the old trade policy of export processing zone, which might have worked for the expansion of FTZs in the last decades but seems to obstruct further export development as of now.

The idea of FTZ export promotion is to induce FDI inflow by providing fiscal incentives such as the exemption of import duty for exports, corporate income tax, and value-added tax. In the early 1990s, with the agreement allowing preferential access to the US market, this policy boosted the exports of FTZs, particularly in apparel export to the US. Instead, the local industries which pay the taxes but are protected by the high tariffs seem to have been losing competitiveness outside domestic market with declining productive efficiency. With low import duty and preferential access to the products using the import of intermediate goods from the US, the inefficiencies of local industries and administrative costs of local transaction due to dual tax treatment, the FTZ export sector became overly dependent on imported goods. It resulted in limited backward industrial linkages in the Dominican Republic. This old policy of FTZ could be working for the countries with scarce capital and limited technological capability to initiate the industrialization by expanding labor intensive assembly production. However, it reinforces duality between export industries integrated into the global production system and local industries contained under protection without dynamism of innovation and competition.

Furthermore, this kind of simple export processing is not an effective tool for the country to upgrade the industrial capability. Through domestic industrial linkage, the innovative activities of local focal companies are diffused into and, in return, are complemented by various firms throughout domestic industrial networks. In addition, industrial linkage breeds indigenous entrepreneurs. Even under the globalization, firms run by native entrepreneurs set the level of economic development in the long run. They are less mobile and less responding to changing economic environments with connections more than economic incentives unlike foreign subsidiaries. Thus, encouraging indigenous leading companies with the capability of market search and innovation into new activities could be worth trying. Entrepreneurs could be brought up through spin-off and informal education of learning by doing. There are many policy

measures to encourage entrepreneurship such as joint-venture and public investment—risk sharing. However, intensifying domestic industrial network is the prerequisite for all these policy endeavors.

Moreover, domestic industrial network is one of the critical factors considered by foreign firms' investment decision. Unlike simple assembly production of light industries with cheap labor and imported intermediate goods, the high value adding sophisticated production requires a capable local supply chain even under the era of globalization of production. Therefore, to induce FDI in network-intensive high-tech industries, inevitable for the level-up of industries in FTZs, strengthening domestic industrial linkage is critical. Singapore's success was led by the strategic and efficient government, which heavily invested in education and infrastructure following a clear, long-term project of development and was also very active in promoting the integration of domestic suppliers and multinational companies.

Therefore, it is doubtful whether the Dominican Republic will be able to continue attracting large amounts of foreign investment in the near future and will succeed in building new linkages between the export sector and the rest of the economy without policy reform. To overcome the dual nature of economy between export and local industries, fiscal and regulatory disparities which differentiate the local industries from the firms in the FTZs should be abolished. FTZs should be included in the tax base. Also the distortionary taxes that discourage the production of exportables outside FTZs should be eliminated, at the same time excessive protection of local industries should be reduced. Along with institutional reform, more active policy in building local production network is required. Encouraging business association and building techno park and industrial cluster which facilitate the market information flows and supply-demand matching are in the area of policy. It is beyond question the administrative infrastructure servicing export-related activities should be improved.

3.4. Develop International Trade Networks

The successful export growth utilizing the preferential access to the US market now has its side effect of too high dependence on the US market with concentration of export on small number of products. In a sense, this is due to the defensive attitude of domestic exporting firms which passively defined their role under the global strategy of foreign trade partners. Also, the lack of strategic plan of trade policy shares the blame. Until now, the Dominican Republic's role seems defined as the cost effective assembly line utilizing low wage workers. Globalization of production is the functional integration between internationally dispersed activities. As production is shared globally across the national boundaries, it becomes more important what kind of functions domestic firms do. Among the functions in global value chain, the assembly is the lowest value adding. The larger share of value added belongs to research, development, marketing and design. To upgrade the function in global value chain by breeding high value adding capabilities, domestic exporters should search and develop the niches by themselves

throughout the world. This kind of learning by doing incubates the true condition for innovation and upgrading.

Developing markets is similar to developing new varieties of exportables. It has the positive externality by providing valuable information to the followers. So it is where government support is needed. Although CEI-RD is in charge of this role, it has limited resources with many other tasks to do. Thus, its activity seems too general and its knowledge does not reach sector-specific level. The Korean government established KOTRA (Korea Trade Promotion Corporation) as a national trade promotion organization early in 1962. Since then, it has facilitated export, particularly through assisting market search with location-specific information. In addition, private sectors from one person merchandiser to large trading company were active finding foreign markets. Particularly, the trading companies of large firms played an important and effective role in finding markets and goods to export. Along with agents in the field, research institutes were established to coordinate the information flows between industries, academics, citizens, and the government. Like Korea, the Dominican Republic should develop agents which can accumulate the expertise in trade networking and should incentivize the private sector to become more active in market searching.

In the case of FDI promotion, rather than giving broad and general incentives as now, the policy should become more strategic. Although all FDI is welcomed in most countries, the long-term contribution could be different depending on the specifics of the FDI. For the FDI to be beneficial to building domestic industrial capacity, it is important to find the sources congruent to strategic target of technological and industrial capability building. In this regards, the FDI flow from various size of firms in the middle income countries rather than multinational conglomerates could be more helpful. The role of FDI in transferring technology as well as creating jobs should be paid more attention. Finding mutual benefit of creating production network is the first step which needs a sector-specific knowledge and expertise.

Finally, in the era of globalization, the competitiveness lies not in one country but in regional production network as a whole. The development of new industrial capabilities in several Asian countries contributed to the consolidation of a regional dynamic network and resulted in the expansion of foreign investment from US and Japanese firms into the region. Particularly, the regional production network is more important in the industries such as electronics that is more deeply globalized relative to other industries with rapidly increasing intra-industry trade. As already told, one of the reason why most Central American countries are highly dependent on the US market, is that there is no significant regional production network unlike Asia. Although it may take time, more intraregional trade should be generated. The Dominican Republic could become a local manufacturing hub by playing the role of middleman in the trade of apparel and consumption goods among Central American countries

Export Development for the Dominican Republic

Chapter 03

Human Resource Development

Chapter 03

Human Resource Development

Byoung-Hoon LEE (Chung-Ang University)

1. Introduction

Human Resource Development (hereafter HRD) is a policy agenda to enhance the competency of labor force, which is a key input factor for economic development (Kim 2005). Human capital, the competency of labor force, is generally measured along three dimensions: 1) formal knowledge nurtured by schooling, 2) occupational capacity fostered by vocational training programs, and 3) tacit skills gained from job experiences. Thus, HRD policy covers formal education, science and technology, vocational training, and labor markets. It is comprised of the planning, administering, and coordination of those policy elements, and the building of relevant infrastructures. The infrastructure for HRD is equipped with continuity, open access and networking of the policy elements (Kim 2005).

Each country has built a particular pattern of systemic configuration relating human capital to economic productivity. Simply speaking, there are two divergent patterns in skill-productivity-wage equilibrium: "High Road" and "Low Road." The former is based upon a virtuous circle of high skills-high productivity-high wages; whereas, the latter is captured by a vicious circle of low skills-low productivity-low wages.

In this regard, the contrast between Korea and the Dominican Republic is striking. Korea has achieved "compressed" industrialization and made a successful transition toward a knowledge-based economy. Its economic growth is largely attributable to the supply of human resources having progressively high quality. Korea is ranked 11th in competitiveness according to the World Economic Forum (2008), and its high ranking owes much to competitive advantages in HRD-related elements, such as higher education and training, technological readiness, and innovation.

In contrast, the Dominican Republic, whose global ranking is 96th, suffers from low HRD-related elements, which constrain its ability to pursue economic development. Moreover, if anything, its human capital has deteriorated over time in recent years. Comparing the WEF competitiveness scores for the Dominican Republic between 2001 and 2007 shows that all HRD-related elements except for secondary and tertiary enrollment and brain drain have worsened during this period. According to the WEF (2008), inadequately educated workforce and poor work ethic in national labor force are respectively 6th and 9th of the most problematic factors for doing business in the Dominican Republic.

Table 3-1 | Comparison of Competitiveness between Korea and the Dominican Republic

2007-2008	Rep. of Korea		Rep. of Dominica	
	rank	score	rank	score
Overall	11	5.40	96	3.65
Health & Primary Education	27	6.08	102	4.75
Higher Education & Training	6	5.65	99	3.24
Labor Market Efficiency	24	4.79	86	4.13
Technological Readiness	7	5.46	64	3.13
Innovation	8	5.36	106	2.67
Innovation & Sophistication Factors	7	5.42	96	3.19
Efficiency Enhancer	12	5.28	89	3.55

Source : World Economic Forum (2008)

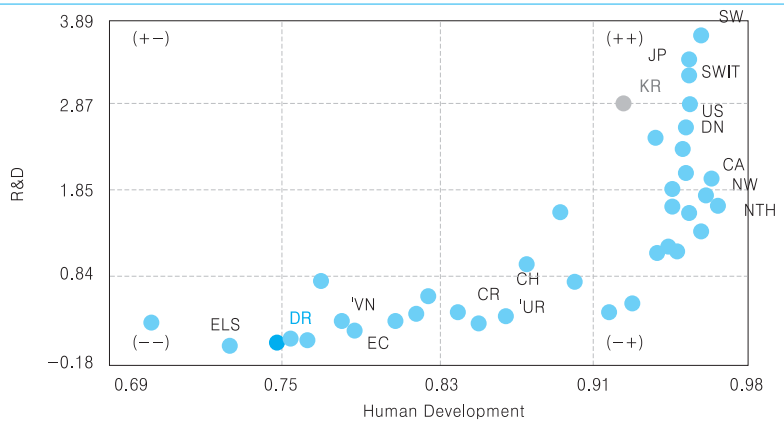
Table 3-2 | Changes in Competitiveness in the Dominican Republic: 2001 vs. 2007

	2001		2007	
	rank	score	rank	score
Overall	52	3.96	96	3.65
Quality of Primary Education*	66	2.3	129	1.9
Secondary Enrollment	52	52.75	92	70.7
Tertiary Enrollment	51	23.08	58	32.9
Quality of Math & Science Education	69	3.0	127	2.4
Quality of MGMT School	58	3.6	92	3.6
Extent of Staff Training	25	4.6	91	3.4
Internet Access in Schools	49	3.4	87	3.0
Quality of Science Research Institutions	53	3.7	122	2.8
Availability of Scientists/Engineers	70	3.7	118	3.3
University-Industry Research Collaboration	32	3.7	98	2.6
FDI & Technology Transfer	11	5.5	45	5.1
Firm-level Technology Absorption	23	5.3	63	4.8
Company Spending on R&D	31	3.6	100	2.7
Brain Drain	50	3.2	57	3.5
Utility Patents	56	0.23	76	0.1
Government Procurement of Advanced Technology	44	3.7	92	3.3

Source : World Economic Forum (2008)
Note : 2001 ranking out of 80 countries, and 2007 ranking out of 131 countries

Similarly, the 2005 report of the UN Subcommittee Annual Report on Human Development points out that the human development of the Dominican Republic is ranked 79th in the world. An international comparison of human development and R&D investment also shows that the Dominican Republic invests too little in its people and innovative capacity

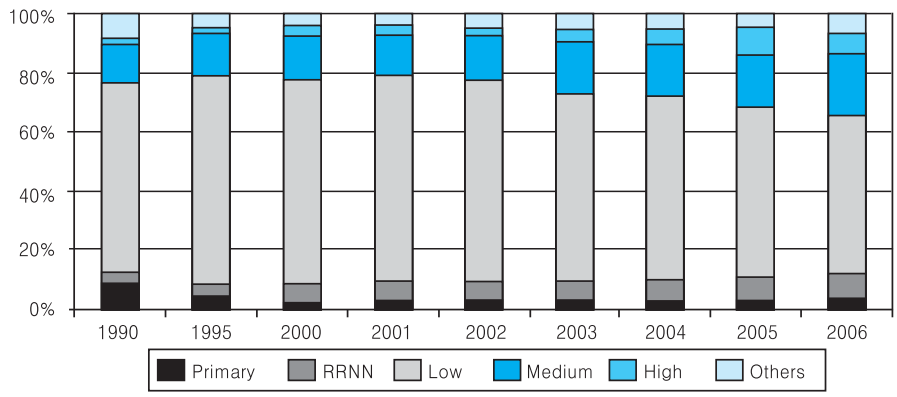
Figure 3-1 | International Comparison of Human Development and R&D Investment



Source : OECD (2007)

The low level of the Dominican Republic's human resource development is reflected in the technological sophistication of its exports. According to the technological classification scheme developed by the Economic Commission for Latin America and the Caribbean (ECLAC), more than 60% of the Dominican exports are primary products, resource-based manufactures, or low-technology manufactures. By contrast, Costa Rica has invested heavily in human resource development and significantly increased the share of medium- and high-technology manufactures in its exports (Sanchez-Anchochea (2006)).

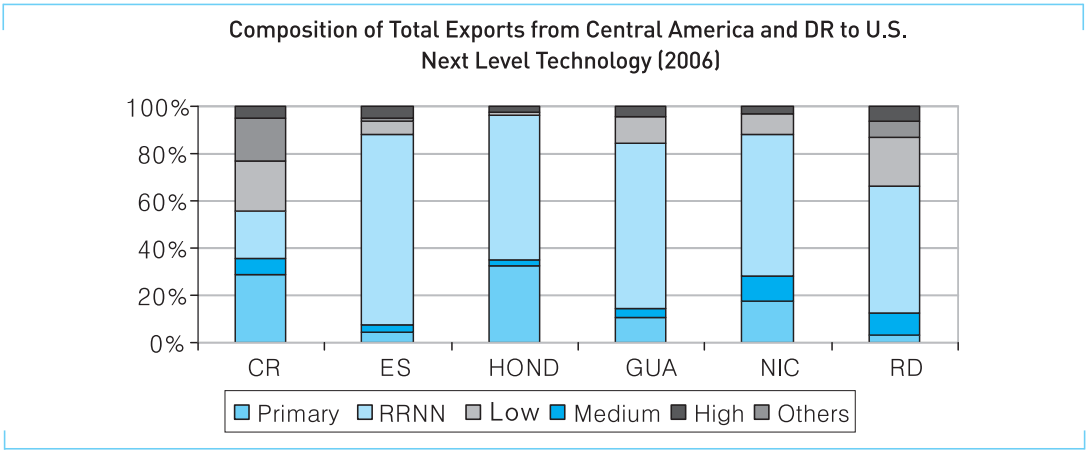
Figure 3-2 | Composition of the Dominican Exports by Technological Level, 1990-2006



Source : ECLAC, re-cited from Guzman (2008a)

Note : Primary (primary products), RRNN (resource-based manufactures), Low (low-technology manufactures), Medium (medium-technology manufactures), High (high-technology manufactures), and Others (other transactions)

Figure 3-3 | **Composition of Exports to the U.S. by Technological Level, 2006**



Source : ECLAC, re-cited from Guzman (2008a)
Note : Primary (primary products), RRNN (resource-based manufactures), Low (low-technology manufactures), Medium (medium-technology manufactures), High (high-technology manufactures), and Others (other transactions); CR (Costa Rica), ES (El Salvador), HOND (Honduras), GUA (Guatemala), NIC (Nicaragua), and DR (Dominican Republic)

These international comparative indicators imply that inferior HRD has been a key barrier impeding the Dominican Republic from advancing its export promotion as well as economic development. In this light, the enhancement of HRD is indispensable for the industrial and economic upgrading of the Dominican Republic.

This chapter examines the problematic issues of HRD and makes policy recommendations for the Dominican Republic by benchmarking Korea's HRD experience. Section 2 provides an overview of human capital in the Dominican Republic, and Section 3 examines HRD issues covering primary and secondary education, tertiary education, and vocational training in the country. Section 4 draws key lessons from Korea's strategic effort to align HRD policy to economic development. Section 5 concludes with some policy recommendations for enhancing HRD of the Dominican Republic.

2. Overview of Human Capital in the Dominican Republic

The Dominican Republic has a population of about 9.36 million as of 2007, which has increased by 32.5% from 7.07 million in 1990. The population of the country is projected to grow to over 10 million in 2015 (Guzman 2008a). The economically active population has risen from 3.03 million in 1996 to 4.23 million in 2007. The labor participation rate has increased by 3.7 percentage points from 52.6% in 1996 to 56.3% in 2007. The growing labor participation rate is largely attributable to the increase of female participation in labor markets, which has risen from 35.2% in 1996 to 43.5% in 2007.

Table 3-3 | Trends in the Distribution of Economically Active Population (EAP)

Year	1996	2000	2001	2002	2003	2004	2005	2006	2007
EAP	3,029,524	3,532,536	3,557,988	3,701,798	3,731,676	3,933,660	3,992,210	4,127,437	4,227,691
EAP(%) by Age Group									
10-19	11.9%	10.3%	9.1%	9.3%	8.6%	10.4%	10.5%	10.4%	9.9%
20-39	55.3%	55.0%	54.8%	54.7%	55.2%	53.7%	53.8%	52.6%	53.0%
10-59	25.4%	28.2%	29.1%	29.2%	29.7%	29.4%	29.2%	30.1%	30.6%
60 and more	7.4%	6.5%	7.1%	6.8%	6.5%	6.5%	6.6%	7.0%	6.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
EAP(%) by Group									
Men	66.3%	62.3%	62.4%	61.3%	62.1%	61.0%	61.2%	60.7%	61.1%
Women	33.7%	37.7%	37.6%	38.7%	37.9%	39.0%	38.8%	39.3%	38.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
EAP(%) by Educativo Level									
Primary	52.8%	48.4%	48.2%	46.3%	44.7%	45.9%	44.9%	44.4%	42.2%
High School	23.3%	27.4%	27.5%	27.8%	29.0%	28.7%	29.7%	30.9%	32.7%
University	11.8%	15.8%	15.6%	16.9%	18.4%	18.0%	18.0%	18.8%	18.5%
None	12.1%	8.4%	8.6%	9.0%	7.9%	7.4%	7.4%	7.1%	6.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
EAP(%) by Region									
Santo Domingoy DN		34.48%	35.38%	35.38%	34.69%	34.85%	34.85%	34.65%	33.99%
Santiago		7.33%	7.11%	7.11%	7.22%	7.01%	7.01%	7.33%	7.37%
Rest Cibao		29.77%	28.79%	28.79%	29.36%	28.25%	28.25%	27.85%	27.85%
South		16.66%	17.20%	17.20%	17.13%	19.79%	19.79%	20.38%	20.38%
East		11.76%	11.52%	11.52%	11.61%	10.10%	10.10%	9.79%	9.73%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source : Guzman (2008a)

The education level of working population has improved over the recent years. The share of working population having primary education and below has declined from 52.6% in 2003 to 48.8% in 2007. The share of working population attaining secondary and tertiary education is respectively 32.7% and 18.5% in 2007. Despite the sustained educational improvement of the working population, almost a half of labor force in the Dominican Republic has still only primary education, thereby exposing a crucial problem in meeting the demand of industrial

sectors for high-quality labor, with technical capability (e.g., computing and agricultural skills) and basic skills (e.g., mathematics and foreign language). The workforce attaining tertiary education is also low due to the inferior quality of higher-level educational institutions and limited demand of labor markets.

Table 3- 4 | Trends of Illiteracy in the Population Aged 15 and above

Year	Illiteracy Rate
1981	27.6
1983	11.6
2002	19.3
2005	11.1

Source : SEE, re-cited from OECD (2006)

The illiteracy rate in the Dominican Republic has declined from 27.6% in 1981 to 11.1% in 2005. Despite the remarkable reduction in illiteracy rate, the Dominican Republic is still far above the average of Latin America and Caribbean countries in terms of illiteracy of working population aged 15 and above. In 2005, for example, the share of illiterate working population in the Dominican Republic was 14.5% whereas the Latin American and the Caribbean countries averaged 9.5%.

Table 3-5 | Cross-national Comparison of Illiterate Population Aged 15 and above

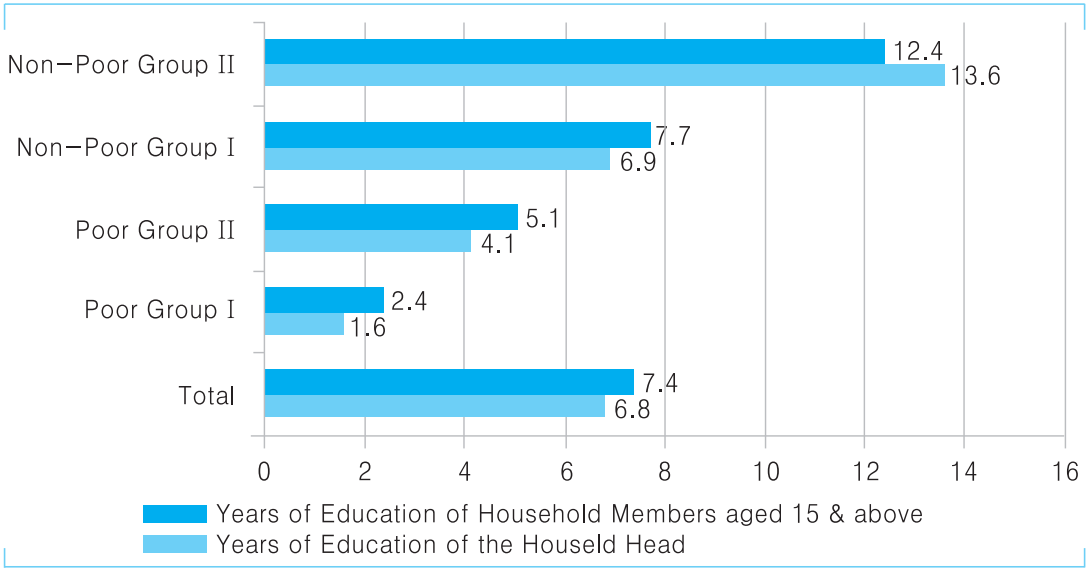
	Total			Male			Female		
	2000	2005	2010	2000	2005	2010	2000	2005	2010
Latin America & the Caribbean	11.0	9.5	8.3	10.1	8.8	7.7	12.1	10.3	8.8
Costa Rica	4.4	3.8	3.2	4.5	3.9	3.3	4.4	3.7	3.0
Dominican Rep.	16.3	14.5	12.9	16.3	14.7	13.2	16.3	14.4	12.6
El Salvador	21.3	18.9	16.6	18.5	16.4	14.4	23.9	21.2	18.6
Guatemala	31.5	28.2	25.2	24.0	20.9	18.3	38.9	35.4	32.1
Honduras	25.0	22.0	19.4	25.1	22.4	20.0	25.0	21.7	18.8
Nicaragua	33.5	31.9	30.3	33.8	32.2	30.7	33.3	31.6	29.9

Source : Guzman (2008a)

In terms of the length of schooling, the working population aged 15 and above in the Dominican Republic averaged 9.7 years in the urban areas and 8.1 years in rural areas in 2005. According to ECLAC data, those levels of schooling are similar to the Latin American averages.

It is noteworthy that the head and members of poor households have much shorter education years than those of non-poor households. The head and members of the poorest household have only 1.6 and 2.4 schooling years, respectively, while those of rich households have attained education of 13.6 and 12.4 years on average, respectively. This implies that a wide discrepancy of education years re-produces economic inequality among the Dominican households.

Figure 3-4 | Average Years of Education by the Level of Poverty in the Dominican Republic



Source : Guzman (2008a)

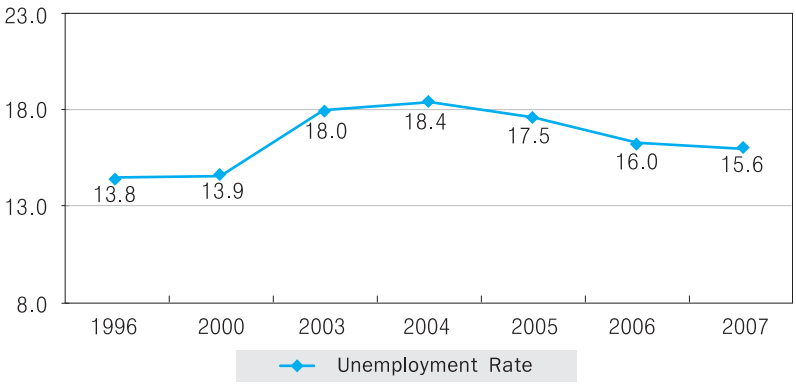
Another critical problem confronting the working population in the Dominican Republic is the high rate of unemployment. The unemployment rate went up to 18.4% in the aftermath of the 2003 economic crisis, and has since hovered around 15%.

The chronically high unemployment rate is partly a function of the definition used by the Dominican Republic, which includes "discouraged groups" (i.e., people who are no longer actively seeking work) in the ranks of the unemployed. If the standard international definition of unemployment is used, the unemployment rate is estimated to be reduced by 10 percentage points (ECLAC and SEEPyD (2008: 28)). However, if people who are discouraged from seeking work amount to as much as 10% of the economically active population, job creation is still a major policy challenge despite the apparent reduction in the unemployment rate due to the change in definition.

The youth (i.e. 10-19 and 20-39 age groups) and female workers suffer from higher unemployment than other groups. Moreover, graduates of high school and university are confronted with higher unemployment than workers having primary education and below. This

implies that higher education does not offer better job opportunities, nor guarantee economic gains in the Dominican labor markets.

Figure 3-5 | Unemployment Rate, 1996-2007



Source : Central Bank of the Dominican Republic

Table 3-6 | Detailed Composition of the Unemployment

Criteria/Year	1996	2000	2001	2002	2003	2004	2005	2006	2007
By Age Group									
10-19	39.1%	24.9%	27.9%	29.9%	35.8%	38.6%	33.1%	28.9%	31.4%
20-39	17.1%	15.6%	18.1%	19.5%	19.3%	19.9%	21.0%	19.7%	18.2%
10-59	8.4%	9.0%	10.0%	8.5%	10.1%	11.6%	10.1%	9.8%	8.2%
60 and more	6.0%	4.0%	3.8%	2.9%	3.6%	5.0%	3.5%	2.1%	3.9%
Total	16.7%	13.9%	15.6%	16.1%	17.0%	18.4%	17.9%	16.4%	15.5%
By Gender									
Men	10.9%	7.9%	9.4%	9.5%	10.8%	10.5%	11.0%	9.2%	9.4%
Women	28.1%	23.8%	26.0%	26.6%	27.2%	30.7%	28.8%	27.6%	25.1%
By Education Level									
Primary	15.9%	12.8%	14.8%	15.1%	15.9%	17.5%	16.8%	13.7%	12.4%
High School	22.0%	17.6%	19.1%	20.3%	21.4%	23.3%	22.3%	22.2%	21.4%
University	12.6%	12.2%	14.3%	15.0%	15.3%	15.5%	16.4%	14.5%	14.2%
None	13.9%	11.3%	11.9%	10.4%	11.0%	12.4%	10.9%	7.9%	9.9%
By Region									
Santo Domingoy DN		15.2%	18.02%	18.64%	19.39%	19.17%	17.78%	22.79%	15.49%
Santiago		8.62%	8.05%	10.06%	12.60%	12.21%	11.81%	13.68%	12.63%
Rest Cibao		12.70%	13.73%	15.59%	13.28%	15.45%	16.72%	13.83%	13.11%
South		16.67%	17.43%	15.78%	19.94%	19.93%	19.79%	18.12%	17.06%
East		12.15%	11.06%	13.96%	12.60%	11.33%	17.66%	16.41%	15.32%

Source : Guzman (2008a)

3. Diagnosis of HRD Issues in the Dominican Republic

3.1. Primary and Secondary Education

Basic education in the Dominican Republic is comprised of pre-school, primary (4 years for the 1st level and 4 years for the 2nd level), and secondary education (two 3-year levels). Enrollment in basic education has increased over the recent years. In particular, net enrollment in primary schools has risen from 81.0% in 2000 to 92.1% in 2006. The increase of net enrollment in primary school is largely owed to the government's strong commitment to the UN Millennium Development Goals, ensuring that all 15 year-old males and females will be able to complete nine years of primary education by 2015 (OECD 2008).

Table 3-7 | Trends in School Enrollment in the Dominican Republic

	Pre-school			Primary			Secondary		
	2000	2005	2006	2000	2005	2006	2000	2005	2006
Gross Enrollment	31.0	31.6	38.2	-	107.5	107.9	33.0	61.4	65.2
Net Enrollment	-	-	-	81.0	91.7	92.1	22.0	36.0	38.2

Source : Guzman (2008a)

However, the increase of net enrollment in secondary schools has been modest, even in comparison with the average performance of Latin America. Average net enrollment in secondary schools in Latin America doubled from 33% to 66% between 1995 and 2003, while it increased from 22% to 36% in the Dominican Republic. The low enrollment in secondary schools is a crucial constraint in developing work attitude and basic skills for the young generation entering labor markets.

Net enrollment of male students (31.5%) in secondary school is much lower than that of female students (41.7%). Also, net enrollment in secondary school has a wide gap (11.0%) between urban areas (38.3%) and rural areas (27.3%). Moreover, in the province where poverty is most pronounced, enrollment in secondary school is lower than other provinces (Jimenez 2008). Note also that gross enrollment for pre-school remains very low at 38.2% in 2006, despite the statutory provision of one-year mandatory education.

A critical problem in basic education is a high level of repetition and dropouts. In the Dominican Republic, regular promotion in primary and secondary education has sharply increased over the past three decades. Promotion in primary schools increased from 56.9% in 1990 to 86.3% in 2005, while that in secondary schools rose from 55.8% to 84.6% during the same period. Nonetheless, repetition and dropout rates remain high throughout the basic

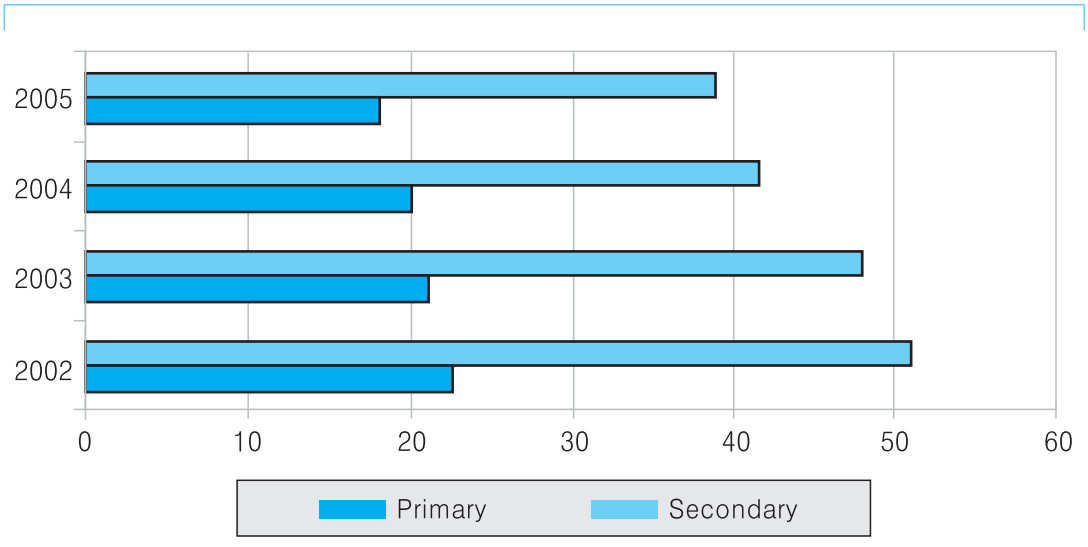
education system. According to OECD (2008), Dominican students at 18 years of age have spent, on average, 11.8 years in school, but are likely to have only 8.3 years of actual schooling. The high rates of repetition and dropouts constraining students' academic achievements are also associated with over-aged schooling. The share of over-aged students in primary and secondary schools remains still high—about 18% in primary schools and 38% in secondary schools as of 2005.

Table 3-8 | Trends in Public School Attendance in the Dominican Republic

	1970-1971	1989-1990	2000-2001	2004-2005
Primary School				
Promotion	62.6	23.6	13.8	56.9
Repetition	16.6	26.5	85.5	7.6
Abandonment	6.9	86.3	7.3	6.4
Secondary School				
Promotion	51.9	12.0	36.1	55.8
Repetition	8.4	35.8	81.1	7.0
Abandonment	11.2	84.6	6.4	8.8

Source : Guzman (2008a)

Figure 3-6 | Share of Over-aged Students in Primary & Secondary Schools



Source : Guzman (2008a)

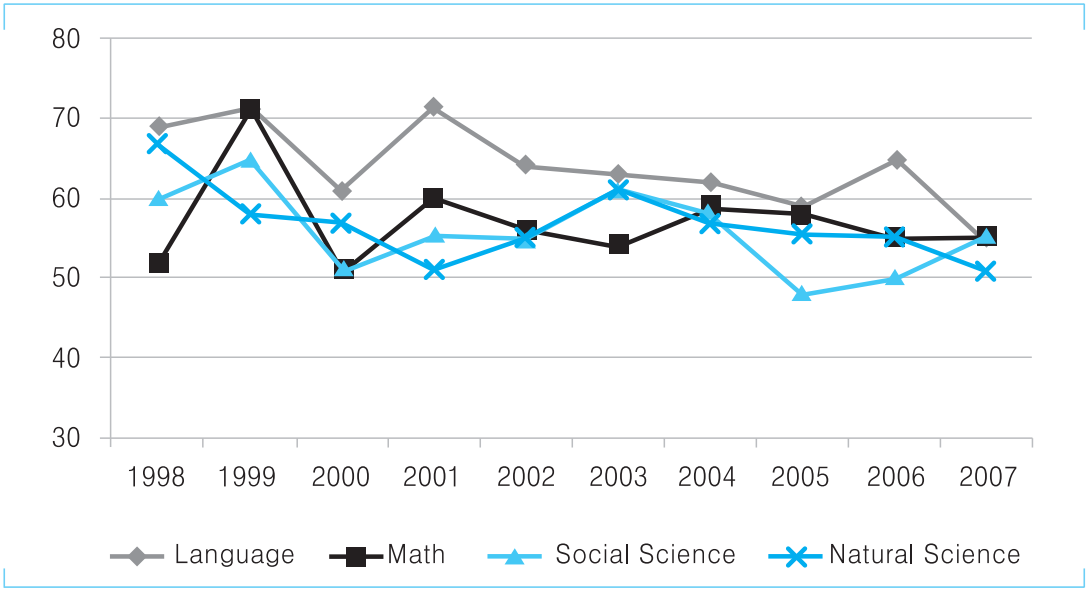
School dropouts are a critical obstacle in enhancing efficiency and quality of the basic education in the Dominican Republic. According to Guzman (1983), the phenomenon called dropout is, in most cases, a forced departure of poor children from schools due to lack of state protection or family, food, clothes and school supplies. Therefore, the dropout reflects socio-economic problems in the country, while reproducing poverty and inequality by educational deprivation. Main causes of dropouts are pointed out by Jimenez (2008), as follows: (1) economic deterioration of family and separation of parents lead children to drop out of their schools in order to make their living; (2) children at poor households have to abandon their schooling to help their parents, and the parents' disinterest in education is likely to encourage their children to leave school; (3) some of female youths drop out of their school due to early pregnancy, and physical and sexual abuse at home often force those adolescent girls to abandon their schooling; and (4) shortage of classrooms causes children, particularly in rural areas, to commute to school a long distance without provision of public transportation, and they end up giving up their school attendance.

The share of child labor in total employment is estimated to be approximately 1%. Child workers, who drop out of school to make a living in formal and informal sectors, have lost a chance ot develop their human capital.

The poor quality of basic education in the Dominican Republic is indicated by a series of survey results on academic performance. The average scores of national tests on major fields, such as mathematics, languages, social and natural sciences, in primary schools have been below the minimum level (65 points) of class completion, and deteriorated over the recent years. A recent study conducted by the Consortium of Educational Evaluation and Research (IEEC) reported that Dominican students showed poor performance in all grades and schools, although academic achievement in the private schools was higher than that in the public schools. The poor quality of basic education in public schools is evidenced by the fact that college freshmen coming from public schools have shown clearly worse academic performance than graduates of private schools. It is noteworthy that around 55% of college students have been found seriously deficient in basic learning capability (Guzman 2008a).

The poor academic performance of students in the Dominican Republic has to do with limited class hours for basic education, particularly in public schools. The average daily class hours in public schools are only two hours and 35 minutes, amounting to a total of about 450 hours per year (Guzman 2008a). This is much lower than the Latin American average of approximately 1,000 class hours per year.

Figure 3-7 | Trends in Average Scores of National Test for Primary School Students



Source : Guzman (2008a)
Note : Minimum Score for Class Assessment = 65 points

The poor academic performance of students in basic education is also attributable to the shortage of school facilities and insufficient staffing and inferior compensation for teachers. In the academic year 2005-06, 1.8 million students are accommodated in 31,248 classrooms of 5,415 schools (Jimenez 2008). This shows that each school accommodates 337 students on average, with 58 students per class room. Even though the number of classrooms increased from 19,000 in 1996 to 29,000 in 2004 with the Ministry of Education (SEE) making efforts to enhance the infrastructure of basic education, OECD (2008) estimates that 14,000 outdated classrooms should be renovated and additional 10,000 be built for providing proper class conditions to accommodate students. Given the shortage of school accommodation, the over-crowded classes and multi-shift class system are still widespread in the Dominican Republic. Moreover, the supply of ICT (information-communication technology) facilities is insufficient in promoting computer-aided education in primary and secondary schools, and the use of them is often constrained by the shortage of power supply.

The number of teachers for basic education is not sufficient enough to offer high-quality training and education for students. The student-teacher ratio of the Dominican Republic is one of the highest in Latin American countries. In 2004, the student-teacher ratio of basic education in the Dominican Republic was around 30, which was much higher than Costa Rica (19) and Guatemala (15) (Guzman 2008a). A substantial portion of teaching staff does not have official qualification, or certification for education. According to OECD (2008), 14.2% of all teachers in basic education are non-qualified; the share of non-qualified teachers in primary schools,

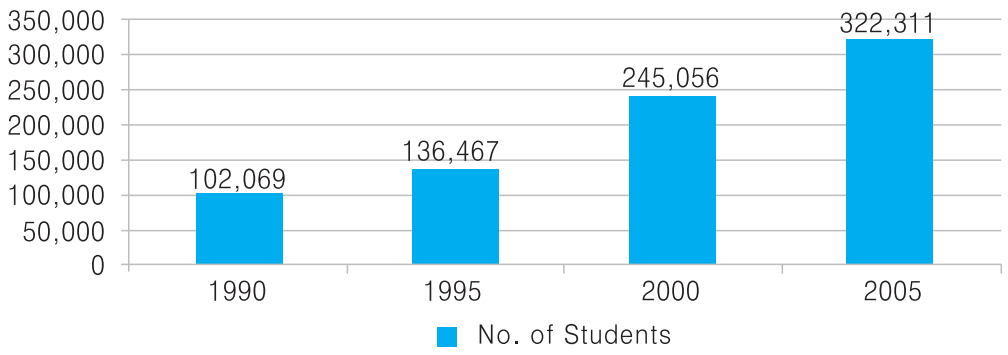
general secondary schools, and vocational secondary schools is respectively 11.7%, 16.4%, and 26.8%. In turn, poor compensation has driven teachers to take on the charge of multi-classes or do moonlighting work to make more income, thereby preventing them from developing and enhancing their teaching skills and contents.

In short, despite the quantitative expansion of beneficiary coverage in primary and secondary schools, the quality of basic education in the Dominican Republic has still been problematic, as demonstrated by poor academic performance of students as well as the high level of repetition and dropouts, which are caused by the shortage of school facilities and inferior working conditions of teaching staff. A recent assessment concerning the advancement of the basic education system, conducted in 2006, shows that most indicators are estimated at the level of "C" or "D", as follows: D in quality of education, C in the coverage of education, D in attendance of school, D in educational equity, C in official standards and evaluation for national education, D in teaching career, C in educational accountability, and D in investment for education (Guzman 2008a).

3.2 . Tertiary Education

Student enrollment in tertiary education in the Dominican Republic has shown an explosive growth in the 2000s. The number of students enrolling in tertiary education sharply increased from 102,100 in 1990 to 322,300 in 2005. Although this trend is common in Latin America, the growth of student enrollment in tertiary education is more noticeable in the Dominican Republic. The net tertiary enrollment rate in the country rose from 22.4% in 1995 to 32.9% in 2004, while the Latin American average increased from 16.9% to 28.1% in the same period.

Figure 3-8 | Trends of Enrolled Students in Tertiary Education



Source : Guzman (2008a)

Table 3-9 | Comparison of Net Enrollment in Tertiary Education

	1990	1995	2003	2004
Latin America and the Caribbean	16.9	17.7	27.0	28.1
Costa Rica	26.9	30.6	19.0	25.3
Dominican Republic	19.9	22.4	33.9	32.9

Source : Guzman (2008a)

At present, tertiary education in the Dominican Republic is provided by 43 institutions of higher learning, including 33 universities, which offer about 1,063 course programs. Tertiary education is of particular importance in the supply of high-quality workers to meet advanced technical demand for industrial upgrading.

However, student enrollment in the fields of science and technology has been at a relatively low level in the Dominican Republic. Only 18.4% of students in tertiary enrollment are affiliated with the fields of basic science and technology, and 13.6% of total graduates are from these fields, as of 2005. This implies that about 5% of students majoring in science and technology give up their study in these fields, or transfer to other fields. Interestingly, the absolute majority of student enrollment in science and technology concentrates in engineering and technology, particularly computing system, civil engineering, and industrial engineering, while 88.2% of graduates from the fields of science and technology obtain a degree in agricultural science. The share of student enrollment in the fields of basic science and technology is lower than the average of Latin American countries (23% in 2005). The share of college degrees awarded in the fields of science and technology in the Dominican Republic is also only at half the level in advanced Western countries where around 25% of college degrees are given in these fields (OECD 2004). Note that a substantial number of students at universities are not full-time students, since they have to pay for tuition and living expenses by having paid jobs.

Table 3-10 | Enrollment and Graduation of Tertiary Education in 2005

	Enrollment (%)	Graduates (%)
Basic Science & Technology	72,642 (18.39)	4,464 (13.6)
Basic & Applied Science	912 (0.23)	299 (0.9)
Engineering & Technology	69,038 (17.48)	228 (0.7)
Agricultural Science	2,692 (0.68)	3,937 (12.0)
Health Science	40,849 (10.34)	2,605 (8.0)
Philosophy & Humanities	82,575 (20.91)	12,270 (37.5)
Social Science	126,075 (31.92)	13,407 (40.9)
Others	170 (0.04)	-
Total	322,311 (100.0)	32,746 (100.0)

Source : Guzman (2008a)

Table 3-11 | Top 10 Fields of Tertiary Enrollment in 2005

Field	College	Technical College	Post-graduate	Total	% of Total Enrollment
Education	42,058	2,190	957	45,206	14.0
Finance	32,555	1,819	441	34,815	10.8
Marketing	32,045	0	615	32,660	10.1
Law	24,214	159	2,429	26,802	8.3
Computing System	20,733	4,796	177	25,706	8.0
Administration	23,883	413	281	24,577	7.6
Medicine	23,440	26	942	24,408	7.6
Psychology	14,993	8	292	15,293	4.7
Civil Engineering	12,426	88	50	12,564	3.9
Industrial Engineering	11,378	81	25	11,484	3.6
Total	237,725	9,580	6,209	253,515	78.7

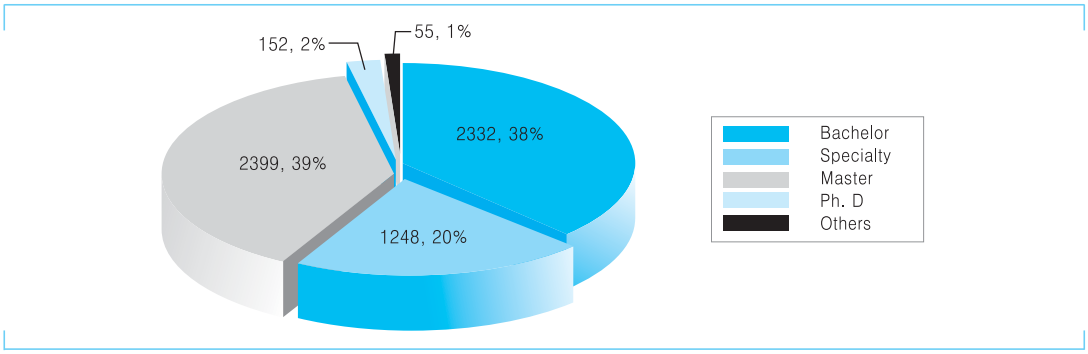
Source : OECD (2008)

Student enrollment in post-graduate programs is very low in the Dominican Republic. The share of post-graduate students in tertiary school enrollment is only 1.47% in 2005. The student enrollment rate of post-graduate programs in this country is below the average of Latin America. For instance, according to 2003-04 comparative data concerning the post-graduate enrollment rate, the Dominican Republic (3.3%) is much lower than Cuba (7.7%), Venezuela (6.8%), Mexico (6.0%), and Colombia (5.7%), while higher than Brazil (2.8%) and Chile (2.6%) (Guzman 2008a).

Within the Dominican Republic, economic returns for graduates from tertiary education are relatively high, compared to graduates from basic education. According to a recent survey assessing labor demand in the private sector, private firms respond that they plan to hire college graduates for 56% of vacant job positions and hire job applicants having basic education for 29% of vacancies (Guzman 2008a).

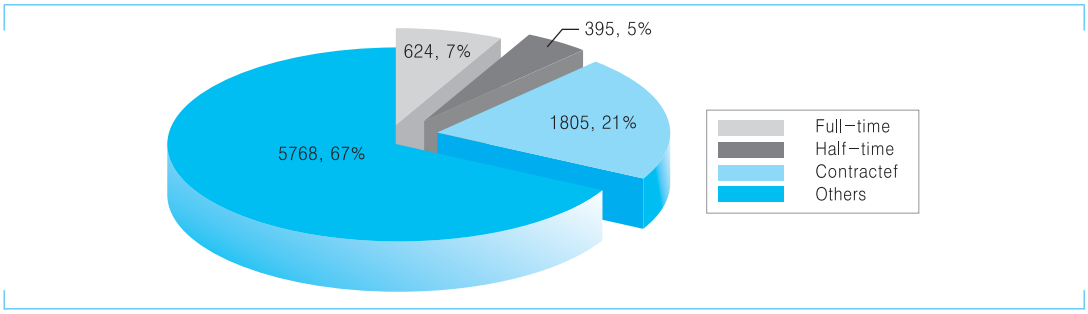
However, in a comparative regional context, it should be noted that the Dominican Republic ranks 18th in the cross-country comparison of economic returns for tertiary education graduates among Latin American countries. The more problematic issue is that a substantial portion (14.2% in 2007) of highly-educated workforce having a degree of tertiary education is unable to find jobs and fall into unemployment. As a result, 23% of college graduates and 43% of high school graduates plan to emigrate, in that both of the two groups suffer from higher unemployment than that of workers with primary education or below. According to Guzman (2008a), the high unemployment rate of college graduates is attributable to the shortage of decent jobs in industrial sectors and poor quality of tertiary education unable to meet industrial labor demands.

Figure 3-9 | Share of Faculty in Tertiary Schools by Educational Attainment



Source : Guzman (2008a)

Figure 3-10 | Share of Faculty in Tertiary Education by Employment Status



Source : Guzman (2008a)

At present, the number of teaching staff involved in tertiary education amounts to about 11,000 in the Dominican Republic. Therefore, the ratio of teaching staff per 1,000 economically active population is 0.13, and the student-faculty ratio is around 29.3. The inadequate qualification of faculty and inferior compensation for them are largely accountable for the poor quality of tertiary education in the country. The majority of teaching staff at universities have bachelor and specialty degrees, while 39% have master's degrees. Only 2% have Ph.D. degrees. At the same time, only 7% of university faculty have full-time employment status, whereas most of the faculty are in contracted positions or under unknown status. In addition to unstable employment status, a number of lecturers and professors tend to teach at more than one university, due to insufficient compensation. Low academic qualification and multiple teaching jobs hinder faculty at universities from not only enhancing their educational contents, but also producing research outcomes of good quality. As a matter of fact, the publication of SCI journal papers by Dominican researchers is lagging behind the Latin American average.

3.3. Vocational Training

The vocational training system in the Dominican Republic was introduced in 1932, when the first vocational training centers were officially established. Until 1970, vocational education accommodated 13.9% of total students in secondary education; however, the share of students in vocational secondary schools dropped to 5.4% in 1990 and slightly increased to 8.7% in 2005 (Guzman 2008a).

Table 3-12 | Distribution of High School Students

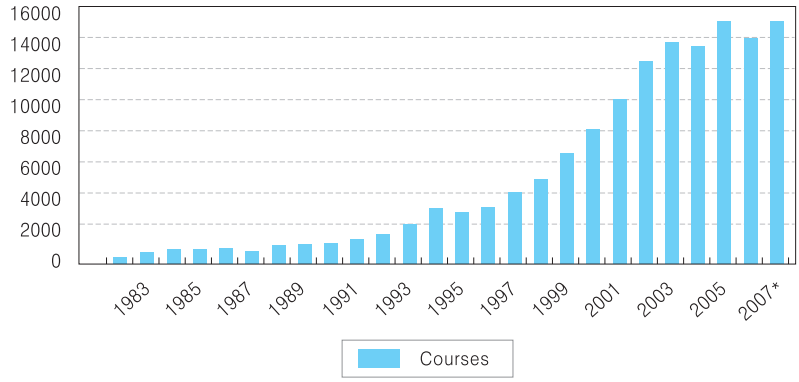
	1990			2005		
	Public	Private	Total	Public	Private	Total
Vocational	7,760	4,283	12,043	27,200	11,000	38,200
Total	155,507	68,200	223,707	369,570	103,597	473,167
%	5.0%	6.3%	5.4%	7.3%	10.6%	8.7%

Source : Guzman (2008a)

At the same time, a number of tertiary-level vocational training institutions, widely regarded as a transitional path to a college degree, have been formed since the late 1980s. In 2005, 3,670 students enrolled in these non-university institutes for higher-level vocational training.

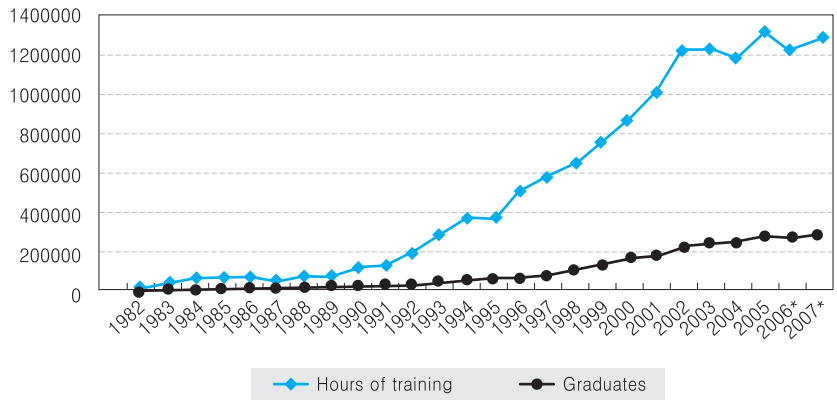
According to the Education Law, enacted in 1997, official and semi-official vocational education is regulated by the Ministry of Education (SEE), while the non-university higher vocational training is supervised by the Ministry of Higher Education, Science and Technology (SEESCyT). The central agency governing nationwide vocational training of labor force at work and in labor markets is the National Institute of Technical-Vocational Training (INFOTEP), which was established in 1980. INFOTEP provides vocational training programs in its own centers, and supervises vocational training service offered by private agencies. The number of training centers and agencies reporting to INFOTEP is 194 nationwide. The number of vocational training offered by INFOTEP-registered centers and agencies has sharply increased up to over 15,000 in 2007, and the accumulated number of training hours and graduates until 2007 amount to 13.72 million hours and 2.51 million, respectively.

Figure 3-11 | Trends in Courses offered by INFOTEP



Source : INFOTEP

Figure 3-12 | Trends in Training Hours and Graduates by INFOTEP



Source : INFOTEP

The largest portion of vocational training provided by INFOTEP-registered centers and agencies is geared to manufacturing and service jobs. 57.2% and 28.0% of graduates from INFOTEP training programs are respectively for manufacturing and services. The majority of graduates from INFOTEP-registered centers and agencies go through permanent vocational training programs, while 25% and 22% have respectively complementary training programs and empowerment courses. According to a firm-level survey conducted in 2006, firms in free trade zones and port and transportation sectors are most active in providing formal off-job training programs for their employees, followed by finance and commerce. Larger firms offer more job training for employees than smaller firms. In addition, the same survey identifies that foreign-invested companies are more likely to offer job training programs for employees than domestic companies (Guzman 2008a). In fact, 81.8% of branches of foreign companies provide formal

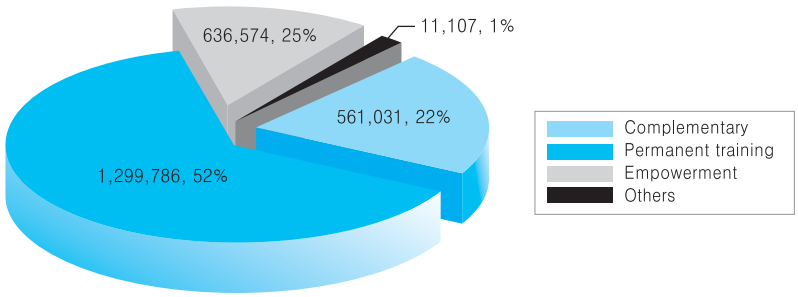
training for employees, while 47.1% of domestic companies do. Note that 58.1% of joint-ventures of foreign-domestic firms offer formal job training programs.

Table 3-13 | Performance of INFOTEP by sectors

	Graduates	Training Courses	Training Hours
Agriculture	4,237 (1.5%)	203 (1.3%)	19,861 (1.5)
Trades	13,902 (4.8%)	735 (4.8%)	86,210 (6.7%)
Hotels	25,012 (8.6%)	1,287 (8.4%)	165,800 (12.9%)
Services	81,097 (28.0%)	4,205 (27.5%)	417,046 (32.5%)
Manufacturing	165,784 (57.2%)	8,888 (58.0%)	594,723 (46.3%)
Total	290,032	15,318	1,283,640

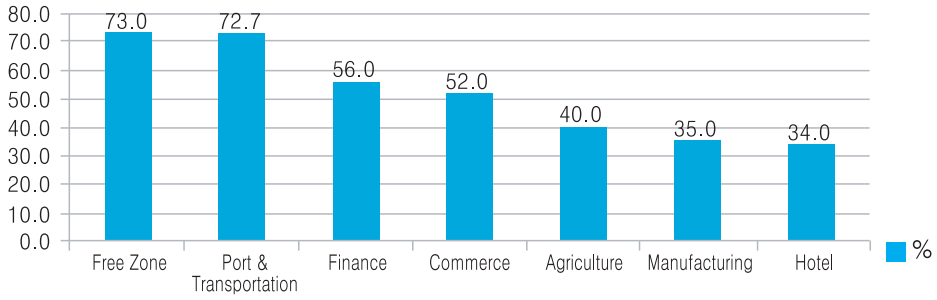
Source : INFOTEP

Figure 3-13 | Distribution of INFOTEP Graduates by Type of Training Courses



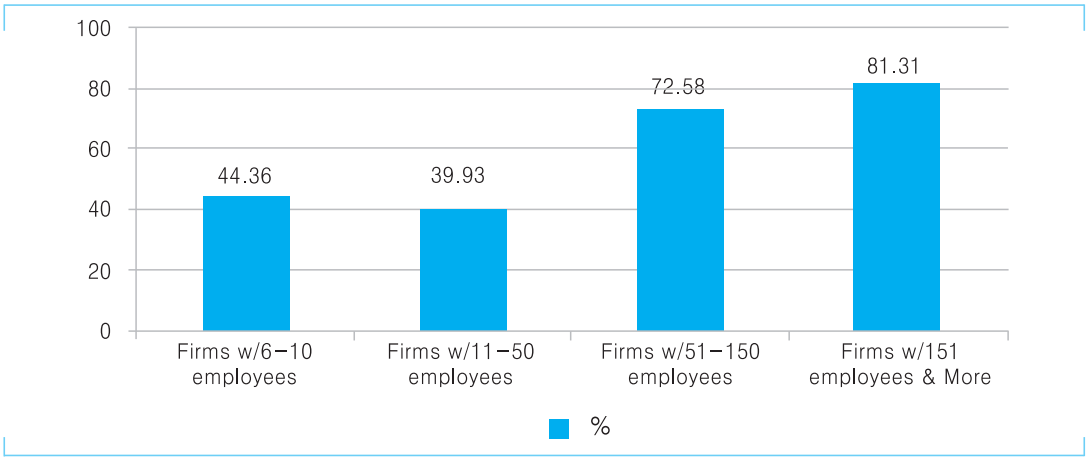
Source : INFOTEP

Figure 3-14 | Provision of Formal Training by Industrial Sectors



Source : Guzman (2008a)

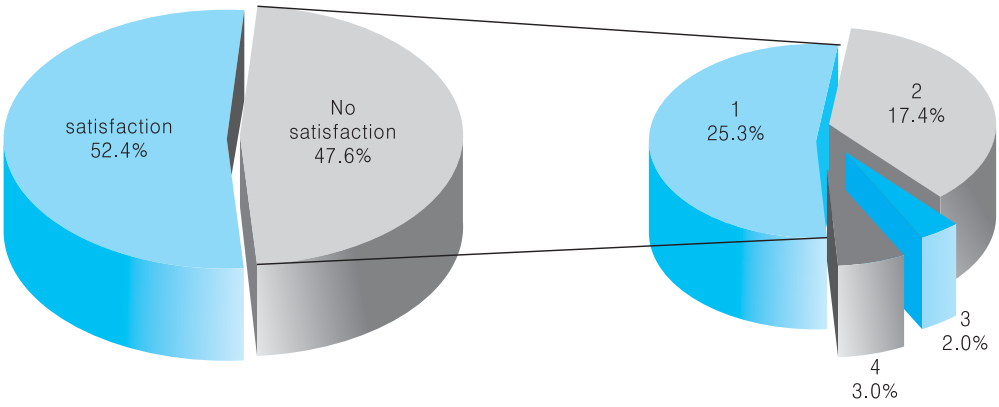
Figure 3-15 | Provision of Formal Training by Firm Size



Source : Guzman (2008a)

Despite the remarkable expansion and enhanced operation of job training services by INFOTEP's initiative, the current vocational training system has exposed several problems. First, INFOTEP-registered centers and agencies cover only around 30% of training needs for improving job skills of national workforce. Second, the majority (51.9%) of INFOTEP-registered centers and agencies are concentrated in the central region, thereby creating uneven regional allocation of vocational training services and excluding many rural areas from benefiting by formal job training programs. Third, there exist a gap between INFOTEP-led supply of vocational training and industrial demand for job skills, since job-training needs of businesses are not analyzed, nor dealt with systematically by vocational training agencies. In fact, 47.6% of firms in a survey responded that current formal job training programs do not satisfy their needs to develop employee skills. This survey indicates that larger firms have stronger dissatisfaction with formal job training services than smaller firms. Fourth, training facilities and teaching skills at INFOTEP-registered centers and agencies are outdated to some extent, thereby constraining the quality of vocational training services. At the same time it is noteworthy that the Ministry of Labor (SET) introduced "Youth and Employment" program in 2007, offering vocational training internship for 27,413 youth dropouts and enabling 53% of them to find regular jobs by 2007, while the Las Americas Institute of Technology (ITLA) established an informatics-centered vocational training center in a Free Zone area under a joint partnership with the Steven Institute of Technology and has provided graduates with SYSCO-certified qualifications.

Figure 3-16 | Degree which to Satisfy Training Needs of Business



Source : Guzman (2008a)
Note : 1~4 denote the degree of dissatisfaction

4. Lessons from HRD Policy in Korea

POSCO's motto, "Resources are limited, Creativity is unlimited," symbolizes Korea's success model of effectively developing and mobilizing human resources for its economic growth. As a matter of fact, the supply of highly-educated human resources has enabled Korea, lacking natural resources, to achieve its remarkable economic development over the past 40 years.

In the 1950s, the country had favorable preconditions for economic development in terms of HRD. At the time, the student enrollment rate of primary and secondary education in Korea respectively reached 95% and 20% in 1959. As such, Korea already attained high level of basic education for its workforce by the end of 1950s, which was indebted to the 6-year compulsory basic education plan, launched between 1954 and 1959, and the government's effort to increase the education budget from 4.2% of total government expenditure in 1954 to 15.2% in 1959.

HRD policy in Korea has been upgraded in accordance with sequential industrial restructuring from light manufacturing in the 1960s to knowledge-based economy in the 2000s. Between the 1960s and 1980s, the government was the key player in shaping and administering the nationwide HRD scheme to boost export-oriented industrialization, thrust of which moved

from light manufacturing in the 1960s to heavy and chemical industries in the 1970s and 1980s. In this period, the focus of the government's HRD policy was on supplying well-trained labor force to meet industrial demand. The government formulated the HRD framework, including basic education and vocational training in the 1960s, and implemented a compulsory vocational training system at the firm level in the 1970s. As the national economy liberalized under the context of globalization and industrial restructuring from heavy manufacturing towards high technology sectors was actively led by private firms, the government-driven HRD framework of the country was replaced with a new model facilitating human resources investment of private actors, including both employers and workers, in the 1990s.

This paradigmatic shift was reflected by the substitution of the Vocational Training Promotion Law, enacted in 1997, for the Basic Vocational Training Law, introduced in 1976. In contrast with the Basic Vocational Training Law, where vocational training was provided to new labor market participants in manufacturing sectors by the government's policy mandate to enforce large firms' financial contribution, the Vocational Training Promotion Law expands the coverage of vocational training service to employed workers in all establishments by utilizing employment insurance funds, and promotes the autonomy of private actors in devising and administering training courses. Under the new institutional framework, the government has played the role of a facilitator, rather than a regulator, for enhancing employability of workforce. In the 2000s, the government has made policy efforts to transform the country towards learning society in order to build a knowledge-based economy taking advantage of the dynamic innovation of information-communication technologies, and to foster the regional HRD clustering of business-university partnership in a form of high-value networking.

Table 3-14 | Historical Evolution of HRD Policy in Korea

	1960s	1970s~1980s	1990s	2000s
Context	Export-oriented Industrialization		Globalization & ICT Revolution	
Industrial Policy	Light Manufacturing	Heavy & Chemical Industry	Hi-tech Industry	Knowledge-based Industry
HRD Paradigm	Vocational Training		Productive HR investment	Learning Society
HRD Initiatives	Government		Employers & Workers	
HRD Policy	Nurturing of Skilled Labor	Compulsory Vocational Training	Enhancing Employability w/ Employment Insurance	Learning Partnership & Regional HRD Clustering
HRD Outcomes	HRD Policy Launching	HRD Systemization	Performance-based HRD	High-Value HRD Networking

Source : Guzman (2008a)

Table 3-15 | Comparison between Vocational Training Systems

	Vocational Training Basic Law (1976 ~ 1997)	Vocational Training Promotion Law (1997 ~)
Objectives	Provision of VT as a Mandate Ruled by the Government	Provision of VT Initiated by Private Actors on the Need Basis
Target Groups	New Labor Market Participants	Employed & Unemployed both
Focus of Training	Manufacturing Trade Skills only	Expanded to White-collar & Service Work Skills
Applicability	Large Firms only	All Establishments and Prospect Workers
Financing	Compulsory Contributions by Firms	Employment Insurance Fund
Regulation	Training Contents & Standards/Procedure Strictly Controlled	Private Actors Having some Autonomy Designing Training Contents & Procedure
Operating paradigm	Supplier-driven Programs	Demand-centered Programs

Table 3-16 | Historical Chronicle of HRD Policy in Korea

Year	Major Policy Action
1963	- Industrial Education Promotion Law enacted
1964	- 5-year Vocational Schooling System introduced
1967	- Institutional Infrastructure for Vocational Training & Science-Technology Promotion/Education established, and Trade Certification System implemented
1971	- National Vocational Training Center opened for Nurturing Vocational Trainers
1974	- National Vocational Qualification Law enacted
1976	- Vocational Training Basic Law enacted
1977	- Long-term Labor Supply-Demand Projection (1977-1991);: Polytechnic College Law enacted
1981	- National Vocational Qualification System transferred to the Supervision of Ministry of Labor
1982	- Korea Training & Management Agency established
1992	- Korea University of Technology & Technology established
1994	- Private Vocational Training Centers established by Korean Chamber of Commerce & Industry
1995	- Vocational Training Program of Employment Insurance introduced
1996	- New Vocational Training System established
1997	- Vocational Training Promotion Law Enacted for Implementing the Competitive Training System; Public Certification of Private Qualifications adopted
1999	- Worker Vocational Competency Development Law enacted
2001	- 1st National HRD Plan (2001~2005) Launched; Science & Technology Basic Law enacted
2002	- HRD Basic Law Enacted; National HRD Commission Formed & Chaired by Deputy Prime Minister; Regional HRD Councils established

Year	Major Policy Action
2003	- Industrial Education Enhancement & Industry-Academy Cooperation Promotion Law enacted for Strengthening the Partnership among Business, University & Research Institutes
2004	- E-Learning Industry Development Law enacted
2006	- 2nd National HRD Plan(2006 ~2010) launched
2007	- National HRD Commission promoted to Presidential Advisory Body
2008	- Minister of Education & Science-Technology reorganized

Korea's experiences in HRD policy offer several lessons which have meaningful implications for the Dominican Republic. First, the Korean government has made conscious efforts for formulating strategic partnering of HRD policy and economic development policy. From the beginning of the export-oriented industrialization in the 1960s, the government has aligned manpower development and science-technology policy with economic development policy through coordinated parallel planning. The 5-year plans of HRD policy have been suitable for the economic development plans of each stage from 1962 to 1996. As a result, the government's HRD policy has been effectively re-formulated for meeting changing demand of labor force along industrial upgrading during the past 40 years. In the 21st century of ICT revolution, the government has also launched 5-year HRD plans aligned to build the knowledge-based economy in the country. Note that the 1st (1962~1966) and the 2nd (1967~1971) manpower development plans were developed by the Economic Planning Bureau, whereas the long-term planning of HRD policy has since been led by the Science and Technology Office and, later, the Ministry of Education. Moreover, the Korean government's HRD policy has, to a large extent, had external fitness with environmental changes and economic maturity. For instance, the government-led vocational training schemes, established in the stage of industrialization, was transformed toward a new model initiated by private actors and facilitated by the government in the era of post-industrialization.

Table 3-17 | Strategic Partnering of Economic Development and HRD Planning

Period	Economic Policy Planning	HRD Planning
1962~1966	1st Economic Development Plan	1st Manpower Development Plan & Science-Technology Plan
1967~1971	2nd Economic Development Plan	2nd Manpower Development Plan & Science-Technology Plan
1972~1976	3rd Economic Development Plan	3rd Manpower Development Plan
1977~1981	4th Economic Development Plan	4th Manpower Development Plan
1982~1986	5th Economic Development Plan	5th Manpower Development Plan
1987~1991	6th Economic Development Plan	6th Manpower Development Plan
1992~1996	New Economic-Social Plan	Manpower Policy Plan

Second, the leadership of the Korean government has consistently made strong commitment to HRD policy in a visible way. Presidents chaired inter-ministry manpower development planning councils concerning HRD policy agenda, and often showed up at HRD sites, such as vocational training centers, thereby giving employers and workers a clear signal of their priority to the enhancement of HRD. Given strong endorsement of national leadership for the HRD policy, HRD-related ministries and economic ministries got involved in close coordination for effective policy-executing as well as policy-making. For instance, the National HRD Commission, which is chaired by the President and attended by 15 related Ministers, had 58 meetings for 235 issues concerning HRD policy between 2000 and 2007. In addition, the Korean government adopted a pragmatic approach at the early stage of economic development, when the country had a very poor condition for HRD policy-making. It tried to devise HRD policy-making in a fact-based manner, by surveying manpower demand of businesses from the early stage of economic development and simulating long-term demand of labor markets. The government also made great efforts to recruit Korean scientists and talented engineers from overseas, by establishing public research institutes, such as the Korea Development Institute and the Korea Institute of Science and Technology. In addition, the government often benchmarked advanced vocational programs and know-how from Germany and Japan, in establishing its public vocational training centers.

Table 3-18 | Inter-ministry HRD Policy Consultation

Year	No. of Meetings	No. of Agenda
2000	8	19
2001	7	17
2002	13	47
2003	6	29
2004	5	32
2005	5	20
2006	6	32
2007	8	39
Total	58	235

Third the Korean government has made heavy investment in HRD since the 1960s. Despite the very poor conditions of national finance, the government spent 14.3% of total government expenditure for education, excluding vocational training. The share of education budget out of total government expenditure reached 20% in the mid-1980s and has since remained over 20%. Korea increased R&D spending from 0.24% of GDP in 1963 to 3.23% of GDP in 2006, which placed Korea the among global top five. The government's R&D spending is 1.05% of GDP as of 2006. The government's active HRD investment combined with Korean families' strong commitment to children's education created new generations of high education over the past 20

years. As a matter of fact, the share of working population having basic education declined from 71.5 % in 1980 to 30.3% in 2005, while that of the workforce having tertiary education soared from 6.7% to 32.9% in the same period.

Table 3-20 presents an overview of the current Korean education system, delineating the number of students, schools, and teachers at each school level. Note that around 88% of high school graduates are promoted to tertiary education, including 3-year colleges and 4-year universities, at present. Similarly, the strong commitment of Korean families to education and HRD is exemplified by a low dropout rate. The rate of dropouts from middle schools and high schools was respectively 4.0% and 5.3% in 1965, and has further decreased to 0.9% and 1.6% in 2006. It is noteworthy that President Park Chung Hee launched "Saemaul Undong" (New Village Movement) in 1970, in order to transform the Korean people's out-dated lifestyle and promote a better work ethic. This campaign started from rural areas and diffused to industrial urban areas in 1973. Although this campaign is criticized as the authoritarian government's attempt to mobilige people in a militaristic way, it is also positively recognized as a campaign that modernized the traditional life-style and work ethics of Korean people in a drastic manner.

Figure 3-17 | Trends of HRD Investment in Korea

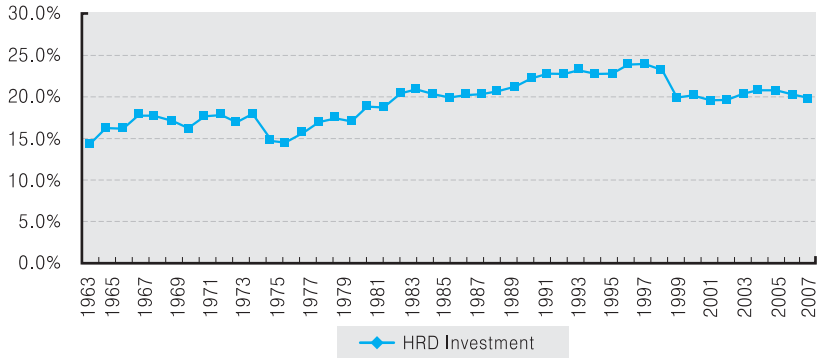


Table 3-19 | Trends in Labor Force by Educational Attainment in Korea

	1980	1985	1990	1995	2000	2005
Primary School & under	51.3	37.7	29.1	21.4	23.0	19.1
Middle School	20.2	21.1	19.5	16.3	13.3	11.2
High School	21.8	30.9	37.7	43.2	39.4	36.8
College & above	6.7	10.3	13.7	19.1	24.3	32.9

Table 3-20 | Overview of Education System by School Level

	Schools	Students	Teachers
Kindergarten	8,294	541,550	33,504
Primary School (6 yrs)	5,756	3,829,998	167,182
Middle School (3 yrs)	3,032	2,063,159	107,986
High School (3 yrs)	2,159	1,841,374	120,211
3-year College	148	795,519	11,685
University	200	2,115,200	55,808

Table 3-21 | Trends in Labor Force by Educational Attainment

	1965	1975	1985	1995	2006
Middle School D/O	4.0	2.3	1.2	1.0	0.9
High School D/O	5.3	3.1	3.3	2.4	1.6

In short, the Korean government's HRD policy has made substantial contributions to the country's remarkable economic growth, by formulating its strategic alignment with economic development policy as well as industrial upgrading, securing active HRD investment, and showing national leader's strong commitment to HRD agenda.

5. Policy Recommendations for the Dominican Republic

The context confronting the Dominican economy demands the advancement of HRD. In the major export markets like the U.S., Asian competitors, including China and Vietnam, have challenged the market share of the Dominican key export goods with their cheaper labor cost. For instance, the Dominican Republic is losing advantage in the market competition of textile goods, which are a key contributor in exports of the country, since its labor costs, amounting to USD220, are much higher than Vietnam (USD40) and Pakistan (USD40~60). This implies that the Dominican firms need to upgrade the quality of their export goods to regain overseas market shares and, therefore, require high-skilled labor to enhance labor productivity and product quality. Moreover, the formation of DR-CAFTA in 2007 and EU-Caribbean EPA (Economic Partnership Agreement) creates a changing context of market integration, which poses a threat as well as opportunity to the Dominican Republic. At the same time, the Dominican Republic faces an uneasy challenge in developing its HRD policy, in that it has a wide range of strategic export goods. As a matter of fact, key export goods of the country are comprised of various products of agriculture, traditional manufacturing (e.g., textile and garment), and advanced

knowledge-based sectors (e.g., informatics and bio-tech). Thus, this complicated combination of strategic export goods requires that the Dominican government effectively manage concurrent development of heterogeneous human resources demanded by those differing export sectors.

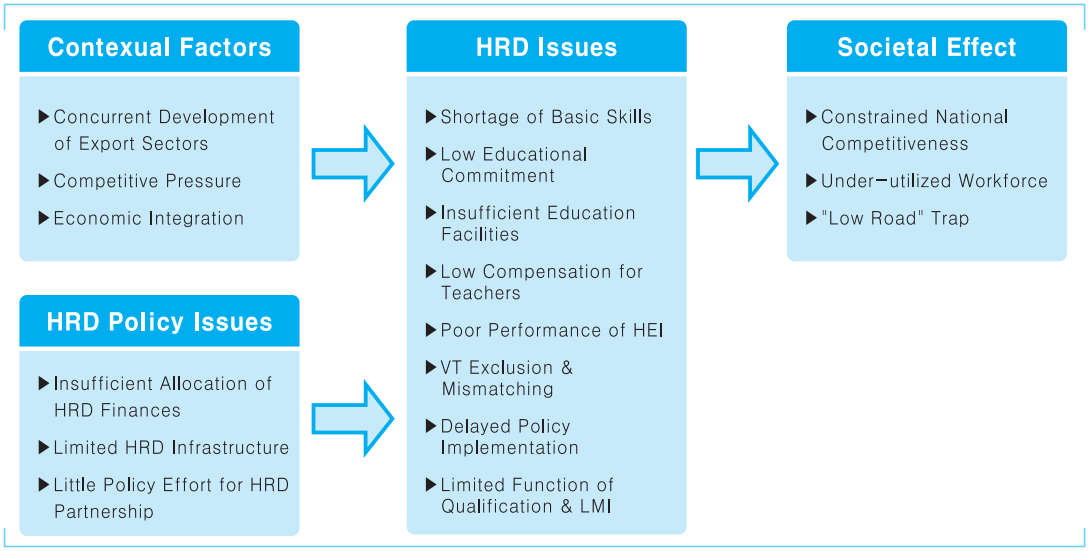
In recent years, HRD policy of the Dominican government has made steady progress in some aspects. Above all, President Fernandez has consistently recognized the significance of HRD in advancing economic competitiveness and industrial structure. The Dominican government formulated long-term plans for reforms of education, promotion of science and technology, and enhancement of vocation training to be carried out in the next 11 years (2008~2018). In those plans, the government set tangible goals and action plans in a clear manner. For instance, the Educational Reform Plan, initiated by the SEE, addresses 10 key issues to be tackled, one of which is to allocate 16% of government expenditure or 4% of GDP for enhancing the education system. The Reform Plan of Vocational Training, led by INFOTEP, targets 10 subjects, such as vocational certification, training facilities and contents, industry-university partnership, industrial needs survey, financial aid, and work ethics, as core goals to be achieved in the next 10 years. The National Plan for Systemic Competitiveness for Year 2020, co-managed by SEESCyT and PECyT+I, includes a long-term plan to strengthen innovative capacity. Moreover, the Dominican government made 9-year primary education compulsory in order to eliminate illiteracy. In formulating the long-term national HRD plans, policy-consultative vehicles for promoting communication and cooperation among relevant ministries, such as "Presidential Forum on Education Excellence" and "Vocational Training Planning Forum" are formed and administered.

The Dominican government has had various problems in administering and executing HRD policy according to those strategic plans, although it has made great efforts. The first problem is that the government has not been able to meet the goal of HRD budget increases. In 2006, the Dominican government secured only 2.2% of GDP as education budget, which is far short of the goal, 4% of GDP. As a result, the Dominican Republic is lagging in the investment of HRD behind other Latin American countries. R&D investment in this country amounts to only 0.06% of GDP in 2008, which is about one-tenth of the average (0.5%) of Latin American countries. The government's expenditure for R&D is very short of the statutory requirement (5%) for enhancing tertiary education and promoting science and technology. The Dominican government has not yet built informative infrastructure to facilitate the matching of labor demand and supply, thereby creating such problems as mismatching in labor markets and underutilization or unemployment of educated work force. For instance, the government has lacked a composite HRD database to trace trends of labor supply and skill demands in a systematic manner. Moreover, there exists no informative network for matching job seekers with recruiting firms and connecting job training applicants and training centers. Although there is a formal job certification system supervised by INFOTEP, it does not work well enough to induce the upgrading of job skills and allocate skilled labor to proper job positions. Given the high presence of dropouts, the government has not actively arranged training programs to

develop basic knowledge and job skills of those un-educated workers. While HRD-related ministries are well-interlocked in planning their long-term goals and strategic approach, inter-ministry coordination among them is hardly observed at the stage of administering and executing those plans. Also, joint consultation between ministries of HRD and economic policy is very limited in sharing policy goals and coordinating action plans. The government's policy to promote business-university partnership concerning HRD is underdeveloped, and the peculiarity of industrial structure at the regional level is not fully considered in devising and administering the vocational training system. In light of the shortage of competent human resources for upgrading the level of science and technology in the Dominican Republic, policy incentives to induce the immigration and involvement of Dominican talent residing in foreign countries are not arranged actively.

Figure 3-18 summarizes the diagnosis of HRD issues in the Dominican Republic. Under the contextual pressures, such as the advent of low cost competitors, mixture of export goods, and economic integration, a number of HRD issues, partly posed by some limitations of the Dominican government's HRD policy, creates national problems in export competitiveness and utilization of labor force. In light of the HRD issues constraining national competitiveness and export promotion, and lessons drawn from Korea's successful experiences of economic development, several policy recommendations to enhance HRD in the Dominican Republic are offered, as follows.

Figure 3-18 | Summary of Diagnosis of HRD Issues in the Dominican Republic



Above all, the Dominican government has to secure 4% of GDP or 16% of government expenditure for HRD investment, as targeted, in that the retarded level of HRD and limited progress of policy-implementation in the country are largely attributed to the shortage of

financial resources. In the same vein, 5% of public expenditure should be guaranteed for enhancing tertiary education and science and technology, as the statutory provision stipulates. In case that the government cannot secure sufficient HRD budgets, it needs to try to obtain and utilize official development assistance as part of the HRD investment, and to institutionalize compulsory funding or training programs sponsored by private firms, as the Korean government did from the 1970s to 1996. Given the limited financial resources of the country, it is quite important to optimally allocate them into basic education, tertiary education and science-technology development, and vocational training. The strategic allocation of financial resources into subsectors of HRD is associated with the correct estimation of industrial demand linked to the government's long-term economic development plans. Regardless of how to allocate financial resources in subsectors of HRD, it is urgent to renovate outdated education/training facilities and increase the provision of new ones. The government should improve economic compensation and working conditions for teachers and college faculty, in order to induce talented manpower into those education institutes and have the existing teachers/faculty to focus on further developing their own teaching skills. Moreover, the constraint of financial resources requires that the government needs to devise policy schemes to enhance the productivity of HRD in terms of input-to-output ratio.

Second, the Dominican government should enhance nationwide HRD infrastructure. As part of the HRD infrastructure, it is necessary to build an informative system to collect and provide detailed data concerning demand-supply of labor force and job skills nationwide as well as by sector and region. This systematic database would be a precondition to enhance the effectiveness of HRD policy. Moreover, the government should make investment to develop informative networks for vocational training and job matching in labor markets. It is also required to restructure the current vocational qualification system in order to enhance its function of market signaling and pricing for certified job skills. Given the substantial presence of dropouts from primary education, the government needs to further expand "basic skill training programs," like the "Youth and Employment" programs, and make more investment for enhancing the effectiveness of distance training networks. Given a number of non-qualified teachers in basic education and vocational training, the government should introduce teacher-trainer camps to improve and upgrade their teaching skills and contents. Also, it needs to urge tertiary education institutes to recruit new faculty having academic expertise, in order to enhance the quality of tertiary education. Moreover, to allow and induce the establishment of corporate colleges might be a possible way to expand the supply of technical manpower demanded by businesses.

Third, it is necessary to make national leader's commitment and endorsement of HRD more visible and consistent, particularly at the stage of policy implementation. A symbolic action is that President chairs inter-ministry HRD policy-making forum on a regular basis and gets involved in various events (e.g., job skill contests and workplace innovation campaigns) to promote public interest in HRD. In addition, the government may launch nationwide campaigns

to transform people's lifestyle and work orientation, following the case of "New Village Movement" in Korea. It is also required to build close interlocks between HRD-related and economic ministries for enhancing the effectiveness of strategic goal-setting and policy coordination at the national level. Inter-ministry coordination of policy-planning among HRD-related ministries should be further expanded to standing forums to monitor and tackle policy issues in the implementation of strategic plans.

Fourth, it is desirable to forge HRD partnership among businesses, universities, and vocational training institutes. An approach to building HRD partnership is to promote business-university collaboration for conducting joint R&D projects to innovate the design of products and the production processes. These joint partnerships of businesses and universities would also be used for providing college students with on-the-job training programs. Given differing industrial composition across regions, the government can try to facilitate regional clustering of vocational training entities, which would be useful for developing training programs and networks in light of each region's distinct features in social context and industrial structure. In order to introduce the regional cluster of HRD innovation, the government and the related institutes need to study the success cases of advanced countries and develop feasible strategies to meet the peculiar context of the Dominican Republic. Given the shortage of talented scientists and engineers, the government has to make active efforts to attract Dominican nationals from overseas and arrange policy incentives and workable environment for attracting them.

Chapter 04

Export Financing in the Dominican Republic and Its Medium-to Long-term Promotion Plan

Chapter 04

Export Financing in the Dominican Republic and Its Medium-to Long-term Promotion Plan

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1. Current Status of Export Financing

1.1. Overview

There was no financial product catering to the needs of exporters in the Dominican Republic up until 2003. A few commercial banks provided trade financing such as opening a letter of credit and factoring, based on collateral placed by clients. However, as part of the effort to reform its financial sector after the crisis of 2003, project financing services (DEFINORI) at the central bank was transferred to Banco Nacional de la Vivienda (BNV), a national development bank. Its function expanded and BNV later became Banco Nacional de la Vivienda y la Produccion (BNVP) through which basic export credit services were provided.

Established in 1962, BNVP is a mid-sized national development bank with a capital of US$130 million and US$ 250 million in assets, and focuses on promoting housing, productions and exports. BNVP's export credit is provided in forms of pre-shipment and post-shipment financing on contract basis, but currently takes up a very small portion of the Bank's total commitment. This is largely due to the increased demand for housing, the slowdown in export growth and the lack of export credit publicity. The number of transactions continued to decline since 2002 along with the total commitment amount since reaching 1.2 billion pesos (US$ 30 million equivalent) in 2004. In fact, in 2007, BNVP committed a mere 13 million pesos for 7 transactions.

Table 4-1 | Export Credit Commitments

(Unit: Million pesos)

	2001	2002	2003	2004	2005	2006	2007
Number of Commitments	701	771	659	489	305	128	7
Amount of Commitments	643	846	1,114	1,227	491	213	13

Source : BNVP

There are two main types of financing available for exporters, pre-shipment financing and post-shipment financing. Pre-shipment financing is provided to cover production costs of export goods, and is available up to 80% of the export contract amount. The credit limit is set at a minimum of 500,000 pesos and a maximum of 6 million pesos (US$ 150,000 equivalent), but with BNVP's board of directors' approval, the maximum credit limit could be increased up to 20 million pesos. The repayment term is from 2 to 12 years, and the interest rate is around 17%. In the case of post-shipment financing, the maximum credit amount is 100,000 pesos and is available up to 90% of the export contract amount. The export financing products of BNVP is fairly systematic since it provides financing based on an export contract on a credit basis. However, the credit limit per transaction is too low, and since export financing is provided through commercial banks through on-lending arrangement, margins are added on interest rates.

Apart from BNVP, major commercial banks such as Ban Reservas (a state-owned commercial bank) and Banco Popular provide trade financing including factoring and opening a letter of credit; nevertheless, there is still room for more growth given its high discount rate and fees. Most of the financing is offered on a collateral basis, and a credit rating and risk management system is virtually non-existent. Moreover, the Dominican Republic lacks an integrated financial statistics system to collect information on the size and effect of trade financing relative to the country's exports as a whole. Information collection is currently conducted by individual banks for its own exporters.

1.2. Major Issues with Export Financing

A. Collateral-oriented Underdeveloped Financial System

Development banks and commercial banks in the Dominican Republic provide trade financing, but none of them offers credit-based financing. They all require land or government bonds as collateral. It takes at least three weeks for exporters to receive financing due to extensive and slow collateral valuation, which is typical in an underdeveloped financial system.

B. Absence of an Exclusive Export Financing Operator

The Dominican Republic does not have an exclusive operator of export-related finance-export credit, guarantee and insurance. Although BNVP does manage a part of export financing products, its main service is for housing loans and the portion of export-related financing is insignificant considering its total financing amount. BNVP has only two branches and does not have a systematic risk management capability. Therefore, it is too small to manage direct loans, and operates via on-lending arrangements with commercial banks, which add 3 to 5 percentage points to the interest rates. This system has serious shortcomings, such as a long span of time required for processing and an uncompetitive rate of 18% for export financing (as of mid-2008). Although a national development bank ostensibly operates this system, its terms are little better than those offered by commercial banks.

In 2007, Ban Reservas, the largest bank in the country, supported a mere 23 exporters for a total amount of US$ 100 million, which accounts for 5% of the Bank's total disbursements and 1.4% of the country's exports.

Table 4-2 | Export-related Loan Disbursement of Ban Reservas

	2005	2006	2007	2008. 5
No. of Exporters supported	18	20	23	24
Loan Disbursements (million pesos)	2,959	2,268	4,087	3,661
Export Loan Disbursements / Total Loan Disbursements	5.1	3.3	5.1	3.8

Source : BNV

Up until 2007, a guarantee program was nil, but the government of the Dominican Republic temporarily set up and operated a guarantee fund of US$ 35 million to support Zona Franca in 2007. Banco Reservas with the help of the Ministry of Finance would provide guarantees to exporters recommended by CNZFE to receive financing from commercial banks. Of the 31 exporters in Zona Franca which benefited from the program, three of them went bankrupt, and due to financial difficulties, the government of the Dominican Republic abolished the guarantee program in 2008.

With respect to insurance, an export credit insurance program to cover the political risk or credit risk of importing countries is nil, although partial insurance assistance on the damage or loss of export goods through private insurance companies is available.

C. Absence of Credit Rating and Risk Management System

Credit evaluation is essential to conducting accurate and objective analyses for optimal credit decisions. It provides information on the level of default risks that can be tolerated by financial institutions, which could be used as a benchmark for adjusting terms and conditions of loans, i.e. application of graduated interest rates and collaterals. However, most of the financial institutions in the Dominican Republic do not have a credit rating system to assess the status of exporters and companies, and they charge flat interest rates according to collateral valuation only. Moreover, the method for setting interest rates is not carefully structured to take into account credit risks; hence, preferential terms and conditions are not granted to exporters with good performance or superior clients.

〈Survey Results of the Dominican Exporting Companies on Export Financing (summary)〉

CEI-RD and Gallup jointly conducted the survey at the end of 2006 and reported the following results:

- Out of 163 exporting companies, only 52 have used export financing in the past five years. This amounts to a mere 31.9% of the total exporting companies.
- Of the 52 companies, 72% received financing from commercial banks, 11.5% from state-owned development banks, 5.8% from mortgage banks, and 13.5% from international development banks. This result suggests the need to increase the role of the government
- Complaints from the companies concerning export financing have to do with high interest rates (38%), lack of promotion programs for exports (marketing, etc.) (33.1%), insufficient export financing products (14.7%), lack of guarantee programs (11%) and lack of medium- and long-term financing (10.4%).
- The range of interest rates offered varied: 19-25% (30.7%), 14-18% (21.2%), 12% or less (11.5%), 26-30% (7.7%), 32% or above (3.8%). In other words, loans provided with the interest rate of 19% or above accounted for more than 40 % of the total.
- The time required for loan approval and disbursement processes varied: 15-30 days (25%), 15 days or less (38.5%), 30-90 days (5.8%), 90 days or more (13.5%), immediate disbursement (1.9%). In other words, for a majority of the cases, it took two weeks or more for the companies to receive financing.

2. Importance of Export Financing in Latin America

2.1. Overview

Of the 33 countries in Latin America, nine countries including Mexico, Brazil, Argentina, Colombia and Venezuela operate export credit agencies (ECAs), providing loans, guarantees and/or insurance. Six countries, including Mexico, Brazil, Argentina, Colombia and Peru, offer both direct and indirect comprehensive export credit financing. Four countries, including Mexico, Brazil and Colombia; provide guarantee services, and five countries including Argentina and Venezuela provide insurance assistance.

Table 4-3 | Financing Programs of Export Credit Agencies in Latin America

	Export Credit	Guarantee	Insurance
Mexico	O	O	
Brazil	O	O	
Argentina	O		O
Colombia	O	O	
Venezuela			O
Peru	O		
Uruguay			O
Barbados		O	O
Jamaica	O		O

Source: The Citi World Official Agency Guide 2007-8

2.2. Review of Selected Export Credit Agencies

A. Brazil

The Brazilian Development Bank (BNDES), the official Brazilian ECA, is a federal public company associated with the Ministry of Development, Industry and Foreign Trade. It was established in 1952 as a government agency in the combination form of having a development bank and an export-import bank in the same institution. In 1971, BNDES was converted into a state-owned enterprise with a total capital of R$14 billion (equivalent to US$5.7 billion).

Table 4-4 | Brazilian Exports and BNDES's Export-related Disbursements

(Unit: US$ billion, %)

Indicators	2000	2001	2002	2003	2004	2005	2006	2007
Brazilian Exports (US$ billion)	55.0	58.2	60.4	73.1	96.5	118.3	137.4	160.6
BNDES Export Disbursements (US$ billion)	3.1	2.6	3.9	4.0	4.9	5.9	6.4	4.2
BNDES Export Disbursements / Brazil Exports (%)	5.6	4.5	6.5	5.5	4.0	4.9	4.6	2.6
BNDES Export Disbursements / Total BNDES Disbursements (%)	24.5	23.5	31.5	33.1	27.9	29.6	26.6	12.4

Source : BNDES

BNDES provides both export credit and guarantee services. Pre-shipment financing is provided for the production of export goods and services, usually for a maximum repayment term of 18 months. In the case of a production cycle exceeding 12 months, however, the repayment term may be extended to 30 months. For the production of eligible export items with more than 60 percent of local content, exporters may request special pre-shipment financing up to 100 percent of the contract amount based on their previous export performance and export growth rate for the year. The repayment term for this type of financing is a maximum 18 months for small and medium enterprises and 15 months for large enterprises. Nonetheless, the term may be extended up to 30 months in consideration of export performance. BNDES also has a pre-shipment anchor company program for small and medium enterprises at a very low interest rate.

Post-shipment financing is provided as supplier's credit or buyer's credit, for which the repayment term is up to maximum 12 years. Exporters should put up collateral of either promissory notes or bills of exchange which shall be guaranteed by a foreign bank or by an export credit insurance that covers commercial, political and other risks involved. Guarantees could be provided to domestic Brazilian banks, multinational financial institutions or exporters/importers.

The amount of financial assistance provided by BNDES consistently increased each year from 2001 to 2006, accounting for 4-6 percent of the total Brazilian exports. However, exports disbursements declined in 2007 as BNDES had to meet the increasing demand for national infrastructure development plans.

As for the insurance program, SBCE, a privatized affiliate, governs short-term to long-term financing. BNDES' insurance assistance for medium- and long-term financing is guaranteed by the federal government.

B. Mexico

Bancomext, a state-owned development bank with a capital of 11 billion pesos (equivalent to US$900 million), is established for the purpose of promoting foreign trade and increasing the competitiveness of Mexican companies.

It offers a wide range of export credit facilities, including short-, medium- and long-term export credit and guarantee services. Export credit is provided as direct loan or on-lending credit through commercial bank in US dollars as well as Mexican pesos. The terms and conditions for repayment follow those set out in the OECD Arrangement on Guidelines for Officially Supported Export Credits.

In 2007, Bancomext provided a total credit of US$38 billion, a decrease by 25 percent from last year's US$51 billion. The decrease is mainly attributable to the fact that the Bank's loan policy shifted toward on-lending financing for small and medium enterprises from financing for large enterprises. In fact, financing for small and medium enterprises increased by 20.7 percent compared to the previous year.

Table 4-5 | Mexican Exports and Bancomext's Export-related Disbursements

(Unit: US$ billion, %)

	2006	2007
Mexican Exports	24,995	27,183
Bancomext's Export Disbursements	51	38

Source : Bancomext

C. Colombia

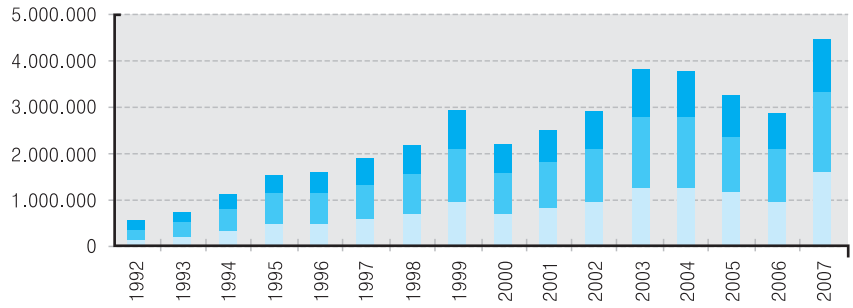
Established in 1993, Banco de Comercio Exterior de Colombia (Bancoldex) is Colombia's official export credit agency with a capital of COP 1.2 billion (equivalent to US$570 million) and a total asset of COP 500 billion (equivalent to US$2.3 billion), which places it in the top 20 financial institutions in Colombia. The Bank is affiliated with the Ministry of Trade, Industry and Tourism, which has 92% of equity interests in the Bank, and with the Ministry of Finance, which owns 7.9% of its shares.

Bancoldex provides short-term (1 year), mid-term (2-3 years) and long-term (maximum 8 years) financial assistance to exporters mostly through on-lending arrangements with commercial banks. The total disbursement of Bancoldex in 1992 was COP 50 billion (equivalent to US$ 240 million), but in 2007, it increased to COP 420 billion (equivalent to US$ 2 billion). In 2002, disbursements to small and medium enterprises were minimal (8% of the total), but they account for 55% in 2007. Most of the financing was short-term (57%) in 2002; however, demand for medium- and long-term financing increased from 43% in 2002 to 66% in 2007.

Bancoldex currently provides financial assistance for factoring, rediscount on trade bills, and pre-shipment financing. The bank hopes to expand its services to include export insurance, large-scale financing, foreign investment and M&A.

Figure 4-1 | **Export Credit Disbursements of Balcoldex**

(Unit: Million Pesos, %)



Source: Bancoldex(End of '07 : US$ 1 = COP 2,100)

D. Peru

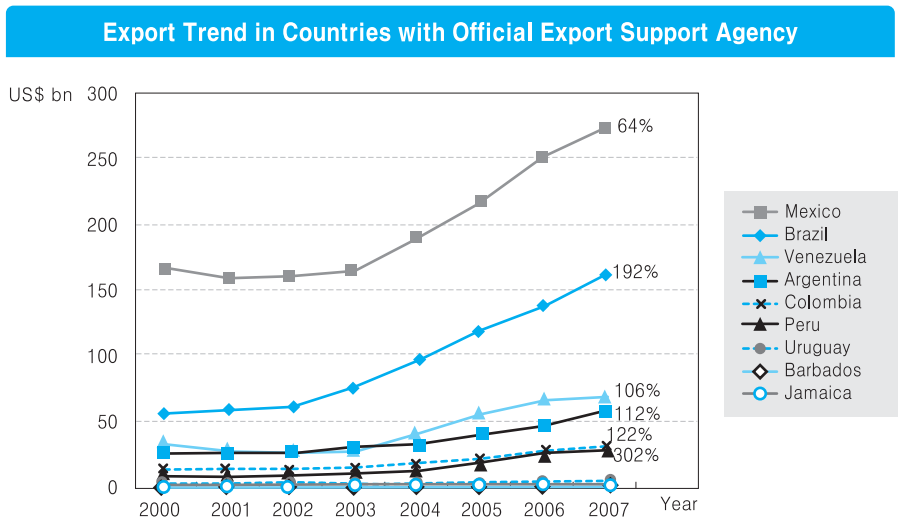
The Peruvian government provides financial assistance to its exporters through Corporacion Financiera de Desarollo (COFIDE). A mid-sized bank with a capital of US$ 500 million and U$1.3 billion in assets, COFIDE offers both short-term (1 year) and long-term (5 years or over) financing through on-lending arrangements with commercial banks, and finances up to 100% of the contract amount. About 70% of its working capital is funded through other export credit agencies, foreign commercial banks, and multilateral development banks, and another 15% through bonds issuance in local financial market. In 2007, the total credit commitment of COFIDE was US$ 960 million, up by more than 36% from the previous year.

2.3. The Impact of the ECAs

Countries operating export credit agencies have achieved stronger export growth. Mexico, the largest exporting country in the Latin American region, was able to achieve a remarkable increase in exports from US$ 170 billion in 2000 to US$ 280 billion in 2007, due in part to Bancomext' s competitive financing of export credit and guarantee to exporters. In fact, most of the countries with export credit agencies, such as Brazil (BNDES), Peru (COFIDE), Colombia (BANCOLDEX) and Venezuela (La Mundial), have doubled their export volume during the same period.

Among these ECAs, BNDES took the lead with a total credit amount of US$ 6.4 billion, which accounted for 4.2% of Brazilian exports in 2006, followed by Bancomext with US$ 5.1 billion.

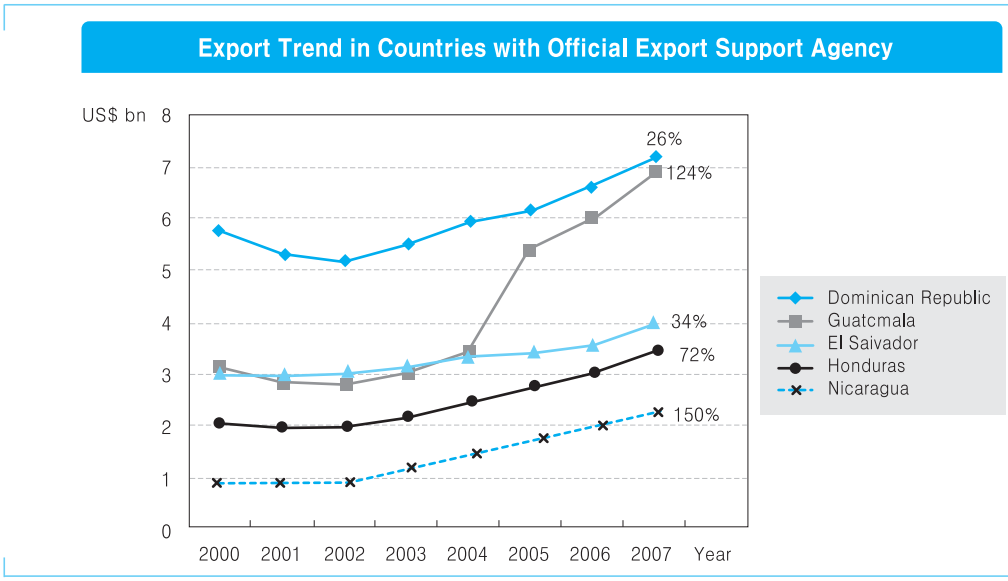
Figure 4-2 | Export Growth in Latin American Countries with ECAs



Source : EIU

On the other hand, countries like Honduras and El Salvador without export credit agencies, achieved a mere 34% and 72% increase in exports from 2000 to 2007, respectively. In particular, the exports of the Dominican Republic grew by only 26% over the same period.

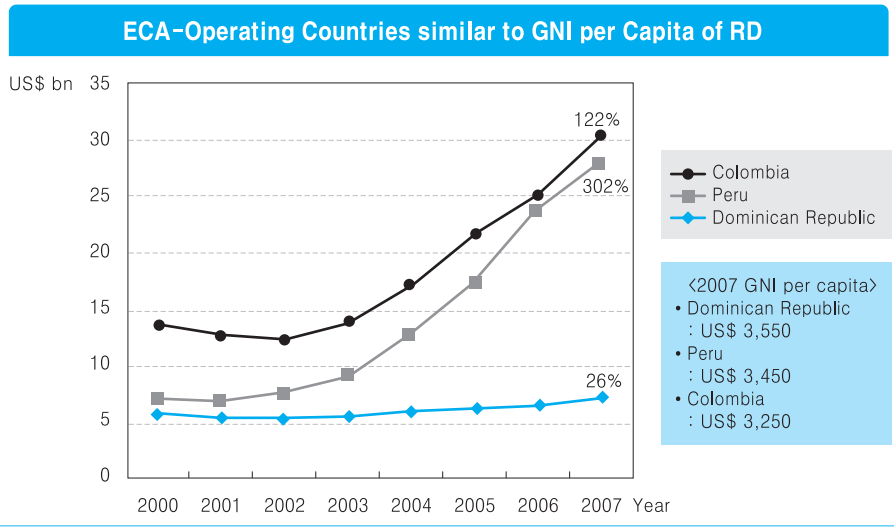
Figure 4-3 | Export Growth in Latin American Countries without ECAs



Source : EIU

Compared with countries with a similar level of GNI per capita, it is apparent that an export growth gap is widening between the Dominican Republic and countries with ECAs. Colombia' s exports increased from US$ 14 billion in 2000 to US$ 30 billion in 2007, and the growth rate of Peru' s exports has surpassed 300% over the past 7 years. Therefore, it is imperative that the Dominican Republic introduce a competitive export credit financing system to reduce the production cycle of export goods and payment collection period.

Figure 4-4 | Export Growth of Countries with similar GNI per Capita



Source : EIU

3. Korea's Export Financing System

3.1. Overview of the Korea Eximbank

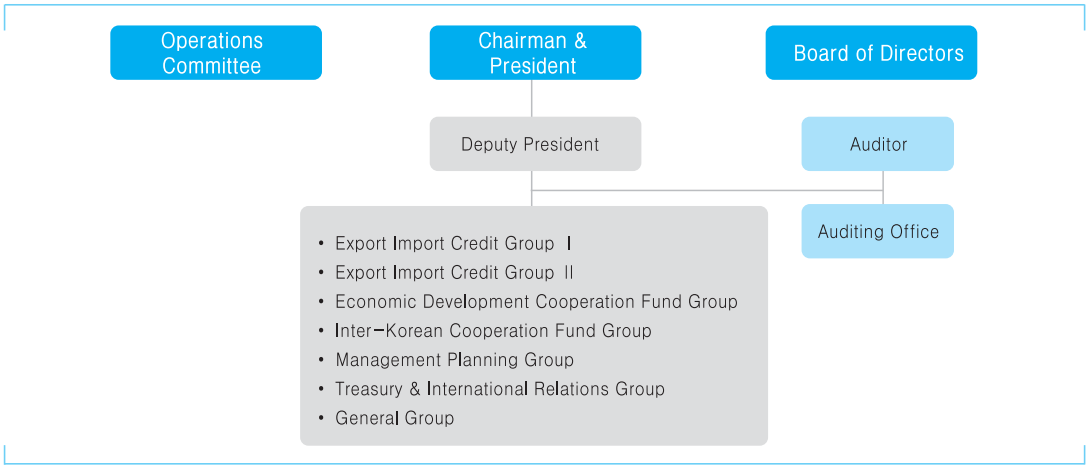
Korea established the Korea Eximbank in 1976 for the purpose of promoting Korean exports and reinforced its export financing system with an export insurance company and a credit guarantee fund. The Korea Eximbank has been a successful model for an export credit agency through the flexible operation of its credit policy and expansion of financing products in line with changes in Korea's trade profile.

A. History of the Korea Eximbank

The Korea Eximbank was established in 1976 as a special government financial institution under the 1969 Korea Export-Import Bank Act. In other words, even after the enactment of the Export-Import Bank Act, the Korea Eximbank was not established for seven years, and the Korea Exchange Bank was entrusted with export financing during this transition period. Since 1977, the Korea Eximbank provided export insurance facilities as well as export financing, but in 1992, export insurance facilities were solely assumed by the Korea Export Insurance Corporation (KEIC).

The Korea Eximbank facilitates economic cooperation by operating two government funds: the Economic Development Cooperation Fund (EDCF), which is the official development assistance program established in 1987 by the Korean government, and the Inter-Korean Cooperation Fund (IKCF), which is an economic cooperation program with North Korea launched in 1991.

Figure 4-5 | Organization Chart of the Korea Eximbank



Since the 1990s, the Korea Eximbank has diversified financial services to support Korea' s exports. By introducing comprehensive export credits in 1995, rediscounts on trade bills in 1998, and foreign exchange businesses such as forfaiting in 2001, the Korea Eximbank has actively provided extensive export credits and guarantee programs to help Korean enterprises conduct overseas businesses.

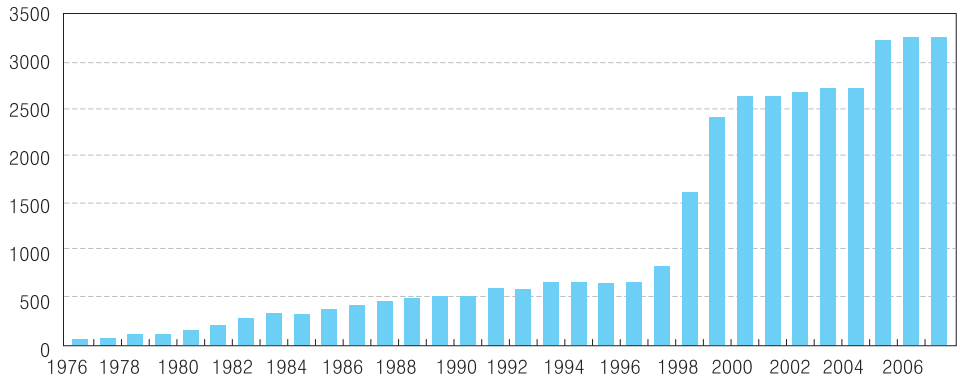
In 2005, through an amendment of the Export-Import Bank of Korea Act, the provision enabling financing by investment in shares for overseas projects was added and the prohibition of financing for a period of less than 6 months was eliminated.

B. Financial Status of the Korea Eximbank

The Korea Eximbank was launched with paid-in capital of KRW 65 billion financed from the capital subscription of the government and its agencies, which is the main source of financing as a special government bank. The paid-in capital of the Korea Eximbank has increased continuously since 1997. It exceeded KRW 1 trillion in 1998, KRW 2 trillion in 1999 and KRW 3 trillion in 2005.

Figure 4-6 | Paid-in Capital Trends of KEXIM (year-end)

(Unit: KRW billion)



Source : Korea Eximbank

As of the end of 2007, the paid-in capital of the Korea Eximbank amounted to KRW 3,309 billion. The Korea Eximbank is owned by the Government of the Republic of Korea, the Bank of Korea, and Korea Development Bank with 60.15%, 35.21% and 4.64% of shares, respectively.

Table 4-6 | Paid-in Capital Composition of KEXIM

(Unit: KRW billion)

Year	Government of Korea	Bank of Korea	Korea Development Bank	Total amount (year-end)
2000	-	200	-	2,676
2005	520	-	-	3,296
2007	3	-	-	3,309
Total amount (as of end-2007)	1,990	1,165	154	

As of the end of 2007, total assets of Korea Eximbank amounted to KRW 23,639 billion with total liabilities of KRW 18,704 billion and total equity of KRW 4,936 billion. The BIS ratio of Korea Eximbank was 11.0% with a credit rating of A from S&P, Aa3 from Moody's, and A+ from Fitch.

Table 4-7 | Financial Status of KEXIM

As of the end of 2007

Total Assets	Total Equity	Paid in Capital	BIS Ratio
KRW 23,639 billion	KRW 4,936 billion	KRW 3,309 billion	11.0%

Nate : audited & non-consolidated basis

3.2. Functions of the Korea Eximbank

The Korea Eximbank's mission is to promote sound development of the national economy and economic cooperation with foreign countries. To achieve its goals, especially as an export credit agency, it supports Korean companies to gain a competitive edge in the global market. After providing medium and long-term credit for HCIs, the Korea Eximbank continued to introduce new financing programs and increased customer orientation of existing programs.

Before the 1990s

As a government institution, it responded to various government policies to support Korean exporters. Before the 1990s, the Korea Eximbank's main policy objective was to improve the trade balance by fostering domestic industries. During this period, the bank's services focused on heavy and chemical industry exports by providing deferred payment-based supplier credit, overseas investment, and overseas resource development.

From the 1990s to the financial crisis in 1997

In the 1990s prior to the financial crisis, the Korea Eximbank went through a period of maturation by diversifying its services to support Korean exporters to compete in the global

market. It began to provide short-term trade financing and support new industries, such as electronics. During this period, the overall business volume increased at an unprecedented rate.

After the financial crisis in 1997

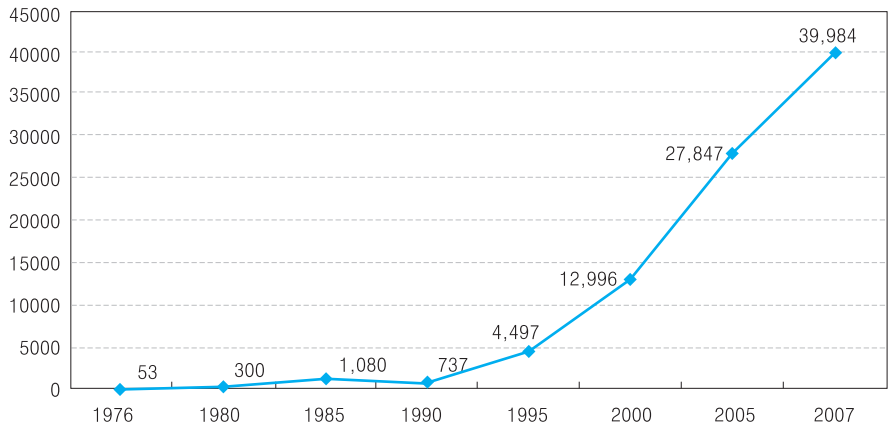
After the financial crisis in the late 1990s, the Korea Eximbank made efforts to assist in the recovery of the Korean economy from economic turmoil.

First, it extended its business line further to provide SMEs with easy access to export financing and expanded project-related guarantee services. In order to help increase the liquidity for commercial banks engaged in trade financing, the Korea Eximbank introduced the rediscounting of trade bills. In addition, many efforts were made to facilitate foreign buyers' access to the bank' s financial services, including project financing, framework agreements (i.e., co-financing arrangements with other export credit agencies), interest rate support and various types of line of credits.

As a result, the volume of disbursement increased sharply during this period. It more than tripled from KRW 13 trillion in 2000 to KRW 40 trillion in 2007. The increase is mainly due to the expansion of short-term loans; the increase of guarantees is largely related to the expansion of advance payment bonds for ships after the Asian financial crisis in 1997.

Figure 4-7 | Disbursement Volumes of Loans and Guarantees (for the year)

(Unit: KRW billion)



In 2007, the Korea Eximbank provided a total credit amount of KRW 39,984 billion (KRW 19,446 billion in loans and KRW 20,520 billion in guarantees), equivalent to USD 42,617 million, a 30.0% increase from the previous year. This was the highest amount recorded since the bank' s establishment.

Export Credit took the largest share with KRW 13,679 billion, or 70.3% of total loan disbursements. Overseas Investment Credit and Import Credit, the other two major financing programs, accounted for 15.3% and 14.4%, amounting to KRW 2,976 billion and KRW 2,808 billion, respectively.

Table 4-8 | Disbursement Volume for the Year

(Unit: KRW billion)

	1976	1980	1985	1990	1995	2000	2005	2007
Disbursement	53	300	1,080	737	4,497	12,996	27,847	39,984
Loans	53	300	861	731	4,049	8,096	15,071	19,464
Guarantees	-	-	220	7	448	4,901	12,776	20,520

Source : Korea Eximbank

3.3. Financial Services of the Korea Eximbank

A. Export Credit

(a) Short-term loans

■ **Comprehensive Export Credit**

A Small Business Export Credit is extended to SMEs that manufacture export products or supply materials to primary exporters. This small business export credit is provided based on past performance.

It covers up to 90% of the company' s 6-month export performance (100% for venture companies), with a repayment term of 6 months, or 50% of the company' s 2-year export performance, with a repayment term of 1 year.

■ **Special Credit Loan**

A Special Credit Loan is extended to SMEs that do not have high credit ratings or collateral after a simplified test evaluating less than 10 factors such as the company' s performance, exporting ability, and the security of the export contract.

It covers up to 90% of the contract value less previously received amounts, with a repayment term of up to 15 days after the last payment date of the export contract (within 6 months). It has a limit on the loan amount of USD 20 million and does not require collateral unless the loan amount exceeds this limit.

〈 Case Study: Special Credit Loan 〉

■ Background

Company 'A', the borrower, was established in 2002. Its main business is semiconductor testing, program development, and manufacturing of semiconductor parts. Company 'A' has just started exporting goods as a supplier of Hynix Semiconductor, Inc., an internationally known semiconductor manufacturer. Even though Company 'A' has a short business history and small sales volume, it was thought to be a promising exporter as evidenced by its ISO-9001 certification.

Unlike the non-memory semiconductor sector, the memory sector does not rely heavily on outside orders in Korea. However, Company 'A' anticipated that the level of reliance on outside orders would increase as the memory semiconductor evolves into the system of horizontal division of labor, and entered the business by establishing a test facility (wafer and packaging).

Company 'A' is a technology-driven company. The CEO of Company 'A' was formerly head of the technology team at Hynix Semiconductor, Inc., and the company was continuously trying to focus on R&D activities by establishing a research institute. Anticipating an increase in orders from Hynix and other semiconductor manufacturers, Company 'A' was planning to expand its facilities. Therefore, the demand for funds was increasing.

Before coming to the Korea Eximbank, Company 'A' had been trying to obtain the funds for its exports, but a majority of financial institutions were reluctant to extend loans without collateral because (1) the borrower had short experience, and (2) it was difficult to get financial information from credit-rating agencies as the sales volume of the borrower was less than USD 5 million.

At first, the Korea Eximbank also thought it would be difficult to extend the loan for the same reasons, but loan officers visited the sites of Company 'A' to see if it was possible to extend the newly introduced 'Special Credit Loan'. After a careful investigation, the Korea Eximbank concluded that Company 'A' had the potential to be a reliable exporter because it had (1) high-tech testing facilities, and (2) various technical certificates.

■ Current Situation

The Korea Eximbank had a good reason not to extend the loan because the export deal was not on L/C basis. However, the bank decided to support Company 'A' after securing the loan in creative ways. The Korea Eximbank made an agreement for account management with another commercial bank with which Company 'A' had an account and secured the payments from Hynix as repayments for the loan.

The Korea Eximbank has already extended the 'Special Credit Loan' to Company 'A' six times and the loan amount has increased to USD 420,000 from the initial USD 200,000. As a result of the financial support from the Korea Eximbank, Company 'A' struck a long-term supply contract with Hynix on better terms.

As the sales volume is estimated to be about USD 10 million in 2007 (104% increase from the previous year) and its credit rating is likely to improve, Company 'A' is expected to graduate from Special Credit Loan and move onto Export Loan with more preferable conditions.

As this example illustrates, the Korean Eximbank accumulated the experience and confidence that it could support SMEs without a significant amount of collateral and a high credit rating. This new loan scheme not only helps SMEs in need of funds, but also contributes to extending the bank's range of business in a creative way.

■ Short-term Trade Finance

Short-term Trade Finance is provided to Korean exporters manufacturing export goods under short-term export contracts (production and repayment period of less than 2 years).

It covers up to 100% of the export contract value less amounts received by the borrower, with a repayment term of up to 30 days after the final payment date specified in the export contract.

Figure 4-8 | Short-term Finance

(b) Medium & Long-term Loans

■ Pre-shipment Credit

Pre-shipment Credit is a type of export loan extended to exporters or manufacturers of export products prior to delivery. To be eligible for this loan, the contract must have a minimum foreign exchange earnings ratio (foreign exchange earnings/contract value) of 25% and a cash payment of no less than 15% of the contract value (20% for ships).

It covers up to 90% of the export contract value less the received cash payment, with a repayment of up to 30 days after the actual delivery date of the export contract.

Figure 4-9 | Pre-shipment Credit

■ Direct Loans

A Direct Loan is an export credit service allowing foreign buyers to purchase Korean goods and services with a repayment term of 12 years more. It is provided on a project-by-project basis or line of credit, which is established between the Korea Eximbank and foreign buyers.

■ Project Financing

Project Finance covers large-scale projects and is extended to foreign project companies importing plants, facilities, and technical services from Korea, or in which a Korean company has an equity share. Repayment of financing mainly depends on cash flows of the project company with limited recourse to the sponsors.

■ Structured Financing for Ships

Structured Finance for Ships is extended to foreign shipping companies, mainly special purpose companies (SPCs), which intend to buy shipping vessels from Korean shipyards. Repayment of financing usually depends on cash flows generated by the respective shipping vessels during the loan period, often with limited recourse to the parent companies of SPCs.

■ Inter-bank Export Loans

An Inter-bank Export Loan (IEL) is a form of Inter-bank Export Credit (IEC) in which a line of credit is extended to a creditworthy bank in a foreign country. IEL consists of letter of credit (L/C) confirmations, guarantees, and direct loans to the importer with the guarantee of a foreign bank.

B. Structured Trade Finance

■ Export Factoring

Export factoring is a form of trade financing provided by purchasing trade bills which occurs from open-account export transactions on credit (including transactions on D/A basis), on a non-recourse basis. Open-account export transactions are transactions in which the exporter dispatches shipping documents after sending the export items, and the foreign buyer remits the payment for the items directly to the exporter's account after a certain period of time. "Non-recourse basis" means the exporter is not responsible for the payment even when the foreign buyer fails to fulfill its debt obligation for its financial difficulties.

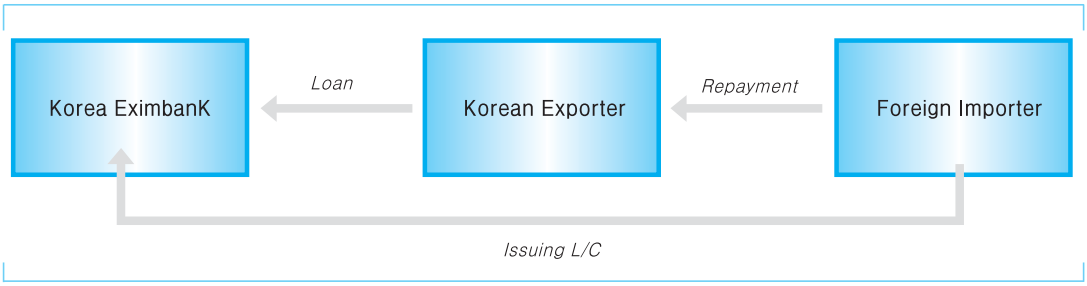
Advance payment for the Purchase of Trade Receivables is 80 to 100% of the export amount with the discount fee of "Libor + 0.50% to 1.00%" and a factoring fee of 0.40% to 0.80% of the trade bill amount.

■ Forfaiting

Forfaiting is a form of trade financing offered to Korean exporters in which the Korea Eximbank discounts trade bills from export transactions on a non-recourse basis.

It covers up to the face value of trade bills (US$10,000 to US$20,000,000) with a repayment term of 2 years maximum and the discount rate of Libor + margin.

Figure 4-10 | Forfaiting



■ Rediscount on Trade Bills

Rediscount on Trade Bills offers financing to domestic commercial banks in the form of discounts on promissory notes issued by the respective commercial banks. The rediscount on trade bills is based on the performance of eligible instruments for Korean exporters.

It covers up to the face value of trade bills with a repayment term of 6 months maximum. The Rediscount rate is calculated as the base rate + margin for KRW and Libor + margin for foreign currency.

Figure 4-11 | Rediscount on Trade Bills

C. Import Credit

Import Credit is extended to Korean importers of essential materials, major resources, and high-technology materials, in order to ensure reliable and timely supply for the stability of the national economy. The funds provided by the Korea Eximbank through the import credit must be used towards up-front payment of bills of exchange for essential imported goods.

D. Overseas Investment Credit

■ Overseas Business Credit

Overseas Business Credit is extended directly to foreign companies in which a Korean company has an equity share in the form of funds for purchasing equipment and/or working capital.

■ Overseas Investment Credit

Overseas Investment Credit is provided to Korean overseas investment companies in the forms of capital subscription, acquisition of stocks, and long-term credit. This credit is extended when prospective projects are deemed to contribute to the development of the national economy and promotion of economic cooperation with foreign countries concerned.

■ Overseas Project Credit

Overseas Project Credit is provided to Korean companies engaged in business outside Korea. To be eligible for the credit, most of the materials required for installing, expanding, and operating equipment or facilities abroad must be procured from Korea. Under this program, credits can also be extended to overseas subsidiaries of Korean companies undertaking overseas projects.

E. Natural Resources Development Credit

Financing for Natural Resources Development is provided to Korean companies (or foreign companies in which a Korean company has an equity share) conducting investment projects overseas for natural resources development.

F. Guarantees

■ Financial Guarantees

The Korea Eximbank provides repayment protection to Korean commercial banks, local branches of foreign banks, and foreign banks participating in transactions financed by the Korea Eximbank.

■ Project-related Guarantees

The Korea Eximbank provides a foreign importer with a 100% guarantee that a Korean exporter will fulfill the obligation of a contract. Project-related guarantees include Bid Bond, Advance Payment Bond, Performance Bond, and Retention Bond.

3.4. Key Features of the Korea Eximbank

A. High Impact and Efficiency

In comparison with other export credit agencies in OECD countries, the Korea Eximbank receives a low level of financial support from the government. However, it has outperformed in many areas including total loan commitment, operational efficiency, and product variety. The bank came in second out of 11 ECAs for providing the greatest amount of financing relative to the country' s trade volume. Since its establishment in 1976, the Korea Eximbank has been making a strong contribution to Korea' s exports.

Table 4-9 | ECA' s Contribution to Trade

(Unit: US$ billion)

Rank	Country	ECA	Trade Volume (A)	Total Loan Commitment (B)	Contribution (B/A)
1	Canada	EDC	8,346	793	9.50%
2	Korea	Korea Eximbank	7,265	545	7.50%
3	Austria	OeKB	3,270	181	5.54%
4	Slovakia	Eximbank SR	1,187	41	3.45%
5	Japan	JBIC	13,361	147	1.10%
6	Mexico	Bancomext	5,236	39	0.74%
7	Czech Republic	CEB	2,408	13	0.54%
8	Hungary	Hungarian Eximbank	1,899	8	0.42%
9	USA	US EXIM	31,800	126	0.40%
10	Sweden	SEK	3,208	9	0.28%
11	Australia	EFIC	3,121	5	0.16%

Source : IMF Trade Statistics by Countries (Trade Volume), Annual Reports (Total loan commitment)

The Korea Eximbank took the lead among 11 ECAs in operational efficiency, recording US$78 million for total loan commitment per person. Canada EDC came in second with US$ 74 million, and Mexico Bancomext was the lowest with US$ 5 million per person.

Table 4-10 | OECD ECAs' Total Loan Commitment per Person

(Unit: US$ million)

Rank	Country	ECA	Total Loan Commitment	No. of Employees	Total Loan Commitment per person
1	Korea	Korea Eximbank	54,499	703	78
2	Canada	EDC	79,257	1,073	74
3	Austria	OeKB	18,132	365	50
4	Slovakia	Eximbank SR	4,089	91	45
5	USA	US EXIM	12,570	365	34
6	Japan	JBIC	14,680	869	17
7	Czech Republic	CEB	1,322	116	11
8	Hungary	Hungarian Eximbank	789	100	8
9	Australia	EFIC	486	70	7
10	Sweden	SEK	888	150	6
11	Mexico	Bancomext	3,890	779	5

B. Concentrated Support of Key Industries

Since its establishment in 1976, the Korea Eximbank has contributed to Korea's export growth by concentrating its support on strategic industries such as shipbuilding and industrial equipment. It has helped to improve Korea's export structure and current account, accelerating the nation's economic advancement and globalization. The Korea Eximbank's contribution to exports (as measured by the total loan commitment divided by the export volume) increased from 3.0% in 1995 to 15.6% in 2006. Its contribution to exports in the shipbuilding sector was as high as 63.4%, and played a decisive role in Korea's global leadership in the shipbuilding industry since 1999.

Table 4-11 | Korea Eximbank's Contribution to Ship Exports

(Unit: US$ million)

	2002	2003	2004	2005	2006
Order Amount (A)	10,043	23,985	30,173	28,410	46,320
Korea Eximbank Support (B)	9,453	19,144	24,192	21,800	29,384
Contribution (B/A)	94.1%	79.8%	80.2%	76.7%	63.4%

Source : Korea Eximbank

The Korea Eximbank' s contribution to industrial equipment exports exceeds 40% as of end-2006. The bank played a significant role in upgrading Korea' s export profile by supporting the export of large-scale industrial equipment such as petrochemical and power plants. At the same time, SME support accounts for 26% of total financing provided by the Korea Eximbank. The bank contributes significantly to the development of industries and economy overall.

The Korea Eximbank is trying to develop various types of financing to support the government policy of promoting new engines of growth, which include green energy, nuclear power, cultural and knowledge services and defense-related services.

C. Policy Consultation with Developing Countries

Lastly, the Korea Eximbank has been active in sharing Korea' s economic development experience with developing countries such as Vietnam. In 2005, Korea Eximbank has carried out a Knowledge Sharing Program (KSP) project on establishment of an export-import bank at the request of the Vietnamese government. The bank trained local officers from the Ministry of Finance (MOF), the Ministry of Planning and Investment (MPI) and the Development Assistance Fund (DAF) on establishing the export-import bank. In 2006, the Vietnamese government has expanded and modified its DAF and established the Vietnam Development Bank (VDB) as a result of this policy consultation that covered legal and regulatory issues as well as operational and administrative matters. Through successive KSP assignments,

continuous consultation has been provided on the application of credit assessment system and the development of financing products. This program has played a great role in expanding the bilateral economic cooperation between Korea and Vietnam.

〈Progress of the Korea Eximbank's Support for Vietnam〉

Dec. 1999	The Vietnamese government established the Development Assistance Fund (DAF).
Aug. 2004	The Vietnamese government requested the Korea Eximbank's support to develop export credit
May. 2005	Trained public officers of the Ministry of Finance
Nov. 2005	Trained public officers of DAF, MOF, MPI, etc.
Dec. 2005	Presented a policy report on "establishing Vietnam Eximbank"
May. 2006	The Vietnamese government established the Vietnam Development Bank (VDB).
Sep. 2006	The Vietnamese government asked for KEXIM°Øs support on making rules and regulation for the export credit agency.
Sep. 2006	Trained loan officers of VDB
Nov. 2006	Trained loan officers and risk managers of VDB
Mar. 2007	The Vietnamese government asked for KEXIM's support on the operation of ECA
Oct. 2007	Trained loan officers of VDB
Jul. 2008	Trained risk managers of VDB

4. Export Financing Activation Plan for the Dominican Republic

4.1. Overview

The Dominican Republic is facing a slowdown in its export growth due to the weakening of its export industries; whereas, a number of countries in Latin America are enjoying high export-led growth by promoting new export industries and operating export credit agencies. It is high time for the Dominican Republic to strengthen its policy measures for export promotion. In the long term, it may be desirable to promote key industries such as bio-energy, IT and medical services to gain global competitiveness, but this will take a significant amount of time.

Therefore, it seems optimal in the short term to expand financial assistance and reduce the time required to produce export goods and to collect payments. Accordingly, it is recommended that the Dominican Republic adopt a two-stage plan to strengthen its export financing system: (1) a short-term plan for setting up an export fund, expanding functions of BNVP, diversifying financing products, and shifting away from the current collateral-based system; and (2) a long-term plan to establish an export-import bank by benchmarking such countries as Korea and Vietnam.

4.2. Short-term Measures

A. Set up an Export Fund

As stated in the national development plan of the Dominican Republic, *Plan Nacional de Competitividad Sistematica de la Republica Dominicana,* the government plans to diversify its textile-oriented industrial structure to include medical services, bio-industry and IT to encourage exports and activate export financing by strengthening its policy support for development banks.

Exporters are unable to benefit from the current on-lending arrangements as they pay margins to commercial banks based on their deposits. Credit guarantees and loans provided on a collateral basis are also too expensive and cumbersome in terms of rates offered and procedures involved to enhance exporters' competitiveness. Therefore, it seems necessary to set up an export promotion fund to support key industries and main export products through financial support from the government.

The Vietnamese model, for which the Korean government provided continuous consultation, is an exemplary case for creating and operating a successful export promotion fund. The Vietnamese government established the Development Assistance Fund (DAF) with US$ 30 million in 1999 to provide short-term export financing for agricultural products, electronic products, medical equipment, and handcrafts. The total loan disbursement was less than US$ 1 million until 2001, but skyrocketed to US$ 65 million in 2005.

As a result of the successful and effective operation of the DAF, the Vietnamese government established the Vietnam Development Bank (VDB), the main financial institution for export

Table 4-12 | **Vietnamese Exports and the DAF's Export-related Disbursements**

(Unit: US$ million)

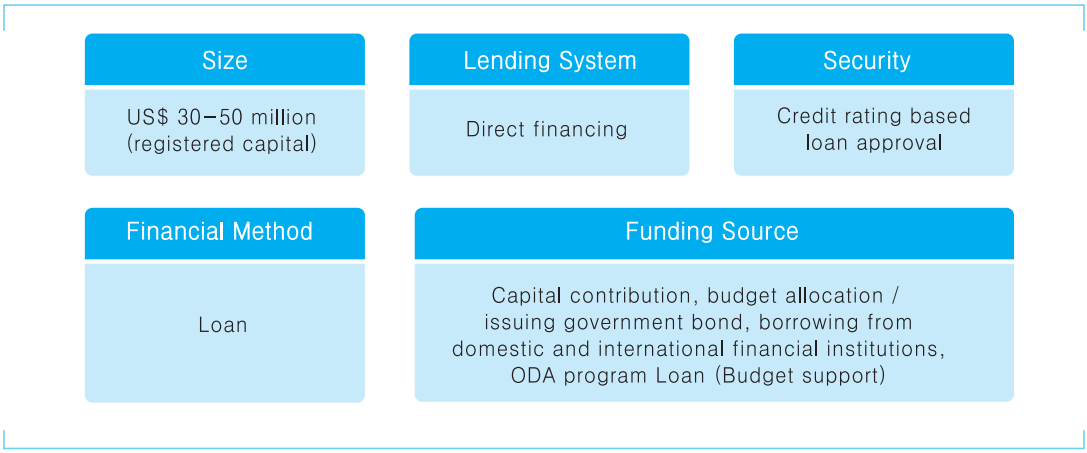
	2002	2003	2004	2005	2006	2007
Vietnamese Exports	16,706	20,149	26,485	32,442	39,797	49,962
DAF Disbursements	1.8	38.1	61.4	65.0	49.9	57.2

Source : DAF

financing, and expanded the organization to provide medium- and long-term financing.

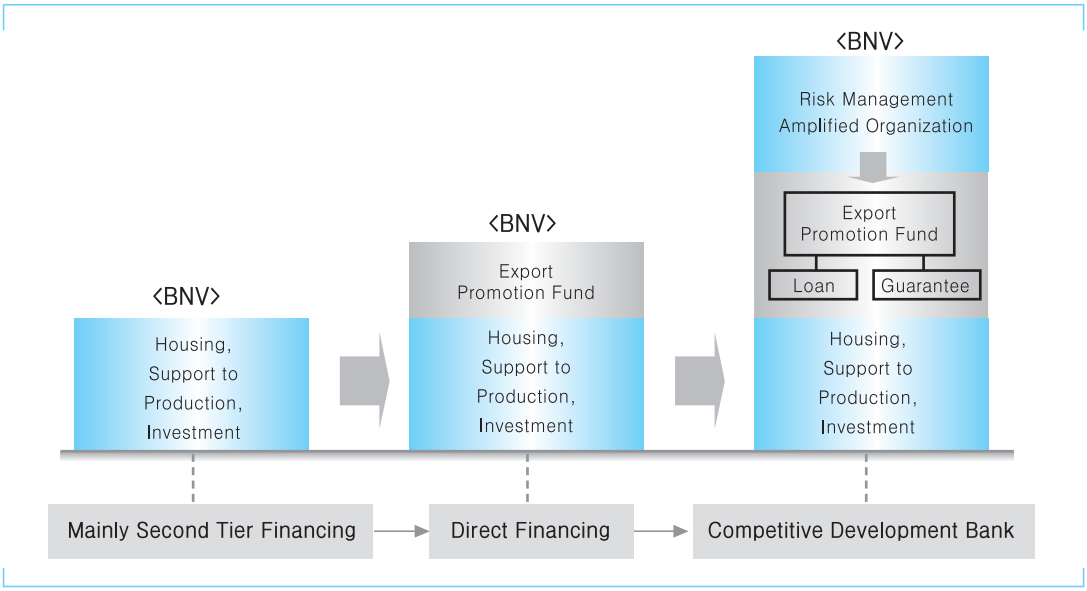
Given the size of the Korea Eximbank' s paid-in capital at the time of its establishment (Korea' s export volume was US$ 10 billion then.) and the DAF of Vietnam as well as their key items of support, US$ 30-50 million would be an appropriate size for an export promotion fund for the Dominican Republic. The administration of the Dominican Export Fund (DEF) should be entrusted to BNV, which already performs its role as a policy-oriented financial institution supporting housing construction and productive investment. Annual working capital could be funded through capital subscription from the government (incorporated into government budget), local/global bond issuance, ODA program loan (budget support), and borrowing from multilateral development banks. The maximum expected size of the Dominican Export Fund which is US$ 50 million (0.1% of GDP) seems attainable with effective government policy.

Figure 4-12 | Overview of the Dominican Export Fund



In order to develop as a competitive financial institution focused exclusively on export, BNV will need to expand its branch network to all provinces from the current two branches in Santo Domingo and Santiago, and enhance its financial services to offer direct financing on a credit basis by strengthening its credit rating and risk management system. Through direct financing, BNV will be able to provide export financing at a lower rate since it will be able to cut back on margins paid to commercial banks under the current on-lending arrangements.

Figure 4-13 | Changes in the Function of BNV



B. Introduce Various Export and Import Financing Products

Because most of BNV' s export financing is short-term and provides for export transactions of 6-month period on average, it is difficult to fully support various export activities. Instead of supporting a very narrow range of export activities, the export promotion fund should expand its coverage, for example, by establishing credit based on the borrower' s previous export performance or extending credit for the purpose of securing long-term supplies of raw materials used to make export products.

Below are a few types of financing products offered by the Korea Eximbank that are highly recommended to BNV.

(a) Comprehensive Export Loan

- Purpose : loan extended to exporters manufacturing and exporting goods based on their previous export performance
- Repayment term : 6-12 months
- Loan amount : up to 90% of 6-month export record or 50% of 2-year export record

(b) Import Financing (for materials to be used for producing export goods)

- Purpose : loan extended to exporters to secure supplies of raw materials used to make export products
- Repayment term : up to 6 months

- Loan amount : up to 80% of account settlement of import goods

(c) Purchase of Export Bill

- Purpose : loan extended to exporters for financing short-term export-accounts receivables by discounting and purchasing documentary export bills of less than one year account settlement period which are issued for export transactions under a letter of credit or in forms of D/A, D/P, or O/A.
- Repayment term : up to 12 months
- Loan amount : based on the amount of export bills

The Korea Eximbank also provides financing to small and medium-sized enterprises with a low credit rating and insufficient collateral. This Special Credit Loan is available for export items selected as a potential driving force of industrial growth. It is provided solely based on the SME' s stable and regular export transactions and reliable delivery records and not on its credit rating. The repayment term is the period between the first loan disbursement and export account settlement, which cannot exceed 6 months. The loan amount is up to US$ 100,000 and within 100% of SME' s capital, and can be increased up to US$ 300,000 if the export transaction is under a letter of credit. When the Dominican Export Fund is established and key export items are chosen, this particular financing product seems quite useful given limited funds available.

C. Introduce a Credit Assessment System

Introduction of credit assessment system will facilitate credit-based financing and enable BNVP to offer interest rates and credit limits according to the credit rating of exporters. In short, exporters in good credit standing are likely to use financing on preferential terms and conditions, which would motivate exporters to improve their financial soundness to enhance their credit status.

BNVP does not have a credit assessment system at present. Given the financial environment of the Dominican Republic characterized by collateral-based financing and unreliable financial statements, it will take time for the credit assessment system to settle in, but the government should push ahead with implementing an assessment system which reflects both qualitative and quantitative aspects of exporters. Along with the plan, BNVP should establish a credit assessment task force and train in-house credit assessment personnel.

D. Increase Credit Limits

Many exporting companies in the Dominican Republic identified low credit limits as a major source of complaint. Although the credit limit is primarily dependent on the financial resources of BNVP, it should be increased for exporters deemed to have good credit, exporters that can put up collateral or those who demonstrate high growth rates in exports. For example, the

amount that is included in the calculation of the credit limit may be reduced by a half of the loan amount when an exporter puts up collateral whose market value is equivalent to the loan amount. Moreover, if an exporter is deemed to have good credit or demonstrates a high export growth rate (on average 20% or more), the credit limit should be increased up to a certain amount.

〈Credit Limit Management of the Korea Eximbank〉

(a) credit limit (external) : up to 40% of the Bank's capital
- for business group affiliates as a whole : up to 50% of the Bank's capital

(b) credit limit (internal) : exporter's capital x weighting factor
- weighting factor : 15-100%, depending on exporter's credit status
- higher the credit status, higher the weighting factor
- The amount of financing provided on a collateral basis is excluded (e.g. Of the $100 loan amount, $50 is provided on a credit basis and the other $50 on a collateral basis.)

E. Grant Preferential terms and conditions for financing

Terms and conditions for financing of BNVP - credit limit, repayment term, interest rate, etc.- are currently similar across all types of financing. However, exporters with high export growth, good credit status, or strategic importance promoted by the government should be granted preferential terms and conditions. The Korea Eximbank gives additional scores in credit rating assessment to exporters with a great potential, ISO certification, or newly developed products/technology. A better credit standing will allow an increased credit limit and a low interest rate for exporters, which will motivate exporters and ultimately increase exports.

F. Choose key industries and items in cooperation with other institutions

It is important to identify through an in-depth analysis key industries and items with a high growth potential in order to increase the effectiveness of the Dominican Export Fund. Key industries and items should be chosen through a close consultation process among BNVP, CEI-RD, CNZFE, the Ministry of Finance, and the Ministry of Economic Development. In Vietnam, the Ministry of Finance, the Ministry of Trade and VDB worked together and chose to support agricultural products (coffee, sugar, tea, pepper, etc.), handicrafts (silk, furniture, etc.) industrial products (engines and ships), and computers and software.

4.3. Long-term Proposal: Dominican Export-Import Bank

If the Dominican Export Fund is successfully operated through BNVP, it is recommended that the government of the Dominican Republic expand this fund and establish a full-fledged export credit agency, i.e., an export-import bank.

A. Justifications for an Export Credit Agency (ECA)

The conventional concept of export credit is defined as an export loan, guarantee or insurance provided by a government for the policy objective of promoting exports and complementing commercial finance. An ECA should serve as a risk-taker of last resort, providing risk coverage that the commercial market will not.

The justifications for an ECA include market failure, economic development of developing countries, and response to export financing of competitor countries. Currently, 70 countries worldwide are operating export credit agencies, of which 27 are OECD countries. According to the level of economic development of the countries, the type of financial assistance provided by an ECA changes from short-term oriented export credit/direct financing to medium- and long-term comprehensive and indirect financing. A country without an ECA places its exporters at a serious disadvantage.

B. ECA Models

There is no archetypal export credit agency. ECAs are different in terms of size and structure. For example, an ECA may be a government department, public corporation, or private company linked with the government on parts of its business. Some ECAs provide only short-term financing, some only medium- and long-term financing, and others may provide both. ECAs may only insure, guarantee or lend, or do all. Some are called insurance corporations and others export-import banks.

However, in terms of institutional design, there are primarily two types of ECAs in major countries: (1) a single integrated entity providing both credit and insurance services, or (2) two separate entities providing either credit or insurance services. The integrated model tries to maximize synergy between credit and insurance services by pooling information and resources; whereas, the separated model recognizes fundamental differences between credit and insurance services and tries to minimize conflict by opting for specialization.

The case for the integrated model is straightforward. An integrated export credit agency can create a synergetic effect for credit and insurance, since it can effectively collect market information and perform due diligence. It can further enhance efficiency by utilizing facilities

and personnel to perform multiple tasks, which would ultimately reduce administrative and related costs. Moreover, an integrated agency allows a one-stop service that would provide customer convenience and reduce transaction costs that would otherwise overlap.

The case for the separated model is somewhat more complex. There are fundamental differences between export credit and insurance services. Export credit services, involving loans and guarantees, are extensions of traditional banking operations, which are characterized by their conservative corporate culture. Insurance operations, in contrast, make every effort to enlarge the customer base as they must rely on the law of large numbers to make insurance work. Accordingly, there may be a clash of corporate cultures if the risk-averse credit services and the risk-taking insurance operations are under a single management. Moreover, if the integrated agency has only limited capacity to deal with problems arising from asymmetric information, its aggressive pursuit of insurance customers may exacerbate adverse selection and moral hazard and produce a serious collateral damage for the credit operations as well. Accordingly, unless an export credit agency can reconcile conflicting corporate cultures and contain problems arising from asymmetric information, the adoption of the integrated model may not be a wise choice.

Table 4-13 | ECAs in Major Countries

Category	Korea Eximbank	US EXIM	Japan JBIC	Canada EDC
Year of Establishment	1976	1934	1950	1944
Purpose	Promote national economic development and foreign economic cooperation by providing financing for trade, foreign investment and foreign resources development	Create jobs via assisting in export and import financing	Promote development and procurement of natural resources, maintain and enhance global industrial competitiveness, defend against global financial disorder	Enhance capability of Canada through direct and indirect financing of foreign export transactions
Supervisory Ministry	Ministry of Strategy and Finance	Department of Treasury, Department of Commerce, US Trade Representative	Ministry of Finance	Ministry of Foreign Affairs and Foreign Trade
Organization	7 divisions, 13 departments, 14 offices, 1 research center, 11 local branches, 12 rep. offices, 4 subsidiaries	3 divisions, 7 departments, 30 offices(teams), 5 regional HQs, 3 branches	16 departments, 5 offices, 1 local branch, 20 rep. offices	8 divisions, 19 departments, 13 local branches, 9 rep. offices

Category	Korea Eximbank	US EXIM	Japan JBIC	Canada EDC
No. of Employees (2007)	703	365	865	1,073
Source of Funding	Capital, Borrowing	Capital, Equity Contribution, Borrowing	Capital, Borrowing	Capital, Borrowing
Budget Support (2007)	16%	100%	88.6%	100%
Main Services	Loan, Guarantee	Loan, Guarantee, Insurance	Loan, Guarantee, Capital Investment	Loan, Guarantee, Insurance, Capital Investment
Total Commitment (2007)	US$ 54.5 billion - Loan: US$ 24.5 billion - Guarantee: US$30 billion	US$12.6 billion - Loan: - Guarantee: US$9 billion - Insurance: US$3.6 billion	US$14.3 billion - Loan: US$9.8 billion - Guarantee: US$4.5 billion - Investment:	US$79.4 billion - Loan: US$12.8 billion - Guarantee: US$3.1 billion - Insurance: US$63.3billion - Investment: US$0.2 billion
SME Financings	16%	26.7%	24.2%	2.3%

C. Major Issues in Establishing an ECA

(a) Enactment of law

Almost 70 countries including Korea are operating ECAs, most of which were established through a special law enactment. The chart below is a summary of the Export-Import Bank of Korea Act. It may serve as a useful reference when establishing an export-import bank of the Dominican Republic.

〈The Main Contents of the Export-Import Bank of Korea Act of July 1969〉

1. Purpose

- Providing medium- and long-term export financing to promote foreign economic exchanges by developing foreign markets and trade

2. Character

- Juristic person wholly contributed by the government to which the provisions of the Bank of Korea Act and the Banking Act shall not be applied

3. Capital

- Thirty billion won

4. Executives

- One President, one Deputy President, five or fewer Executive Directors and one Auditor

5. Operations

- Lending to Korean nationals of funds required for the promotion of the export of goods, or discounting of drafts and notes
- Lending to Korean nationals of funds required for transfer of technology to foreign countries and discounting of draft and notes
- Lending to foreign government or foreigners of funds required for import of goods or the introduction of technology from Korea
- Lending to Korean nationals of funds required for the import of major resources and goods which are important for export on deferred payment term prescribed in the Presidential Decree or discounting of drafts or notes
- Lending to Korean nationals of funds for overseas business and overseas investments
- Guaranteeing of the obligations incurred in connection with funding prescribed in subparagraphs 2-5
- Miscellaneous operations incidental to those provided for in paragraphs above
- Raising funds
  i) Capital contribution from the government
  ii) Borrowing of funds from the government, foreign or domestic financial institutions
  iii) Issuance of export-import financing bonds denominated in foreign currency

6. Limitations on Operations

- Competition with other financial institutions is prohibited
- The bank may lend funds, discount drafts or notes, or guarantee obligations only when the term of repayment, payment or discharge is six (6) months or more but five (5) years or less. For those cases of ships and vehicles as prescribed in the Presidential Decree, such term may be extended up to ten (10) years.

- The limit of borrowing or foreign bond issuance shall be ten times the aggregate amount of paid-in capital and reserves of the Export-Import Bank.

7. Disposal of Profit

- Reserve 50% of net profit and pay the remaining profit to the government as tax revenue
- Any net loss incurred shall be covered by its reserves and if insufficient, then the government shall provide funds to cover the net loss.

8. Delegation of Operations

- Before the establishment of the Export-Import Bank of Korea, the Korea Exchange Bank shall undertake the operations as an independent business separated from its own
- The funds received from the government by the Korea Exchange Bank for the delegate operations shall be treated as the government's capital contribution to the Export-Import Bank of Korea as of its establishment.

(b) Insurance and Guarantee Services

At present, the sovereign risk and credit risk of the Dominican Republic are low. The Dominican economy currently depends on the U.S. for over 70% of its exports. As exports are increased and more trading partners are involved, the demand for export insurance is expected to increase.

As previously explained in the section on ECA models, ECAs can be classified into two types depending on whether they integrate or separate export credit and insurance services. It is very likely that the Dominican Republic currently has only limited experience in dealing with problems arising from asymmetric information in insurance operations. Therefore, given the merits and demerits of the two ECA models mentioned above, a separated system may be more desirable for the Dominican Republic at least for the time being, because an integrated export credit agency will face difficulties maintaining financial soundness due to problems in the insurance business.

(c) Medium- and Long-term Financing Products

Even if an export-import bank is established in the Dominican Republic, financing is likely to remain on a short-term basis for some time. Nevertheless, it is still recommended that the bank study and analyze medium- and long-term financing products of ECAs in advanced

countries. In order for the Dominican Republic to promote IT, medical supplies, and bio-energy, the bank should develop products to meet the associated demand for medium- and long-term financing.

(d) Raising of Funds

For a stable operation at an early stage, government contributions should be the main source of funding. However, other means of raising funds should be reviewed, such as borrowings from domestic and global financial markets, credit line arrangements with major ECAs, and bond issuances.

(e) Organization

With the strengthened role of BNVP and the introduction of a credit assessment system, the bank will need to establish a risk management task force and conduct research on markets of principal exporting countries. Representative offices should be opened in major countries for expanding various types of financing support and research activities.

Epilogue

This epilogue draws from the preface by Juan Temistocles Montas, Minister of Economy, Planning and Development of the Dominican Republic, for The Face of Hope: The Miracle of South Korea Seen by a Dominican Diplomat *by Ambassador Hector Galvan. Minister Montas notes that the title of the book,* The Face of Hope, *captures "what is South Korea for all those countries who want to radically transform the social and economic conditions of their people in the course of a single generation." He wrote this essay after his visit to Korea in Sept.-Oct. 2008 in conjunction with the Knowledge Sharing Program (KSP).*

In 1950, South Korea was poorer than the Dominican Republic. The GDP per capita of the Asian nation represented 83% of the Dominican Republic' s GDP. In 1965, the Dominican Republic' s GDP per capita still exceeded South Korea' s; however, in 2006, the GDP per capita of South Korea was almost 4 times superior to the Dominican Republic, and the evolution of its indicators showed how they had managed to develop in less than 35 years.

What had happened in South Korea which made this radical transformation possible?

First, we must note that the spectacular economic development of South Korea started by implementing a breakaway pattern of growth in exports, with an outstanding participation of the government and clusters of family-owned business groups. This process emphasized the remarkable integration of a triumvirate formed by the national government, banks and large corporations to keep track of the policies. This triumvirate was known as Korea, Inc.

The second aspect to emphasize is that nothing was left to chance. Planning played a leading role in the transformation process of South Korea.

Mainly, the industrialization process started in the early 1960s, by introducing a five-year plan of economic development. The government consistently carried out a policy of changing its import substitution strategy, which was oriented towards the internal market, for one based on export promotion and oriented towards the global market. It all began primarily with light manufacturing products with which South Korea had a competitive advantage due to its low costs. The government launched major policies, such as one intended to stimulate domestic savings by maintaining suitable interest rates. A legislation promoting foreign direct investment was also enacted, as well as one providing short-term financing for exports; an exchange rate policy was consistent with the exporter' s viability, and tariffs were reduced on imported materials whenever they were used to add value to goods. In addition, customs procedures were simplified.

The second phase of the industrialization process occurred in the mid-1970s. During those years, the policy of the government of South Korea had as an objective the development of its heavy and chemical industries. The purpose of this new policy was to produce a deep transformation in the composition of exported commodities, towards more sophisticated products with high added value.

The diversification of trading partners and the increase of domestic agricultural production were also intended. This new strategy was the response from South Korea to the financial instability that occurred as a result of the collapse of the Bretton Woods system in 1971 and the negative impact on the external sector because of the oil shock of 1973-74.

The development plan of the heavy and chemical industries, underpinned by low interest rates promoted by the government, produced impressive results which enabled South Korea to quickly raise an impressive electronics industry and a leading manufacturing industry of shipbuilding, among others.

For South Korea, the 1980s was the decade to implement plans and programs to rationalize and to liberalize the economy. Companies with excess capacity like the producers of electric power generation equipment and automobiles were forced by the government to merge. Also, the government ordered the rationalization process for diesel engines companies, heavy electrical equipment and electronics. The same happened to the shipbuilding industry. This process reduced the number of companies. During this decade, the government' s actions were driven to rescue businesses affected by financial problems, caused by the recession that occurred in several major countries of the world, and the second oil shock. Also, the government substantially reduced barriers to access to the financial industry, and diminished restrictions on foreign direct investment.

During the 1990s, South Korea liberalized its market, and participated actively in the Uruguay Round of GATT and became a member of the WTO. In 1996, the economic performance of South Korea was clear; the country was recognized as one of the advanced countries of the world and was accepted as a member of the Organization for Economic Co-operation and Development (OECD). In 1997-98, the Asian Crisis occurred and South Korea effectively confronted it on the basis of implementing reforms in the financial system, corporations, labor market and public sector. In a period of one and a half years after the crisis started, the economy impressively recovered, and in 1999 grew 10.9%, after contracting by 6.7% in 1998.

From 1960 to 2006, South Korea grew at the average annual rate of 7.7%. This means that every nine years the production of goods and services was doubled. This growth contributed to the following:

- In 2006, the Gross Domestic Product (GDP) of South Korea, measured in purchasing power parity (PPP), positioned South Korea as the 12th largest economy in the world.

- In 2005, South Korea was among the countries of high human development, ranked No. 26 in the human development index among 177 countries.

- In 2008, South Korea was placed among the most competitive countries of the world, ranked No. 13 in global competitiveness index of the World Economic Forum, out of 135 countries.

- In 2005, the life expectancy of Koreans was 78 years-old, which is a characteristic of a developed country.

Delving deep into the development of South Korea, one reaches the conclusion that a combination of a series of factors was required. It was necessary, as noted in my most recent book, to build solid institutions that ensure transparency in the management of public affairs; also an efficient market, free of distortions with regulatory regimes, stable and credible; it was necessary to develop an excellent infrastructure, to foster quality education at all levels and an efficient health system, and to implement policies for technological development and technological innovation.

All this was the result of an effective coordination between the state and market. And that is what we should learn from South Korea.

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