

CONNECTING PEOPLE TO MARKETS

Methodologies for Integrating Trade and Development Goals

Grant Aldonas and Alberto Trejos



Integration and Trade Sector
Vice Presidency for Sectors and Knowledge

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The views and opinions expressed in this publication are those of the authors and do not necessarily reflect the official position of the Inter-American Development Bank.

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Foreword

Integration into the global economy is a central aim of the development strategy of the countries of Latin America and the Caribbean (LAC). Trade not only fuels growth, but can also contribute to poverty reduction if accompanied by sound and wide-ranging public and private sector policies and initiatives.

A number of obstacles still prevent LAC governments and private sector firms from taking full advantage of the benefits of global integration. While lack of access to export markets remains a major hurdle, trade protection issues often pose less of a barrier than internal constraints to international competitiveness, such as imperfect information on trade opportunities, excessive red tape that discourages foreign direct investment, inadequate export financing for smaller firms, and poor infrastructure that inflates trade costs.

The Inter-American Development Bank (IDB) is an active and full participant in Aid for Trade (AFT), an initiative launched within the framework of the World Trade Organization (WTO) that is designed to assist developing countries in building the productive capacity and infrastructure they need to take advantage of trade liberalization and increase their participation in the world trading system. In LAC, the IDB has helped countries to formulate, negotiate, and implement trade policies and related agreements; facilitate export promotion and trade finance; and strengthen trade-related infrastructure and other supply-side capacities. The Bank also carries out analyses related to AFT such as the present study, which breaks important ground in demonstrating how information on specific business opportunities and market niches is critical for guiding decisions by investors.

At present, however, the region receives comparatively few AFT flows. According to Organization for Economic Development (OECD) estimates, LAC's share of total AFT rose from 7.5 percent to 8.7 percent in 2007, far less than the 44 and 40 percent received by Asia and Africa, respectively. Through its ongoing policy dialogue, programming processes, and project design and execution, the IDB aims to help bridge the presently significant gap between demand and supply of AFT in the region. A major IDB contribution to the AFT initiative was its help in organizing regional meetings and dialogues to provide the LAC countries with a greater understanding of



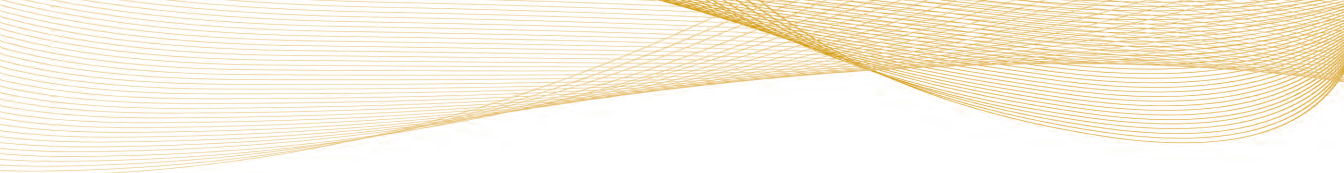
the existing supply side constraints and to identify trade-related assistance needs. The first Aid for Trade Regional Review was held in Peru in September 2007, which was followed by the first Aid for Trade Global Review in Geneva in November 2007. The second Regional Review was held in Jamaica in May 2009. These events established the framework for designing vital strategies, including enhancing regional and private sector strategies as part of the implementation process of the AFT initiative, and promoting coordination among donors and relevant institutions in the implementation of AFT in the region.

Policymakers at the AFT reviews also examined ways to identify specific problems that countries face in their attempts to maximize their export potential from trade liberalization, which is the main objective of AFT. Participants noted that in order to do so, any viable trade and development strategy will have to adapt to the changes that globalization has produced in the way international trade is conducted, new modes of organizing production, and changes in the conduct of international commercial competition.

Trade used to be carried out in arm's length transactions between independent buyers and sellers in different countries. Now, trade occurs between corporate affiliates, or between companies that act as partners in long-lasting relationships, or within the broader reach of a firm's global supply chain. In other words, global firms are increasingly becoming the hub of a network of suppliers located in a number of different countries. These global businesses have become, in the words of this study's authors, the "new gatekeepers of international trade" by effectively setting standards that local firms will have to meet in order to gain access to world markets.

It then follows that a development strategy solely designed to be implemented within the borders of a developing country is no longer appropriate. This is particularly true since the competitiveness of a developing country's economy may be handicapped as a result of its limited participation in the world economy. Therefore, policymakers must treat trade and development as a process that connects individuals to markets and design ways to best establish these linkages. Given how much of world trade is now dominated by global supply chains, policymakers should explore ways that will allow them to take advantage of the same tools used by global firms to plan their own operations.

One such tool is the value chain analysis, in which globally engaged businesses examine each stage in the production process and identify points where costs can be reduced or quality can be increased. For policymaking purposes, mapping the value chain linking local producers to global markets would reveal where internal reforms,



improvements in physical infrastructure, and lower foreign trade barriers can improve market access. Moreover, measuring obstacles in terms of common measures (e.g., time to market, impact on cost) helps to identify priorities while creating a basis for integrating trade and development goals.


Each set of trade and development challenges requires different tools. For example, identifying obstacles in bringing goods to market is a different challenge than diversifying a nation's trade. In particular, export diversification requires that investment be attracted to new industries, which in turn depends on an analysis of what drives entrepreneurs' investment decisions and how government policy might shape these decisions.

The study also examines another analytical approach used by global business investment analysts within the context of a business plan. This practical tool reveals which areas in the existing business environment raise the cost of local operations in a particular industry to the point of complicating or even deterring investment. It also informs policymakers about the concerns of would-be investors in related industries. Likewise, it highlights those policy changes that would offer the greatest return on potential investment.

A good business plan must be based on a thorough market analysis. This includes a description of the industry, the number of potential customers, broad economic trends (e.g. demographics and income), as well as an assessment of the overall demand for the new investment. Furthermore, it provides details on the industry's historic and projected growth rate, a spatial analysis of the competition's geographic dispersion, and current pricing and gross margin rates in the primary market.

Regional policymakers could use this tool to evaluate a LAC country's business environment vis-à-vis those of other countries competing for similar investments at the global level. A solid market analysis highlights areas where a particular country has real investment strength as well as deficiencies that could hamper that nation's ability to attract investment. Listing these strengths and weaknesses would help LAC policymakers and aid donors assign priorities for addressing them.

A good business plan will not only assess a country's overall market conditions, but also provide critical information on a particular segment where the investment would be primarily targeted. Such an analysis will provide investors with specific information on the target market niche, such as the estimated size of the market segment, the potential customers' purchasing cycle, and legal constraints in accessing the market. Most importantly, the business plan will offer insights on the window of opportunity for the proposed investment and evaluate the potential competitor's chances for success.

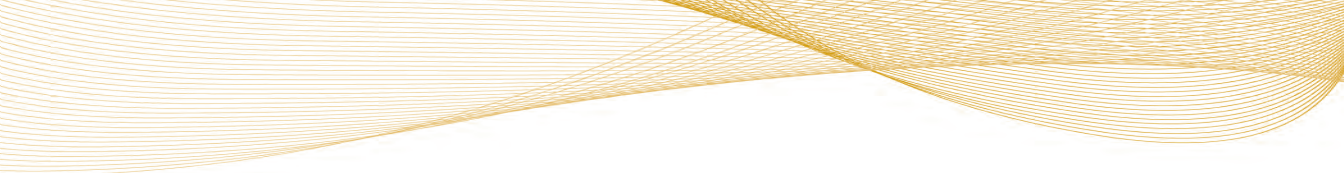


A market niche analysis would shift the attention of regional policymakers to specific markets where support for investment may offer the greatest return. In the LAC region, a target market analysis would highlight those niches where new investment would face less competition from the outset and thus offer a better chance of success. It also would shed light on areas needing institutional and physical infrastructure, which may then lead to strengthening a country's overall investment potential.

In the present study, the authors examine three pilot projects featuring different markets in different countries of the region that illustrate the value of global business tools in shaping integrated trade and development strategies.

- » The first pilot project examines the perishable fruits and vegetables industry in Peru. While further analysis is required, particularly in the form of benchmarks against similar industries in the region, the authors identify barriers and costs in the industry's value chain that reduce competitiveness and access to global markets. The findings help clarify what actions the Peruvian government and the IDB can take to tackle these problems.
- » The second pilot project assesses the Honduran textiles and apparels sector, which is a key source of exports and plays a large role in that country's economy. Through an evaluation of the value chain, the country's competitiveness profile, and factors affecting the industry's competitiveness vis-à-vis other global competitors, the study highlights priority actions for improving the quality and availability of inputs that textile and apparel companies need.
- » The third case study focuses on the Caribbean, whose countries face a unique set of challenges (e.g. high exposure to natural disasters and declining productivity), but which also possess great assets (e.g. strong institutions and a beautiful natural environment). While a services economy is obviously critical to the Caribbean's success in the global market, the real challenge lies in diversifying the region's services exports. Drawing on investment analysis and an assessment of the medical tourism market both globally and locally, the authors suggest ways in which these countries could achieve diversification by becoming a strong global player in this industry.

Overall, the study underlines a larger point that down the road, engaging local entrepreneurs in policymaking dialogues may help to improve a country's investment climate. This dialogue would yield even greater benefits if it also included private and public investment promotion agencies. The involvement of these stake holders would



help to ensure that AFT will result in greater market access. The study is part of a series of Aid for Trade analysis carried out by the Integration and Trade Sector of IDB's Vice-Presidency for Sectors. It was prepared under the overall guidance of Carolyn Robert, Trade and Integration Lead Specialist and Aid for Trade Coordinator.

December, 2010

Antoni Estevadeordal
Manager
Integration and Trade Sector
Vice-Presidency for Sectors
Inter-American Development Bank

Introduction – Developing an Analytical Approach

The dynamics unfolding in the global economy have deep implications for efforts to integrate trade and development goals. Globalization has fundamentally altered the conduct of international trade, the organization of production, and the basis of international commercial competition. Any viable trade and development strategy will have to adapt accordingly.

Trade was once carried out through arm's length transactions between independent buyers and sellers in different countries. Today, most cross-border flows of goods and services take place between corporate affiliates, or between companies that act as partners in long-lasting relationships of supply, design, and development, or within the broader context of a firm's global supply chain.¹

The accelerating integration of world markets both allows and compels firms to organize production on a globally efficient basis. Operating a global supply chain has become a competitive necessity. Companies at every step in the vertically integrated production process must perform at world class levels of efficiency where they produce and create value. As such, managers in any individual enterprise must think in terms of the value the enterprise creates as part of the supply chain, rather than thinking of the enterprise's strengths or weaknesses in isolation. Besides the firm's own inputs and its conventional internal measures of success, the firm's managers must also assess the relative efficiency of the firm's links to global suppliers and end-users or consumers.

The new global dynamic has important ramifications for producers in the developing world, particularly in Latin America and the Caribbean. Organizing production on a global basis offers enterprises economies of scale and efficiencies that make them cost competitive in virtually any market.² Their success compels their competitors to go global in order to remain competitive. Only the increasingly small number of industries, the output of which is physically untradeable, are exempt from these forces, permitting them to limit their horizons to being competitive at a local or a national level alone. By contrast, where their goods or services are tradable, especially in the more dynamic and complex sectors of the economy, firms are either globally competitive, or not competitive at all.



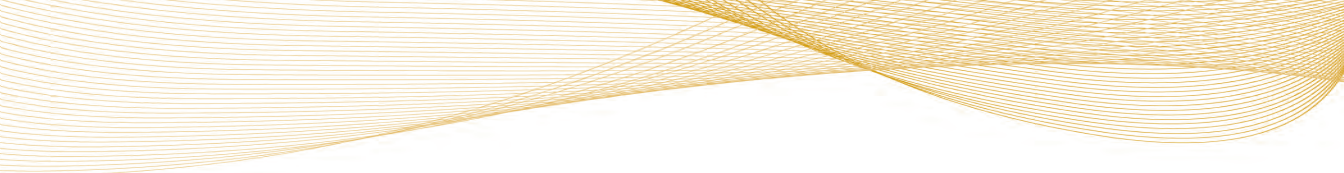
Not surprisingly, these changes have altered the structure of global enterprises by softening their boundaries. These firms operate more as parts of economic ecosystems than as simple linear sequences of steps in a production process. The interaction among the various stakeholders in the ecosystem is deeper and more frequent than is the case with a conventional linear supply chain.

Rather than operating as a single vertically integrated enterprise located in one country and exporting goods to world markets, global firms increasingly organize themselves horizontally, in which each serves as the hub of a network of suppliers located in different countries.³ In their role as systems integrators, they mobilize the capital, talent, and ideas needed to produce goods and services for a global market and manage the interaction among suppliers along its value chain, from research and development to design and manufacturing, to distribution, sales, and after-sales service.

For a policymaker charged with crafting a coherent trade and development strategy, the critical point is that these global networks of suppliers have become the new basis for commercial competition.⁴ The global supply chains that now dominate much of the market have, in effect, become the market. The firms that organize these economic ecosystems have become the new gatekeepers of international trade. Increasingly, the ability of local firms to gain access to world markets will depend on satisfying the commercial standards these gatekeepers set and on demonstrating their ability to add value to the global enterprise on a sustained basis.

What does this imply for the task of building a coherent trade and development strategy? In the economic ecosystem, firms must create the conditions they need to produce on a par with other firms, as well as access to markets for inputs to support their production process and ultimately to sell their final product. In the new global environment, such access to markets depends on a firm's ability to link effectively with other suppliers in a global chain. While success still depends in part on overcoming conventional barriers to international trade, such as tariff and non-tariff measures, a coherent trade and development strategy must increasingly address the barriers imposed by geography, logistics, law, or the characteristics of the market that impede local suppliers' access to the global supply chains that increasingly dominate world trade.

Trade and development strategies designed to help producers in IDB member countries—particularly small and medium-size firms—reach global markets must address the challenges this new global paradigm creates. These strategies cannot limit themselves to development issues solely within national borders, since a developing country's economic competitiveness and standard of living may be eroding as



a result of its lack of engagement with the broader world economy. As such, policy-makers treat trade and development as a process that connects individuals to markets—locally, nationally, and globally.⁵ A sound trade and development strategy must strengthen those linkages.

The question, then, is how best to identify the obstacles that separate people from markets in the context of the global economy. As suggested above, the answer lies in the same dynamic that is shaping global competition, namely, the increasing role of global supply chains in world trade. That naturally leads to the question of how policymakers could best utilize the same tools, particularly those used for making sourcing and investment decisions, employed by globally engaged firms in their own operations to develop an integrated trade and development strategy.

What follows is a discussion of how policymakers in developing countries, as well as international financial institutions and development assistance agencies, might use these tools to create such a strategy.


Mapping the Value Chain

The analytical approach set forth in this paper applies the tool most commonly used by global businesses in making their own strategic decisions about sourcing—the value chain map.⁶ Global businesses use such maps to identify each step in the process of producing and marketing their goods and services on world markets in order to assess how to reduce costs at every stage.⁷

The same tool can also be applied by policymakers to identify internal and external barriers limiting the ability of a country or a region's producers to participate in such value chains.

Conventional trade policy and regional integration strategies have focused on negotiation as a means to remove barriers that hinder the export of goods and services to particular markets. These negotiations are carried out either within a multi-lateral forum such as the World Trade Organization, or as part of regional or bilateral free trade arrangements.

As noted above, however, in today's global markets, market access is defined less by conventional tariff and non-tariff measures, and more by the ability of local producers to meet the commercial standards of global buyers and integrate their business processes with those of the buyer and the other suppliers in the buyer's value chain. Their ability to do so may be hindered by legal and regulatory restrictions that make interaction with global suppliers or consumers expensive or unsafe, by costly or



time-consuming logistical limitations, by market failures and a concentration of market power that prevent access to inputs in globally competitive terms, and other factors.

Identifying barriers that separate people from markets requires a map of the value chain that links local producers to markets locally, nationally, and globally.⁸ Such a map will help identify costs and weaknesses that undercut the competitiveness of local firms or inhibit their efficient integration into the web of suppliers and customers along the value chain.⁹

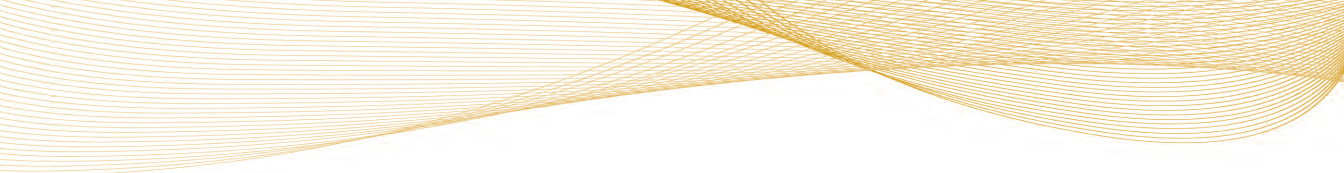
The underlying rationale for this step flows directly from the perspective of the globally engaged firms that manage the value chain and make its sourcing decisions. Those firms have a compelling interest in managing the cost side of their businesses to remain competitive in world markets. The challenge for policymakers is to understand the challenges those firms face and adopt an approach to trade and development that thinks of trade policy in the same way.

At each step in a value chain, a producer purchases inputs and then adds value. The producer's value-added becomes part of the cost of the next stage of production. The eventual price to the consumer is the sum of the value added by each producer in the supply chain, plus the requisite return on capital demanded by investors in each of these producers (i.e., profit) at each stage of production. At each production stage, firms seek ways to lower costs and raise quality by working with existing suppliers or seeking alternative sources of supply.

The value chain map provides a visual means of identifying barriers affecting each stage of production by product, within countries, and within regions.

For these reasons, it is critical that global firms map barriers that might exclude potential supplier network members because of the impact such barriers have on costs at each stage of production and the delay and uncertainty they can create throughout the entire value chain. As such, the value chain map not only holds the key to the globally engaged firm's profitability, but also defines the parameters that their suppliers must meet in order to participate in the firm's supplier network.

The value chain map helps explain why a firm may face hurdles in bringing its goods to market even when it overcomes informational barriers that increase its supply chain costs. To be competitive globally (i.e., to be able to ensure that its firms can succeed in the global economy), a country must provide conditions that are both conducive to productivity, such as a ready source of inputs, and a business climate that allows the links between successive stages to be efficient, inexpensive, and safe. What matters most is not whether the sources of the friction in the supply chain are domestic policies and gaps in local infrastructure, problems in the transport linkages



between markets, or trade barriers imposed in foreign export markets. What matters is that a nation's trade and development strategy identifies the most significant sources of friction and eliminates them.


In that regard, a value chain map helps to identify barriers to integrating trade and development goals, both internal and external, which hinder the ability of regional producers to join global value chains serving external markets. Those barriers may lie within firms that form the links of the value chain, in which case these firms must invest in process improvements to enable them to overcome the barriers. The barriers may also exist between links in the value chain, so even if the local enterprise is competitive, it may be effectively barred from participating in the value chain because of weaknesses in the national business environment, or as a result of costs and delays in attempts to engage with international suppliers, service providers, and end-customers.

Research suggests that developing nations could derive important benefits from reducing barriers between products and markets as a way to stimulate trade and ultimately increase national income and well-being. This applies whether the barriers relate to exports or imports, that is, whether they stand between the producers and the inputs they need or between producers and potential export markets. Given the nature of global trade today, it is essential to measure the cost of such barriers in terms of time as well as money. According to World Bank studies, one day of logistical delay in international trade is equivalent to increasing the distance between trading partners by 70 km or increasing production cost by 1 percent. Similarly, legal barriers that force partners to carry out exchanges intermittently or at arm's length compel local companies to produce on a less efficient basis those supplies that they might otherwise buy if a wider range of competitive suppliers were accessible. All of these types of barriers affect the local producers' ability to participate effectively in a buyer's global supply chain.

This underscores that, in terms of the trade policy choices that countries in Latin America and Caribbean are contemplating, reductions in barriers behind the border, both internally and in foreign export markets, are every bit as important, if not more important, as the elimination of conventional border measures affecting the region's exports.

Adopting an Investor's Perspective

The approach outlined above is designed as a practical way of looking at existing barriers to trade that inhibit the ability of local producers to connect to markets. As helpful



as that can be, the approach is still essentially static. It assumes a country's continuing reliance on existing sources of comparative advantage within the global economy. It focuses on removing barriers that undermine the ability of producers to exploit that comparative advantage to its fullest extent in the effort to raise productivity and improve standards of living. And it assumes that the industry in question already exists, since otherwise it would be impossible to measure the constraints that it faces.

Comparative advantage is not permanent. Indeed, in some respects the forces driving globalization alter the basis of a nation's comparative advantage. Whereas conventional trade theory viewed comparative advantage through the lens of underlying resource endowments, that view no longer explains how production in the global economy is organized.

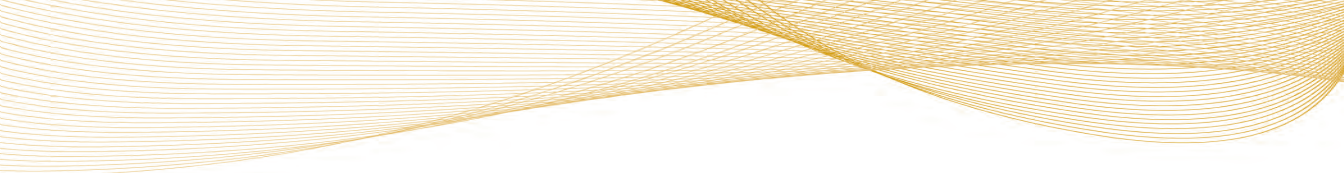
In fact, those developing countries that have best succeeded in lifting living standards have done so by fundamentally altering the basis of their capabilities in ways that are not driven exclusively by their resource endowments and their existing product base. Instead, they have used other sources of comparative advantage, based in new capabilities and applications. That leads naturally to the question of how they did it and how other developing countries might apply similar strategies for diversifying their trade.

This question leads to a focus on development as a process of “self-discovery” in which a nation's comparative advantage is shaped by geography, its connections to the global economy, and the “serendipitous choices of entrepreneurs” (i.e., the investment decisions of individual firms).¹⁰

In this regard, we take an analytical approach that might inform policymakers interested in reaching beyond the existing comparative advantage that shapes a nation's current terms of trade toward the design of a set of policies aimed at encouraging further diversification of production and trade linkages to global markets. This involves building new linkages between producers, consumers, and global markets (i.e., diversifying a nation's trade).

Seen in that light, the key variable available to policymakers is their ability to shape the local economic environment in ways that strongly encourage the entrepreneurial activity that drives the “self-discovery” process. Policy cannot substitute what the entrepreneur does, but it can facilitate the conditions under which it is done. That, in turn, strongly suggests a need to examine development challenges from an investor's perspective.

The approach to building a practical tool that helps illuminate and encourage the process of self-discovery is best understood in contrast to the value chain methodology




outlined above. The value chain methodology focuses on the steps in the supply chain linking local production to global markets. It identifies barriers that inhibit local producers from connecting to markets or from competing effectively in them and estimates the effect of those barriers, both domestic and foreign, by calculating the time and distance thereby added at various stages of the value chain. Such hurdles add time and cost to locally produced goods, and thus play a critical role in the sourcing decisions global buyers make. In that sense, the analysis takes a country's comparative advantage as a given and tries to determine how it can best succeed in light of its existing endowments.

If, however, the challenge is one of diversifying existing exports (i.e., altering the country's comparative advantage), a different tool is needed. Diversifying exports requires local or foreign investment to create new industries. As such, we must examine what drives the “serendipitous decisions of entrepreneurs to invest” and how those decisions might be shaped by policy choices governments make throughout the hemisphere.¹¹ Also, in order to identify the path to becoming a global leader in a particular sector, it will become important to understand investment decisions as a winner-takes-all competition—one that implies the need to create a globally competitive investment environment in the sectors in which a country hopes to succeed.

To understand what building a competitive investment environment entails requires looking at the investment environment from the investor's perspective. But, not just any investor. The goal is not to examine the investment environment simply from the perspective of its relative attraction to portfolio investment or foreign direct investment, as is commonly the case. Rather, the goal is to understand what sort of investment environment is most likely to attract or release entrepreneurial talent essential to remaking a nation's comparative advantage.

Thinking in those terms (i.e., examining the environment in terms of the entrepreneur's decision to invest) leads to possibilities for policymakers to draw on other tools commonly used by global businesses, such as investment analysis. By adopting the perspective of the entrepreneur, the policymaker would better understand ways in which the local business environment raises the cost of operations in a particular sector, and thus lowers the return on the investment and complicates the decision to invest. Understanding the concerns of the would-be entrepreneur in a new activity might also cast light on current problems of entrepreneurs in related industries.

A significant share of the factors that shape entrepreneurial investment decisions relates to local physical and institutional infrastructure. Much like the value chain analysis outlined above for trade in goods and services, an investment analysis could



help illuminate the policy changes that would offer the greatest return in terms of their impact on the investor's decision.

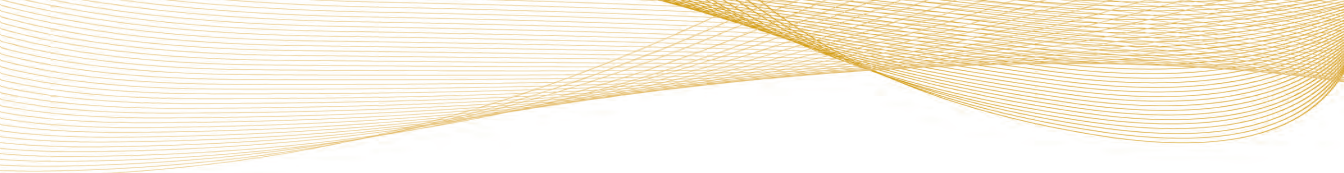
As will become clear in the discussion below, such an investment analysis can prove particularly helpful for developing service industries and exports. As considerable research by the World Bank has suggested, the determinants of comparative advantage in service industries are amenable to policy choices that can be made by governments.¹²

This suggests that an export diversification strategy, particularly in the case of services exports, would benefit from applying the tools that global investors and entrepreneurs use in assessing alternative uses of their capital or alternative locations for new production facilities. It also highlights the extent to which the investor's choice can be influenced by government policy decisions that shape the local investment environment.

The following discussion builds on that insight to develop a framework for evaluating a country's business environment by using the standard tools of investment analysis that entrepreneurs and potential investors employ to assess potential business locations. Like the value chain methodology described above, the purpose of the investment analysis is to help identify barriers whose removal would maximize investments in emerging markets throughout the hemisphere.

One basic tool global investors use to assess the viability of alternative investments—and one that could help policymakers better understand what drives entrepreneurial investment—is a business plan. A business plan forces an entrepreneur to demonstrate an understanding of the target market, the potential competition, and other factors that could shape the success of the investment. It represents an essential step in any proposed investment, whether it is designed to attract venture capital to a new enterprise or to convince finance officials in a large corporation to allocate capital to a particular project.

With that in mind, we examine what elements of an entrepreneur's business plan might also prove helpful to policymakers in the region hoping to attract new investment capable of exporting to global markets. The following discussion is built around the market analysis elements of a business plan commonly used by entrepreneurs to attract investors to a particular project. After a brief explanation of each element, we discuss its potential relevance to policymakers in assessing where they might reduce barriers to investment and how aid for trade might help to overcome the institutional and physical infrastructure needed to encourage such investment in export-oriented industries.



The basic question is what could the entrepreneur's perspective, in each step in planning an investment, tell about the investment environment in a particular market, and how could the policy choices of governments shape the decision to invest?

Analyzing the Market

The general market analysis on which an entrepreneur's business plan is based includes a number of different steps. It contains a description of the industry and any broad economic trends (e.g., demographics and income) affecting the target market. It also details the number of potential customers in the primary market and how their needs are (or are not) being met. That will include an analysis of the number of annual purchases of similar services consumers make in the targeted market segment in order to establish some sense of the overall demand for the services the new investment would offer.


The market analysis would also address the historic and projected growth rate of the industry serving the target market and any factors shaping the life cycle of the business that may influence ease of entry. This part of the analysis attempts to identify those market characteristics that differentiate the project in question from other investment alternatives.

The market analysis generally includes a description of the geographic location of competitors in the market (both of existing investments globally as well as specialization within those existing investments) as a means of gauging the competition any new investment would initially face.

As a part of this step, the analysis would identify any sectors or sub-specialties within the target market that are currently under-served—in quality, price, timeliness, or any other relevant factor—where new investment would be likely to produce a higher rate of return. Any sound market analysis would also discuss current pricing and gross margin targets in the primary market and any relevant subsectors.

Mapping the existing competition is critical for a number of reasons, not the least of which is that different geographic markets will vary in terms of major influences in consumer choice (e.g., government programs, regulatory agencies, other market participants). The same will hold true of the description of major customer groups (e.g., diverging demographics that might make investment in care for the elderly less relevant).

From the perspective of regional policymakers, aid donors, and the IDB, the relevance of this step in investment analysis lies in its value for assessing the business environment in a particular Latin American and Caribbean country relative to the business



environment in other countries competing for similar investment projects globally. It will highlight where the countries in the hemisphere have real strengths in terms of attracting investment in a particular sector, as well as the distance it has yet to cover in order to compete with other countries for such projects.

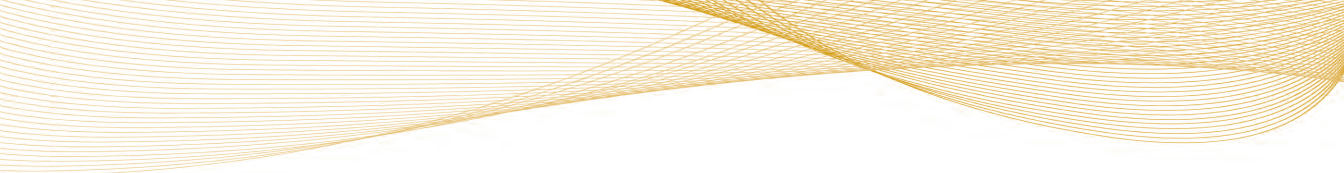
The list of prioritized strengths and weaknesses, in effect, becomes a targeted list of challenges that Latin American and Caribbean policymakers, aid donors, and the IDB must address in order to diversify the region's export base. As will be discussed in greater detail below with respect to attracting investment in medical tourism to the Caribbean, some of the strengths and weaknesses are intuitively obvious, such as the importance of a strong privacy law for a company hoping to outsource medical transcription services.¹³ Others are less apparent, including the relative importance of personal ties between doctors and institutions in consumer markets that can help brand the Caribbean as a provider of high quality medical care.

At the same time, the implicit assessment of the business environment encourages policymakers to question why such investment has yet to take place despite seemingly favorable conditions. In other words, where policymakers see investment moving towards other regions, the market analysis will help illustrate why this is happening and how the region can improve its attraction as a destination for such investment.

Targeting Market Niches

Most analyses of a nation's investment environment have taken a more macroeconomic approach. For example, the World Bank's Doing Business reports or the World Economic Forum's Global Competitiveness Report tend to look at investment conditions in the economy as a whole. Investment choices made by entrepreneurs, on the other hand, necessarily focus on specific investment opportunities and particular market niches. A solid business plan will normally reach well beyond the general market conditions to target a particular market segment.

The plan should provide specific estimates on the size of the particular market segment the investment will target. It should describe the purchasing cycle of potential customers in the target market and identify key decision makers (i.e., individuals with authority over the final decision to buy). The plan should also assess existing pricing strategies in the market, reflect any trends or potential changes in consumer behavior that may affect the primary target market, and identify constraints on market access imposed by law, whether in the form of regulatory requirements or existing patents, trademarks, etc.¹⁴



Just as important, the plan should assess existing information barriers that might limit the ability to reach potential customers in the target market and suggest how those barriers can be overcome. That analysis will often include any market tests that might help in gauging the size and characteristics of demand in the target market and identify other resources for information relevant to assessing consumer demand (directories; trade association publications; government documents, and other relevant resources).


The core of the target market analysis is an evaluation of potential competition. This analysis must identify all key competitors for each service offered with an estimate of the market share they currently hold, together with any indirect or secondary competitors that may have an impact on business success. It should also analyze how long it might take other competitors to enter the market, that is, it should estimate the window of opportunity for the proposed investment.

In addition, any analysis of the competition should provide competitor benchmarks, (e.g., ability to satisfy customer needs; consumer awareness of competitors' qualities; any potential weaknesses, such as inability to satisfy customer needs; lack of market penetration; limits on access to capital and the constraint that may impose on expanding market share or entering the market, among others). It should assess the potential investment's viability (Can it compete?), its identity (What makes it different from other offers in the market?), and its advantages ((What strengths could it tap to succeed?).

The analysis of the competition should also identify the lead times needed and potential evolution in the market while construction or other steps in the process of creating the proposed business are underway (e.g., time needed to set up the business, any potential changes in technology that might affect investment, or competition for skilled personnel essential to the investment's success).

All of the foregoing dovetails with the approach needed to inform policy makers on a diversification strategy by focusing attention on particular markets where support for investment may make the most sense. The target market analysis would indicate the market niches that remain unfilled, and where an entrepreneur's investment would face less competition at the outset, thus providing a larger window of opportunity for commercial and financial success. The target market analysis would also provide policymakers with information on improvements in institutional or physical infrastructure that could help countries expand areas of potential investment in export-oriented service industries.

A successful business plan also contains a number of other components, each of which could supplement the basic market analysis outlined above. These compo-



nents include defining the structure of the potential investment, identifying particular product or service lines, designing marketing and sales strategies, projecting financial returns, and requesting funding.

Examining the investment environment in the region through each of those lenses could add further detail to the basic market analysis. Thinking through the structure and financing of an investment, for example, would reveal a great deal about the underlying legal institutions and the availability of capital in particular markets, both of which are essential to attracting investment capital. Thinking in terms of marketing and sales would provide policymakers with lessons they could use in for trade negotiations.

The ultimate goal of developing the analysis further would be to gauge how improvements in the investment environment would increase the relative attractiveness of the local investment environment. From the investor's perspective, the acid test is whether the financial analysis suggests that the potential investment can generate a rate of return sufficient to make the project competitive compared to other potential investments. That calculation is equally important for Latin American and Caribbean policymakers, aid donors, and the IDB because it could point out the need to lower the operating costs of the proposed investment or similar investments in order to attract the capital needed to diversify a country's exports.

By carrying out discussions with local entrepreneurs, government policymakers will gain a more detailed picture of which areas might offer the greatest attraction to potential investors and how to improve the current investment climate. The dialogue can also include private and public agencies that promote foreign investment, and perhaps those that have thrived elsewhere. Encouraging that dialogue represents an important way in which aid for trade might reinforce the efforts of regional governments to diversify their export base.

Perishable Agricultural Products in Peru

We developed three pilot projects to gain a better perspective on how the tools of global business might work in practice to inform policymakers on the shape of an integrated trade and development strategy. Each pilot project focused on different markets in different countries of the region. The first project examined the value chain linking producers of perishable fruits and vegetables in Peru to global markets.

In constructing our value chain map we used both existing literature regarding the perishable agricultural products industry and information from interviews we conducted with key participants in the Peruvian perishable products industry to identify the main links and the sources of the key inputs at each step of the process.

We focused on perishable agricultural products for four reasons:

- » Peru already has a successful perishables industry, particularly asparagus, which suggests that the country has a proven comparative advantage in this area, and that improving the efficiency of each step in the value chain could yield significant additional benefits. Despite the pressures on the value of the currency due to the high price of minerals, which represent nearly 60 percent of the country's exports, non-traditional exports have grown at an annual rate of nearly 19 percent in recent years. Among the latter, perishable agricultural exports reached US\$1.9 billion in 2008. About a third was shipped to the U.S., and at least as much to the main EU markets.
- » Due to their perishable nature, any delays affecting production, harvest, processing, shipping, and distribution reduce the competitiveness of Peruvian agricultural products in global markets. Therefore, the innovative contribution of a value-chain approach, which looks between production stages and to inter-related processes rather than thinking of each firm in isolation, is particularly relevant in this sector.
- » Reducing barriers to production, distribution, and sale of perishable products can generate significantly higher returns for producers whose smaller scale otherwise limits them to serving local markets.

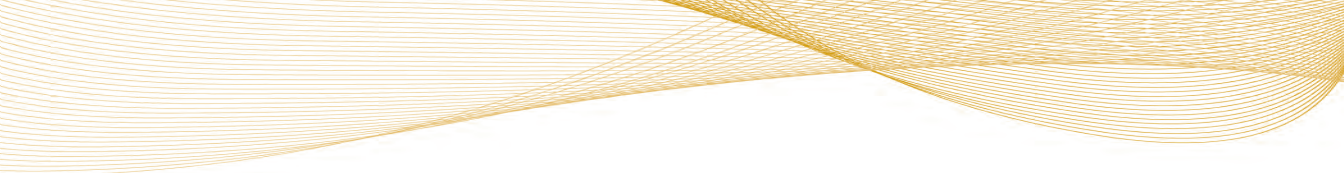
Peruvian Perishable, Non-traditional Agricultural Exports, 2008

Product	US\$MM FOB	Metric Tons	Product	US\$MM FOB	Metric Tons
Coffee	644.2	224.8	Cocoa	69.0	14.5
Asparagus	450.7	189.2	Feed	61.5	89.1
Paprika	125.1	52.6	Citric	56.3	77.8
Mango	105.6	110.1	Banana	45.8	78.2
Artichoke	94.1	39.1	Beans	42.6	39.8
Dairy	90.4	62.7	Tara	37.7	15.2
Other capsicum	89.8	57.1	Olives	27.1	19.0
Grapes	86.1	43.9	Onion	22.8	71.7
Avocado	70.8	51.3			

Source: Exporters Association (ADEX) and PROM Peru.

Smaller-scale producers, which make up a significant share of the producers Peru would most like to connect to wider markets, are likely to suffer most from the added cost that barriers to trade impose, whether internal or external, due to their lack of scale and inability to pass those costs on to consumers in the highly competitive environments in which they operate. The description and analysis of the value chain allows us to identify areas in which domestic reform or the removal of external trade barriers could improve prospects for Peruvian entrepreneurs to compete successfully in global markets. That includes areas where Aid for Trade assistance from the IDB or other institutions, such as the World Bank, might help to lower the cost of accessing markets. Such assistance could, most effectively, take the form of targeted support to improve physical and institutional infrastructure needed to connect Peruvian entrepreneurs to markets, improve export performance, and allow new and initially small entrants to establish the links already enjoyed by their predecessors.

We assessed the key strengths and weaknesses in the value chain serving Peru's perishable agricultural products industry by identifying barriers and costs that stifle competitiveness and the entrance of smaller producers into the perishables export value chain. We set out by approaching that challenge from two different angles. In one, we drew on the databases developed by the World Bank in the context of its *Doing Business* series on barriers Peruvian producers face in producing and bringing goods to the international market. The *Doing Business* reports, which document barriers entrepreneurs face in a number of developing country markets, offer a useful reference point for a more in-depth country-specific analysis.¹⁵



We also met with Peruvian producers, Peruvian officials, logistics companies, and potential buyers to gain a better sense of the steps involved in bringing Peruvian perishables to market. We also analyzed the data set in the World Economic Forum's *World Competitiveness Report*.


Using these information sources as a basis, we produced a rough map of the value chain connecting Peru's producers to local, regional, and global markets, both as producers and as consumers. The outbound map helps to illuminate internal barriers to trade in Peru and external barriers that Peruvian producers face, whether imposed by the market (e.g., commercial standards), by weaknesses in the business climate (e.g., poor infrastructure), or by foreign governments (e.g., tariffs, quotas, phytosanitary standards, etc.).¹⁶

The inbound value chain map details the same process from the perspective of the individual Peruvian entrepreneur as a consumer of inputs for the production of perishables. That map will help policymakers understand how their own tariff and non-tariff barriers to trade, as well as processes such as customs clearance and physical barriers like poor roads or ports, may raise the cost and limit the ability of local entrepreneurs to compete in local, regional, and global markets.

In one sense, this initial value chain map serves as a benchmark. Analyzing changes in the nature of the value chain over time would offer Peruvian policymakers and the IDB a means for measuring progress in connecting Peruvian producers to export markets, as well as indicate the obstacles to regional integration. As noted previously, information collected in succeeding years on obstacles identified in the initial mapping exercise (e.g., changes in the efficiency of ports or the quality of roads over time) can then be added to data on trade flows over time. With that information in hand, the model will help measure the relationship between trade flows in a given year and specific policy changes.

In addition to defining regional integration beyond the border, the process also examines barriers within the country, either as obstacles to competitive production or as impediments to connecting domestic firms that comprise links in the local supply chain. Policymakers can then identify missing pieces, such as absent public goods, externalities, coordination failures, or shortfalls in the supply of specific services or inputs. Often, appropriate policy is directed at creating incentives and conditions that permit those missing pieces to emerge.

In addition to examining connections between links in the value chain, we also attempted to assess the strength of each link. We relied on the numbers used by the World Economic Forum in its annual competitiveness report, combined wherever



possible with data from companies we interviewed as part of the project. We supplemented that analysis with existing information on similar industries and an inventory of non-tariff measures in the region, including those affecting Peru's producers of perishable agricultural projects.

The resulting picture helps clarify which actions by Peruvian policymakers and the IDB have the greatest potential to improve the prospects of Peruvian producers accessing global markets—whether those actions involve domestic reforms, infrastructural investment, satisfying global buyers' commercial standards, or negotiation with foreign trading partners to lower export barriers.

To facilitate our analysis, we have broken down the value chain for export perishables in two segments: the “upstream” half that supplies raw materials and services to agricultural producers and processors, and the “downstream” half that delivers the output to the international market. We also focus on sanitary and phytosanitary requirements and transportation because they relate directly to the steps involved in regional integration behind the border.

Peruvian Competitiveness in General

Before we look at specific information on the value chain of agricultural perishables, it may be useful to review the general barriers that affect all Peruvian companies in their effort to succeed in the international market. This information is presented in the Global Competitiveness Index, some of whose general rankings are shown in the next table for Peru and a number of other relevant countries. Peru's overall ranking is quite low, 82 out of 134 countries. That puts Peru between Honduras and Guatemala, two poorer and smaller Central American nations. This suggests that, despite some progress in the last few years, Peru's business climate is less conducive to competitiveness than that of a number of regional players in the export of agricultural perishables, most prominently Chile, Costa Rica, Panama, Mexico, Brazil, Colombia, and Uruguay.


Among the competitive attributes that are most relevant to the sector are the quality of institutions and infrastructure—two areas where Peru does not even rank in the top 100—along with stable macroeconomics, basic education, and the efficiency of the goods and labor markets, where the country's performance is also relatively poor. Other competitive weaknesses include the ability to innovate and the level of technological sophistication of firms and services. The availability of new technologies is low, and their implementation by firms is very slow. Overall, among the 10 major categories, there isn't one where Peru performs better than Panama or Chile; even

Ranking in the Global Competitiveness Index – Peru and Relevant Peers, 2008

COUNTRY	Peru	USA	Korea	China	Chile	Panama	Costa Rica	Mexico
Overall Rank	83	1	13	30	28	58	59	60
Institutions	101	29	28	56	37	70	50	97
Infrastructure	110	7	15	47	30	55	94	68
Macro-economy	67	66	4	11	14	55	85	48
Prim Health/Ed	95	34	26	50	73	64	37	65
High Ed.& Train	89	5	12	64	50	77	49	74
Efficiency of Goods Mkts.	61	8	22	51	26	57	49	73
Efficiency Labor Mkts.	75	1	41	51	17	77	35	110
Efficiency of Financial Mkts.	45	9	37	109	29	26	70	66
Tech Readiness	87	11	13	77	42	62	60	71
Size of Market	50	1	13	2	47	85	78	11
Managerial Sophistication	67	4	16	43	31	51	42	58
Innovation	110	1	9	28	56	73	38	90

COUNTRY	Peru	Brazil	Col.	Urug.	Hond.	Guat.	Arg.	Ecu.
Overall rank	83	64	74	75	82	84	88	104
Institutions	101	91	87	45	82	98	128	129
Infrastructure	110	78	80	69	75	71	87	108
Macro-economy	67	122	88	104	89	87	64	16
Prim. Health/Ed	95	79	67	54	83	99	61	92
High Ed. & Training	89	58	68	62	93	103	56	115
Efficiency of Goods Mkts.	61	101	82	79	75	54	122	129
Efficiency of Labor Mkts.	75	91	92	106	82	81	130	122
Effic Fin Mkt	45	64	81	88	84	95	117	125
Tech Readiness	87	56	80	64	96	74	76	104
Size of Market	50	10	37	91	84	74	24	61
Managerial Sophistication	67	35	64	85	82	52	71	99
Innovation	110	43	61	77	104	74	98	129

Source: World Economic Forum, Global Competitiveness Report 2008.



compared with Costa Rica or Brazil, two successful agricultural exporters, Peru is only superior in financial services and macroeconomic stability. Weaker competitiveness means that, in order to stay in the market, Peruvian companies must settle for lower profits, and workers must earn lower wages.

Of course, the value of the Competitiveness Index is not as much its analysis of these broad measures, but rather the specific line items that are behind them. In particular, Peru ranks very poorly in the burden of government regulations, the inefficiency of its legal system, and business insecurity caused by crime and violence. The country's structures and equipment in ports also ranks very poorly (127 out of 134 nations), which helps to explain the significant delays in going through the ports, as documented in subsequent charts. Labor productivity is also affected by the quality of the educational system, in which Peru fares relatively well in enrollment rates, but very poorly in quality, where it ranks very near the bottom of the sample.

Despite an intermediate grade in the efficiency of its goods markets, Peru faces some noteworthy problems, such as high market concentration, especially in the distribution of imported goods, and in the perception by business of the slowness and complexity of customs. Indeed, the import and export process in Peru demands more (and longer) documents than in other countries, including the need to satisfy additional requirements. Some of those extra burdens are justified—a national system of quality control, technical norms, or credible origin certification—and others are just costs imposed on business.

Bureaucratic barriers to starting a company are also perceived as complex, expensive, and lengthy, as well as subject to corruption. Some of the stages of the process are surprising. For example, a potential entrepreneur or investor must hire a lawyer to register the name of a new company in the National Registry—a process that takes 30 days to complete. A prospective firm must also procure a technical report by INDECI, a federal entity, as well as a municipal license; each step requires an additional 15 days. Other countries do not require these steps for starting a company, and they have not suffered any negative legal or economic consequences as a result. In Peru, anecdotal evidence suggests that it is actually impossible for a small business to do certain things consistently with the law.¹⁷

Labor markets are also rigid. Fixed term contracts are not allowed for certain activities; there are restrictions on hiring night shifts or operating 24 hours per day, 7 days per week. Firing an employee requires explicit notification and authorization. As in any country where firing is hard, hiring is slow and unemployment long-lasting.

According to the WCI, research institutions in Peru are scarce and low quality (the country ranks 121 in the sample); there is scant cooperation between business and

academia; government procurement is not used strategically to promote technological innovation or adaptation; and there are insufficient numbers of engineers and specialized technicians.

These weaknesses imply that Peru will reap the greatest competitiveness gains in the international market by lowering its costs, not by product differentiation, specialization, or productivity. This largely explains why most of the country's exports are still unprocessed traditional products. Some of these competitiveness issues directly affect its export of perishables, particularly inefficiencies in port procedures and the scarcity of qualified technical personnel.

Not all issues surveyed are weaknesses, though. Among other things, Peru ranks very highly in the WCR in wage flexibility, the cost of on-the-job benefits, and the strength of its financial system. In addition, Peru has strong macroeconomic indicators, including a fiscal surplus that stands at 3.1 percent/ of GDP, a 27.1 percent savings rate, a low 1.8 percent rate of inflation, and low government indebtedness.

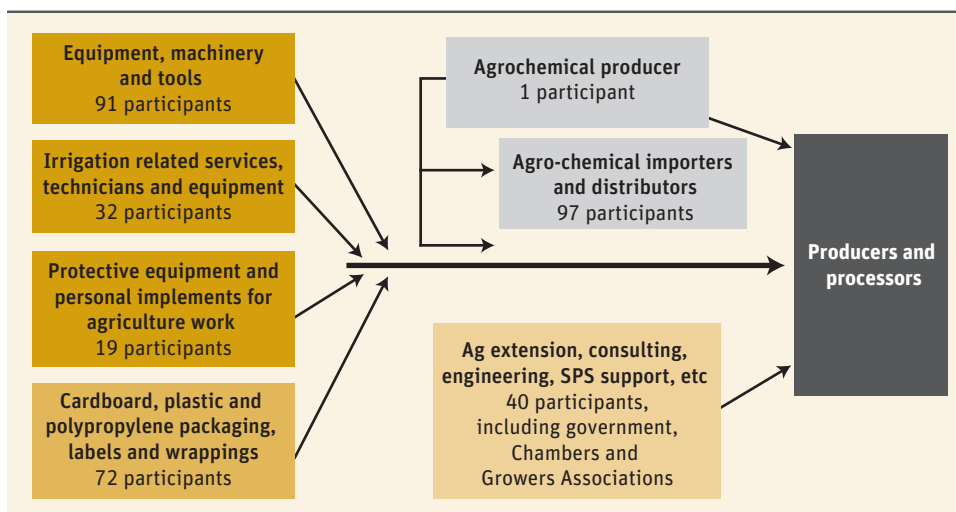
Also, countries often succeed in a particular industry because they find solutions for overcoming general competitiveness problems. As we shall see, the next two sections explore how participating Peruvian producers along the complex value chain for agricultural perishables, and the organizations to which they belong, have been able to overcome many barriers affecting the country as a whole.

Mapping the Value Chain Upstream from the Producer

The illustration on the next page depicts the upstream value chain serving Peru's producers of perishable fruits and vegetables.

Upstream in Peru's perishable agricultural products sector, producers purchase inputs in the form of machinery, equipment, and agro-industrial tools, as well as irrigation implements, fences, fuels, and packaging materials, including bales, cardboard, labels, etc. Some of these inputs, especially chemicals, tools and equipment, are imported from foreign firms that have local representation and permanent local stocks. Although each brand may have only one representative, importer, or distributor, there are enough providers in the market of most of these inputs and services that competition is intense across brands. As the figure illustrates, the number of participants in each segment of the chain is quite high, except in the case of fuel—which is such a generic commodity that only four providers, plus the threat of additional competition, are enough to produce some market discipline. Other inputs, such as cardboard, bands, towels, asparagus holders, and basic fertilizers, are mostly provided by local producers,

Agro-Exports Supply Chain – Upstream



Source: Interviews.

but in some cases with relatively high markups that reveal lack of sufficient competition in the market.

In services, competition is much more intense. Mostly local consultants, many of them on retainer by producer associations, chambers, or even the government, provide technical assistance for the growth and protection of crops, for example. Several certification bodies (for instance, INDECOPI) decide on technical norms. Verification of origin is extended by SENASA (a government body). Other public sector departments are responsible for lab tests, SPS, food safety, etc.

In general, the supply of inputs of both goods and services is sufficient and competitive, and levels of quality and timely delivery have improved significantly over the last few years, although they vary across specific products, as we illustrate below. We find, however, three problems in this area very worthy of mention:

- » Services for quality control, including toxicological analysis, are lacking, which is very important for exports to developed markets, and especially to Europe. This is especially true in the case of avocados and citrus, where maximum allowances for pesticide residuals are often exceeded. In the event this occurs, the foreign market requires that samples be taken to labs before the crops are mature to determine the optimal timing for harvesting taking into account the absorption of these chemicals. In Peru, there are no labs that can perform these analyses, re-

sulting in delays of 10–15 days, as well as additional costs incurred by the need to take these samples to labs in Chile. Local producers estimate that a local lab would reduce the wait time to three days and result in a much lower cost. Due to the lack of this type of lab, a portion of the value chain suffers unnecessary delays and reduced competitiveness.

- » Government services related to sanitary issues and technical norms are adequate but not expanding at the pace required by the growth of the sector. This is particularly true in the case of SENASA (the National Agricultural Sanitary Service), a part of the Ministry of Agriculture, which issues sanitary certificates and sets technical norms for the production of fruits and vegetables in collaboration with INDECOPI. Although private sector interview respondents said that these institutions do an acceptable job, they noted that neither the agency's budget nor its staff have grown in a period when exports under their supervision have tripled. Acquisition of new, more efficient technologies that would allow the agency to keep pace has also fallen behind. This means that the processing of certificates required by importers, which was formerly very quick and adequate, has become increasingly delayed and prone to errors. There is a concern that exporters pay taxes that should go to SENASA, but instead are being diverted to other items in the federal budget.
- » There are significant markups in the prices of some key inputs and services. Prices are particularly high for agrochemical products such as fertilizers, pesticides, etc. As a result, many large producers are importing these products directly, which is inefficient due to delays, shortages of local stocks, and a lack of services and technical support connected to the imported product. Farmers have also organized (as in the case of AIUs, described in the box on page 22) to find solutions to this problem.

Logistics is a common—and key—link between the upstream and downstream value chain. In shipping and port costs, Peru is quite competitive, whether compared to its immediate neighbors or with other developing regions in the world. It takes less time and less paperwork (although more money) to process imports and exports in a Peruvian port than in the average Latin American competitor, and the cost per container, at US\$875, is 28.8 percent lower than the regional average, and 18.1 percent less than the OECD average. Peruvian exports consist more of bulky items with large volume-to-value ratios than in other countries, which makes shipping costs a very important aspect of overall competitiveness.

Special case: The Farmer-Importer-User arrangement

A farmer-importer-user (AIU after its initials in Spanish) is a form of organization that allows local users of a certain size to legally circumvent authorized distributors of agrochemicals and buy these inputs more cheaply abroad.¹ Many large producers and producer-associations have taken advantage of this arrangement to import directly. Becoming certified as an AIU is a cumbersome process taking roughly 30 days. The process requires seven separate legal documents that establish the candidate's condition as a landholder and a producer. It sets forth his production plans, provides proof of both his ability to handle the imported chemicals without the technical support of the authorized importer, and that he has the financial resources to purchase these inputs without trade credit. The savings to be gained from an AIU certificate can be sizeable, as shown in the next table related to the purchases by PROCITRUS. In this example, which involves several products, cutting the middleman can result in the AIU paying between a tenth and a third of the local market price. Savings of this magnitude clearly justify the costs for the logistics and other expenses required by taking this approach. Representatives of other main players, including PROVID and Frio Aereo, also reported similar levels of savings under their AIU for other agrochemicals.

Since its inception in 2000 the use of the mechanism, and the production and exports of the sector that it serves, has grown greatly; some attribute much of this growth to AIUs.

Not surprisingly, the local distributors of foreign agrochemicals have organized to fight the AIUs, arguing that they violate the spirit if not the letter of the international and regional trade agreements to which Peru has subscribed. Moreover, they contend that the stringent requirements that they must meet place them at a competitive disadvantage with direct overseas procurement. They argue, for example, that it takes a foreign distributor roughly three years to get approval to import a particular pesticide for local distribution, while AIUs that import the same pesticide for their own use directly from a country where it is already legal can do the required paperwork much faster.² The distributors also point out that since some of the requirements waived for AIUs are related to health and environmental concerns, these expedited procedures place the country at risk. Finally, they claim that some of the AIU imports end up in a black market, rather than solely used by their members, although SENASA denies the existence of any evidence for this.

As a consequence of this disagreement, the foreign distributors have sought the support of their home governments to take formal action through channels provided in their international agreements with Peru, seeking to eliminate the practice of AIUs. While, of

Continued on next page

Special case: The Farmer-Importer-User arrangement (*continued*)

course, we are not rendering legal opinion, we feel that these arguments very likely lack merit. Parallel imports, that is, the license to buy abroad at market prices the very same product that a local distributor carries, and bring it into the country, are allowed under WTO rules as well as under most FTAs. It does not jeopardize the health of the environment to import cheaply the same product that, when imported at a high markup, passes the corresponding tests. Even if AIUs, in their current form, were shown to be in violation of some international agreements, it would be clearly possible—and in our opinion beneficial—to devise a mechanism that satisfies the letter and spirit of trade agreements while breaking the distributors' market power, thus making agrochemicals available at competitive world prices. In fact, the reason these agreements are pursued in the first place is to break the ability of local monopolies to extract the consumer surplus, and to foster competitive access at world prices for the domestic market.

¹ As in other Latin American countries, Peru allows the legal figure of the local representative who holds exclusive rights to distribution of the products of a particular foreign supplier through a contract that is very hard to break. In these circumstances, the representatives use their monopoly power to increase prices significantly, since they can in practice forbid entry through customs of the output from their supplier. Legal innovations, like the AIU, break that monopoly power. Interestingly, the FTAs that many Latin American countries have entered recently with Canada, the European Union and, especially, the United States, also tend to contain provisions that have the same effect.

² See for instance the final report for the IDB program Desarrollo de Políticas de Comercio Exterior, Registro de Agricultor, Importador Usuario de Plaguicidas Agrícolas, documented by the Lima Chamber of Commerce, 2005, in which they argue that while general directive DS N° 016-2000-AG simplifies the procedure for AIUs to import plaguicidas, the almost simultaneous regulation RM N° 1216-2001-AG, makes the procedure more complicated for registered exclusive distributors authorized by SENASA.

Agrochemical Prices In and Out of AIU

Product	For AIU Procitrus	Authorized distributor
Abamectina	25.00	81.4–202.3
Wet Sulfur	2.00	5.47–5.83
Propargite	11.00	33.32
ClofenteZin	44.00	129.52
Iprodione	29.60	92.23
Gliphosate	3.90	12.00–19.62
Acetamiprid	27.20	204.68

Source: IDB – Foreign Trade Policy Development Program. AIU Registry.

Nevertheless, there is room for improvement. Shipping costs and delays are lower in Chile, a very relevant competitor in fresh produce. Also, the following tables illustrate that the bureaucratic cost of shipping is high in Peru, in itself and compared to Panama, the regional benchmark.

Of course, origin certification and meeting high sanitary standards and strict technical norms are very important for Peru, and explain a significant portion of the higher cost and delay relative to some other countries. If the perishable exports sector were to waive those requirements for the sake of expediency, it would pay the cost in lost marketability, value, and product differentiation. Instead, a more urgent invest-

Paperwork and Process for Exports and Imports in Peru

Export Procedure	Days	Days in Panama	Cost (US\$)
Document preparation	12	4	165
Customs declaration and technical norms	5	1	100
Port and terminal processing	4	1	330
Shipping and handling inland	3	3	280
Total	24	9	875

Documents for export (*) means also required in Panama)

Bill of Lading (*)	Contents list
Origin Certificate	Sanitary/phytosanitary certificate
Invoice (*)	Handling request for terminal
Customs declaration for export (*)	Technical norms certificate

Import Procedure	Days	Days in Panama	Cost (US\$)
Document preparation	12	6	185
Customs declaration and technical norms	5	1	100
Port and terminal processing	6	1	330
Shipping and handling inland	2	1	280
Total	25	9	895

Import documents (*) means also required in Panama)

Bill of Lading (*)	Commercial invoice (*)
Authority for release of cargo	Customs import declaration (*)
Origin certificate	List of contents (*)
Collection order	Handling request for terminal

Source: Doing Business 2009, World Bank.

ment would be to reduce the time and cost of port and terminal processing. Furthermore, too many days are lost due to the need to prepare complex documents. While the documentation process is more expensive in developed countries, it takes less than half the time. Perishables are a business where delays are particularly costly.

Recent estimates suggest that one additional day of delay in the export process implies roughly 1 percent less export volume. This effect is even larger for time-sensitive products with a limited storage life.¹⁸ Asparagus, like most fruits and vegetables, has a storage life of 21 days from packaging to market. As such, much of Peru's output in perishable exports is forced to link up early to expensive cold chains in order to retain market viability during lengthy delays in ports and customs. In economic terms, the extra three days of waiting for export processing puts Peru to the south of Chile, that is, farther from the European and North American destinations of competing produce.

Cost and Delay for Processing Foreign Trade at Border

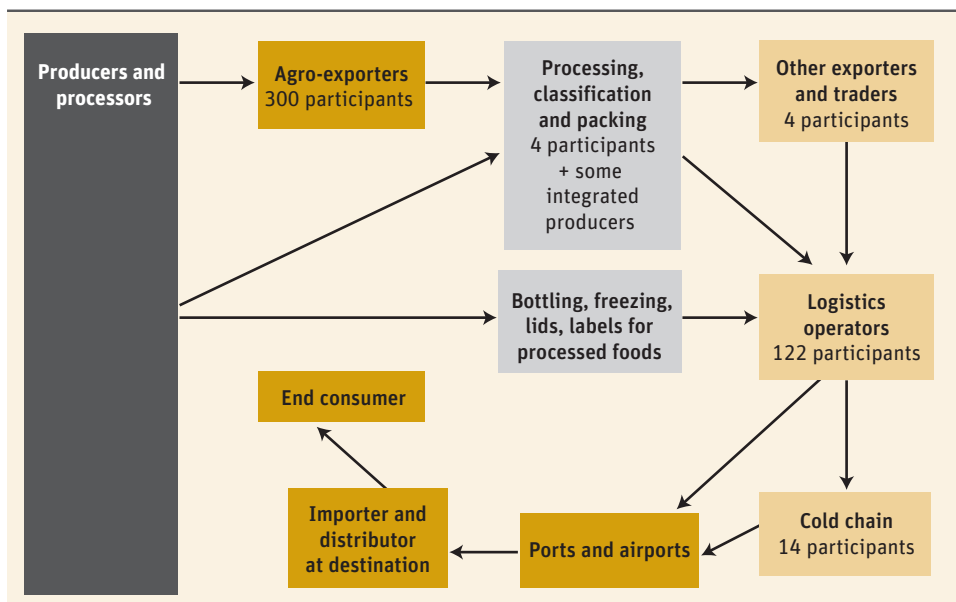
Region or country	Number of documents for export	Days to clear exports	Cost (exp) per container	Number of documents for import	Days to clear imports	Cost (imp) per container
Peru	7.0	24.0	875	8.0	25.0	895
East Asia	6.7	23.3	902	7.1	24.5	948
E. Europe	7.1	29.7	1,649	8.3	31.7	1,822
Latin America	6.9	19.7	1,230	7.4	22.3	1,384
Middle East & N. Africa	6.5	23.3	1,024	7.6	26.7	1,204
OECD	4.5	10.7	1,069	5.1	11.4	1,132
South Asia	8.5	33.0	1,339	9.0	32.5	1,487
Sub-Sahara	7.8	34.7	1,879	8.8	41.1	2,279
Colombia	6.0	14.0	1,690	8.0	15.0	1,640
Chile	6.0	21.0	745	7.0	21.0	795
Panama	3.0	9.0	729	4.0	9.0	879
Ecuador	9.0	20.0	1,345	7.0	29.0	1,332

Source: Doing Business 2009, World Bank.

Mapping the Value Chain Downstream from the Producer

The next figure illustrates the other half of the general value chain for perishable exports. Downstream from farmers we also find several value chain segments that

Peru Agro Export Supply Chain – Downstream



involve a sufficient number of providers to guarantee competition and internationally comparable prices and quality that allow output to reach the foreign final consumer in an effective and competitive way. Over 300 companies export directly, in addition to a number of producers and processors. There are also 122 logistics operators that serve the perishables sector in the process of getting their output to foreign markets.

Some of the processors or packaging plants in the chain are either owned by the larger individual agricultural producers or by associations, groups, or cooperatives. Only a handful of processing plants are stand-alone businesses. This means that this link in the chain is usually very fluid. In some cases, the availability of a cold chain is needed to add value to the resulting output.

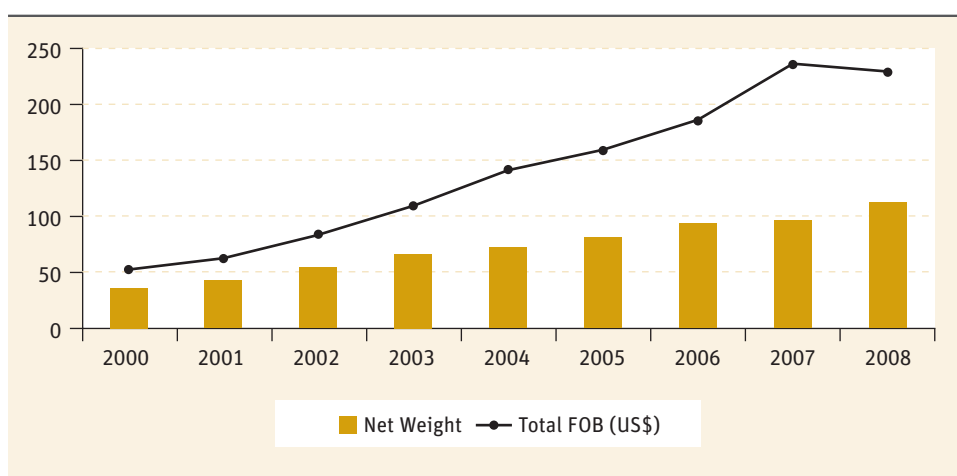
Several different companies participate in different aspects of the logistics for a single exporter. These include cargo or shipment consolidators, either acting as intermediaries to provide smaller quantities and larger variety to foreign buyers, or shipping agents that combine the cargo of different producers in a single container.

The logistics and export process varies significantly across different perishable products, so we will look at two specific examples, beginning with asparagus, arguably the main success of Peruvian perishable exports, and then fruits and avocado, a heterogeneous and dynamic sector.

Asparagus

Asparagus has been one of the most dynamic export industries for Peru in the last few years, and today amounts to 51 percent of total exports of non-traditional perishables. Annual growth since 2000 has averaged 15 percent in volume and 20 percent in value. Two-thirds of asparagus exports is sold to the U.S., with several European nations (Spain, United Kingdom, the Netherlands) accounting for most of the rest.

Peruvian Asparagus Exports



Source: PROMPerú.

Most fresh asparagus is produced in Ancash and Ica, near Lima. Some is also now grown in Piura and Lambayeque, which are more distant from the capital. As recently as 2004, 92 percent of the exports were transported by air, mostly via the Lima International Airport, although improvements in cold chain logistics now make it possible to transport 29 percent of the crop by sea, mostly through Callao Port.

Asparagus is mostly produced in the last third of the year. Peru's 20,000 hectares of asparagus fields yield on average 20 tons per hectare per year and employ some 60,000 permanent workers. Independent growers were paid about US\$0.84 per Kg in 2006.

Production costs vary depending on the type of soil, climate, and the variety of the asparagus being grown. An Ica producer with intermediate technology invests about US\$3,000/Ha to prepare the land and an additional \$3,250/Ha for the production process for a yield of roughly 10,000 Kg/Ha. The grower generally receives a substantial before-tax return.

Cost of a one-Ha asparagus field (Ida Lea variety planted in ICA for a yield of 10,000 Kg/Ha)

Preparation cost		Maintenance cost	
Labor	US\$373.70	Labor	US\$246.90
Inputs	1722.90	Inputs	1374.90
Machinery	185.70	Machinery	78.60
Other	228.20	Crop collection	651.40
		Packaging, transport	114.30
		Others	246.60
Indirect costs	502.10	Indirect costs	542.50
Total	US\$3012.60	Total	US\$3255.10

Source: Ica Regional Offices of Ministry of Agriculture.

The value chain involves some 20 exporting companies, 21 ground transportation firms, 14 cargo and shipping agencies, and about a dozen airlines for shipment to Europe and the U.S. In South American terms, Lima is a particularly well-served airline destination. This is due in large part to the positive externality provided by the tourism industry, which has been partly responsible for substantial improvements in the airport in recent years. A list of participants in the different segments of the market appears on the next page.

Other participants in the asparagus cluster are cold chain companies (prominently, FríoAéreo, which we describe in the box on page 30), government institutions such as SENASA and INDECOPI), the Peruvian Institute for Asparagus and Produce, the Entomological Society of Peru and, the upstream segments of the industry detailed previously.

One of the key challenges in this value chain is the short shelf life of asparagus, which makes time an issue. Asparagus is very sensitive to temperature, and needs to be stored at a temperature between 2.8°C and 5°C, with high humidity. Small temperature changes can be costly, since quality suffers at temperatures less than 1.7°C.

In general, the distributor in the importing country should receive the cargo within 4–5 days of harvesting to take full advantage of market opportunities. Shipping by sea, which requires about 13–16 days, is cheaper but limits the potential value of the crop significantly, because even under the best conditions asparagus can hardly last beyond 21 days. The chart on page 30 details the time and cost spent downstream from the producer once the product is processed and packaged. Markups are large as the chain progresses: a Kg of asparagus costs US\$0.84 at the farm, and the exporter can trans-

Exporters	Ground transportation	Cargo and shipping	Airlines to US
Complejo Agro Beta	Garrido E.T.R.L	New Transport	LAN Chile S.A.
AgrícolaChapi	Sur y Norte Express	DHL Global	Arrow Air
Agrícola Athos	Servicios Mantilla	CEVA Logistics Peru	Centurión Air
Agroparacas	Young Malatesta	APM Global	Atlas 2
Peak Quality Perú	De Souza Ferreira	Panalpina	Tampa Cargo S.A.
Tal	Transporte G Y C	Hellmann WorldWide Logistic	Airmax S.A.
Inca Frut	Transp. y Serv JYR	PeruTravel	Polar Air Cargo
Santa Sofía del Sur	Thetrasnfaster C	Bax Global	CielosAndinos
Damper Trujillo	Tramecco Mao	UPS SCS (Perú)	Mercury Air Cargo
Agrícola Huarney	TransporteBesisso	Kuehne& Nagel	Avianca
CorporaciónApeisa	Transporte Tibal	Jara & Jara S.C.R.L.	Varilog
Espárragos del Sur	Transp. Castro	Capital Freight Perú	MartinAir
Camposol	Grupo Eberz S.R.L.	Cielos del Perú	Airlines to Europe
Agroinper	Figuroa Valencia	C.H. Robinson	IBERIA
ExpoFrutPerú	Transp. Laos Hnos		LAN Chile S.A.
Proagro	Transpesa		DELTA
AgroindNieveria	Rodríguez Figuroa		KLM
Intipa Flower	Logística del Sur		Air Plus Comet
Agroindustrias AIB	Transp Figuroa	Alitalia	British Airways
Exotic Foods	TranspGuscapa	Polar Air Cargo	Air Canada
	Transportes R.R.V.	Tampa Cargo S.A.	Cargi B. Aukubes

Source: Interviews.

port it to the U.S. for about US\$2.50–US\$3.00 (our estimate). The importer pays roughly US\$4.25 and the end consumer US\$8.80. The increase in cost does not necessarily signify very large profits, but rather the high costs incurred at different stages in the value chain as well as competition. It does mean that—whether profit or cost—50 percent of value added takes place outside of Peru, and 90 percent off the farm.

Even though the logistical and other challenges associated with imports and exports in this sector have been quite streamlined, as discussed above, and the growth of the exports themselves provides clear evidence of Peru’s strong competitiveness as an exporter of perishables, weaknesses in the overall business climate touched on earlier still hinder the sector.¹⁹ There is clear potential to add more value and integrate some

Costs and Times in Different Stages of the Value Chain

	Time	Money
Production, processing, and packaging	See above	See above
From plant to cold chain	2–5 hours	—
Cold treatment before shipping	21–24 hours +2–3 days if by sea	US\$0.03/Kg
Air cargo	5–6 hours (U.S.)	US\$1.40 /Kg
Shipping	9–11 days	—
Sanitary processing at destination	5 hours	US\$0.10/Kg (assuming all OK, paid by exporter)
Importer		UA\$4.23–US\$4.52/Kg (2008) US\$4.64/Kg (2006–07 avg.)
End consumer		Paid US\$8.80/Kg in 2006

Source: Interviews.

Special case: Asociación Civil Frío Aéreo

In 1997, ten medium and large firms exporting asparagus, flowers, grapes, and other fruits created a consortium to consolidate, expand, and improve the positioning of Peruvian perishables in the international market. Today the consortium has 32 associates, and delivers services to 90 others of every size. By 2007 it handled about 83 percent of the cargo of fresh agricultural perishables exported by air from Peru, or 76,000 MT. This includes 83 percent of the asparagus and 99 percent of fresh flowers exported. With its expansion last year, the consortium now has an installed capacity to process simultaneously 2,700 MT of refrigerated perishables, which translates into the capacity to handle one pallet a minute and deal with five DC-10 aircraft simultaneously.

Before *FríoAéreo*, perishables could remain on a cargo plane ramp for up to four hours without the proper conditions of cold and humidity. This delay compromised quality and price and made disposal of spoiled inventories one of the main line items in the cost structure of exporters. There were also standard deviations of as much as 7°C along the cold chain, which can be devastating to asparagus, as has been noted before, as well to flowers. By 2007, the variations in temperature had fallen to under one tenth of their level in 1997. As a result of quality monitoring measures and better logistical management, 80 percent of the asparagus qualifies as “premium” or “extra” once it reaches the final market.

Continued on next page


Special case: Asociación Civil Frío Aéreo (*continued*)

Advanced logistics such as those provided by FríoAéreo also make it possible to trace the product for quality and security purposes from the plant—or even the farm—to the importer. Measurements of temperature, humidity, quality, appearance, sanitary conditions, etc., are made along the process, not only at the beginning and end. This approach fosters learning and results in implementation of better practices. Through testing, damaged cargo can be identified and returned to the plant for resorting or repackaging, or even discarding, to avoid significant unnecessary shipping costs. FríoAéreo manages the shipping from the plant to the cold chain, thus integrating a large number of stages in the value chain. By streamlining the logistics, cargo currently spends less than an hour waiting to be loaded, and in case of delays or failures it can be kept within the cold chain and safe from damage.

This type of operation also makes it possible to do the sorting and palleting required to make separate shipments to different clients prior to shipment, which results in value added that remains in Peru. The alternative would be for to perform these activities after the product reaches the destination market, where the importer and distributor would pay the cost and reap the profits. These types of “retail logistics” have been found to account for a sizeable part of the job creation, value addition, and differentiation of exports of other countries. FríoAéreo also provides its customers with other services, such as joint purchasing of agrochemicals and other materials and inputs, under the auspices of the AIU as explained previously, which has yielded FríoAéreo members US\$3 million in savings since 2000.

FríoAéreo generates statistics for quality, sanitary condition, temperature, and humidity, which producers can use to benchmark against their peers and certify these conditions more clearly. It also provides traceability services to help ensure high standards for Peruvian output overall and to prevent security and drug problems or other potential public relations issues in destination markets. Finally, FríoAéreo organizes the “Golden Penguin Awards” in which the better logistics operators are singled out as a way of fostering healthy competition. In meetings with government and media, FríoAéreo advocates policy measures and raises awareness of the contribution perishable exports make to the Peruvian economy.

of the downstream processes into the Peruvian value chain for some of these products that currently occurs at their market of destination. Realizing such potentials would depend greatly on carrying out improvements in Peru’s institutions, capacity for innovation, technological readiness, and human capital, as was addressed previously. Some specific problems that need to be addressed are as follows:

- 
- » Despite the presence of some two dozen cargo airlines, exporters do not have as much choice in air transport as it would seem. The reason is the limited number of flights actually available and also contractual rigidities between shippers and airlines that reduces options for the exporter. For example, only a handful of logistics companies possess the legal status of Almacén Importador Autorizado (AIA), which allows them certain privileges in the processing of cargo. Some airlines have an exclusive relationship with specific AIAs in exchange for reductions on their domestic costs through their administration partnership with the AIA. In this arrangement, the airline requires that an exporter must ship through their chosen logistics provider in order to ship with them. Naturally, this enables the provider to charge more for logistics and for inputs imported through them. Airlines that require the use of a particular AIA for storage and logistics also charge US\$1/Kg to collect the cargo from the facility. Only FríoAéreo seems to be large enough to avoid this additional cost altogether. Some exporters we interviewed argued that their counterparts in Colombia and Ecuador now enjoy much lower rates since similar arrangements were abolished. Air freight shipping rates are relatively expensive in Peru (several times more than in Chile or Argentina). Also, as Peruvian exports are much bulkier (in volume per dollar) than imports, the exporter is required to pay the roundtrips for containers, which return empty to Peru. It cost US\$0.35/Kg to unload in Lima in 2008, against US\$1.40 to upload.
 - » While exporters have organized to consolidate input purchases (AIU) and run their own logistics (FríoAéreo), which breaks entry barriers and reduces costs, they still do the marketing in individual overseas destinations. Farmers would either sell to processors who then export on their own, or pay a processor for the cleaning and packaging services to then export directly and on their own. This is an inefficient way to do business. There are large fixed costs in the marketing process, plus learning and management investments that need to be incurred by each exporter. The result is a great deal of duplication, many mistakes, and a huge burden on the margin for small farmers. There are some activities (data collection, joint marketing, timing of sales, etc.) that do not make sense at all from the point of view of a small producer. In general, groups of producers selling their output collectively would get better prices and benefit from lower costs. The incentives to add more value to the crop before sales would be stronger if the cost and risk could be spread among many producers. Even traceability would be enhanced if producers were organized. Chile and Costa Rica offer some

interesting examples of such joint arrangements achieved through cooperatives, policy measures, or entrepreneurship.

- » Peruvian asparagus encounters phytosanitary problems in the form of contamination from eggs of a species of lepidopterus. This is not the case with Mexican asparagus, Peru's main competition. As a result, Peruvian farmers have to pay for a compulsory fumigation with methyl bromide once the crop reaches the U.S., which is not only expensive but also reduces its marketability, since many American supermarket chains and consumers are concerned that this chemical could be detrimental to human health. Additionally, the fumigation process breaks the cold chain, because asparagus must be placed in fumigation chambers, which are not only not refrigerated, but in fact must be warmed up for the methyl bromide to work. In high season, when volumes of asparagus being shipped are at their peak, bottlenecks at the fumigation plants in the U.S. are quite common. This can create a serious problem, since asparagus will spoil if it is removed from the cold chain for more than one day.

The practice of fumigation started in 2002, after Peru had been a significant exporter of asparagus for over a decade. The practice is now mandatory for every shipment instead of in response to random inspections, as was the case in the past. More importantly, there is no entity in Peru certified to carry out fumigation before shipping. APHIS, the U.S. agency in charge of these issues, warned several years ago that if Peruvian producers would properly dispose damaged crops the requirement could be waived. At this point, however, there has been no effective way to enforce or verify proper disposal, nor even—as a second best solution—a way of administering the fumigation in Peru.

An alternative to fumigation under consideration is irradiation. It does not damage the product or break the value chain, and is cleaner and more environmentally friendly than fumigation. APHIS has hinted that if the process is well managed, it would agree to radiation intensities that would not require a warning sticker that would reduce the product's marketability. The irradiation process could also benefit other products, particularly those affected by fruit flies, like mango, cherimoya, and berries. Since it could be done in Peru prior to shipping, bottlenecks could be avoided and the timing would be optimized. Since the irradiation chamber would cost about \$8 million (less than three years worth of the fumigation cost, and not counting the improved efficiencies and perceived value), it is surprising that it has not been built by a private enterprise; this market failure must be resolved.

Fruit

Peruvian fruit exports—primarily orange, grape, avocado, mango, tangerine, and grapefruit—have grown dramatically in the past few years.²⁰ The growth in fruit exports is due to international marketing rather than raising production, which had already been very high for decades. But until recently, the products were mostly sold on the domestic market, in the same way that coconut, apples, papaya, and pineapple are still wholly consumed locally. Peru's growing exports of fruit owe their success to improvements in business practices and marketing, rather than improvements in productivity or quality. Those improvements have brought international markets within reach and turned fruit exports into a hard currency earner.

Production and Exports of Fruits, 2000–2007

	Output Growth	Growth in Volume	Growth in Value	Planted Area	Output per Hectare	% of Crop Exported
Tangerine	6%	68%	72%	9629	19774	1%–11%
Mango	13%	22%	16%	22936	12838	17%–28%
Orange	4%	127%	127%	25971	13256	0%–2%
Avocado	6%	57%	61%	13603	8948	3%–31%
Grape	9%	47%	47%	12207	16106	3%–13%

Source: SUNAT, ADEX, Ministerio de Agricultura and AGAP.

Value of Exports (\$000s)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Tangerine	0.6	1.7	3.6	4.7	8.1	11.1	14.7	16.8	24.5
Mango	23.1	26.8	33.0	31.0	41.9	38.3	59.0	62.1	64.1
Orange	0.0	0.1	0.1	0.0	0.2	0.2	0.5	3.6	7.2
Avocado	2.5	3.5	4.9	15.7	18.7	23.3	38.8	47.1	69.0
Grape	6.0	11.3	18.0	23.3	21.8	33.9	51.0	60.5	86.2
Tangelo	0.5	2.0	2.8	3.4	5.1	6.9	7.8	13.3	—

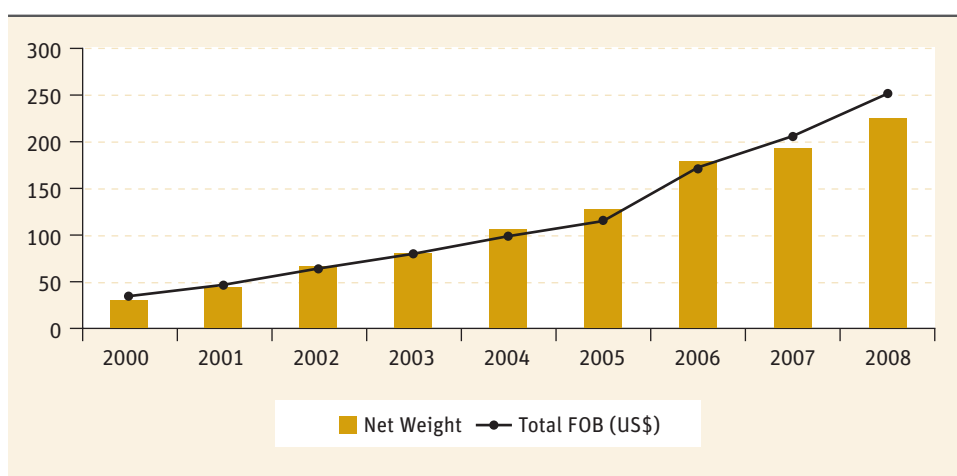
Sources: SUNAT, ADEX and AGAP.

This sector now earns roughly US\$250 million. As with asparagus, the U.S. is the main market, importing at least 40 percent of Peru's orange, mango, tangerine, and tangelo exports. But the fraction of fruit that goes to the EU is much higher than

before, especially because Central America, Mexico, Brazil, and Chile have cornered the U.S. market for some of these products. International prices are relatively stable, with the annual growth of the dollar price for the sample in the previous table ranging between -4.5 percent for mango and 3 percent for avocado).

While fruit is perishable and freshness commands premium prices, its window of opportunity is less narrow than for asparagus, making proximity less important. While the details vary depending on the particular fruit, these products are shipped essentially unprocessed and in bulk, making them less sensitive to time limitations than asparagus; as a result, they are transported by ship. The value chain involves farmers, middlemen that buy from them, and the process and packaging plants, which also act as exporters. Not surprisingly, some of their logistical needs, and the logistics operators themselves, also work in the asparagus value chain. From the destination side, large distributors act as importers.

Total Exports of Selected Fruits



Source: SUNAT, ADEX y AGAP.

These products occupy some 85,000 hectares of agricultural land, a small area considering Peru's extensive arable resources.²¹ Citrus is mostly produced in the Lima, Junín, Ica, Ucayali, and Puno regions. Grapes are mostly grown in drier areas such as Piura, Lambayeque, La Libertad, and Ica. Avocado is cultivated throughout the coast, in Piura, Lambayeque, La Libertad, Ancash, Lima, Ica, Arequipa, Moquegua, and Tacna. Finally, mango is produced in Piura, Motupe, Lambayeque (including Olmos al Norte), Ica, Junín, and Loreto. The map on page 36 indicates these locations.

Main Production Zones for Exportable Fruit



Source: ProHass, ProCitrus, ProVid & APEM.

These are permanent crops that yield throughout the year, although the volume is highly seasonal. Their total annual output is roughly 1.15 million tons, of which 20 percent, or 222,000 tons, are exported. As illustrated by the following charts, there are good reasons to sell to the international market, including markups of 3 to 5 times relative to the producer price. This can amount to as much as US\$4,200 per hectare for oranges, over US\$7,200 for tangerines, mango or avocado, and US\$30,000 for grapes, which are more costly to produce.

Yields and Revenues for the Selected Products, 2007

	Yield Kg /Ha	Growth 2000–2007	Producer Price ¢/Kg	Export Price ¢/Kg
Tangerine	19.8	2%	23.6	78.5
Mango	12.8	2%	17.7	76.1
Orange	13.3	3%	14.1	46.4
Avocado	8.9	-1%	38.3	125.5
Grape	16.1	6%	46.8	232.0

Source: SUNAT, ADEX, Ministerio de Agricultura and AGAP.

Cost Structures for Various Exported Fresh Fruit

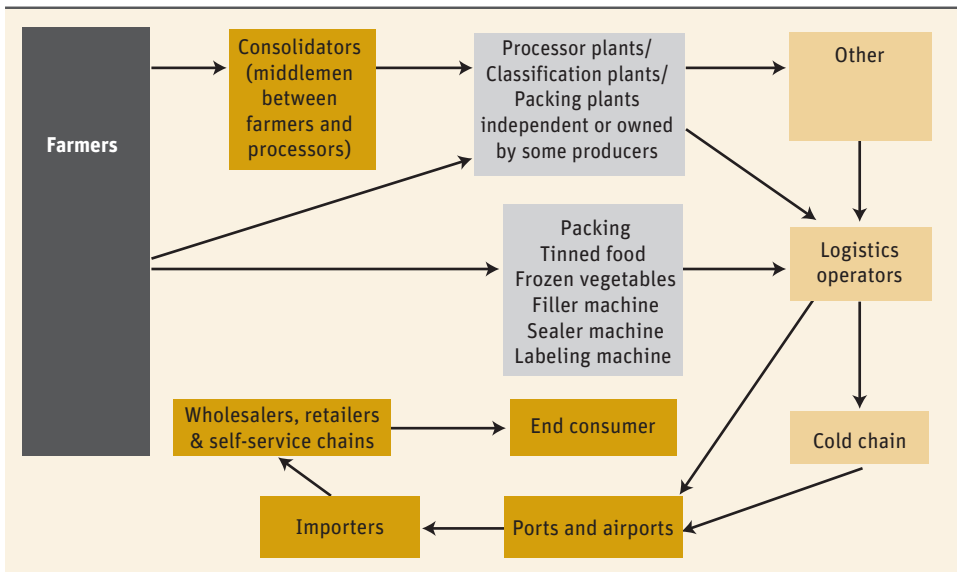
	Annual cost		Initial investment	
	Mango	Avocado	Avocado	Grape
Labor	421	307	299	669
Machines	46	436	382	272
Inputs	995	1,563	814	9,125
Tech support	54	77	50	500
Misc & Fin	176	179	116	1,470
TOTAL	1,691	2,562	1,662	12,036
Crop (reference)	20	11	11	14.1
Annual revenue	3,540	4,213	—	6,599

Source: Agencia Agraria San Lorenzo, quoted in MAXIMIXE (mango); Empresa Verde Flor, quoted in Sierra Exportadora (avocado); Agrobanco (grape)

Farmers are organized in producer associations as follows:

- » The **grape** industry is quite concentrated, with 36 members in the industry chamber, PROVID, of which only 10 are exporters, and two (Sociedad Agrícola Drokasa S.A. and El Pedregal S.A.) accounting for half these exports.
- » There are 109 producers and exporters of **mango** affiliated with APEM. The industry leader, Sunshine Export, has 13.2 percent of the exports, and all others have shares under 5 percent, thus making the sector very disaggregated. They do business with about 225 importers, of which 20 represent half of the market. Most of the export products are transported by ship. There are 19 packaging and processing plants, nine of them specializing in the U.S. market.
- » There are at least 130 exporters of **citrus**, the largest of which is a collaborative effort of over 50 farmers, described in the box on page 39. There are four processing plants, which process not only citrus, but other fruits as well. These plants wash, disinfect, and package the fruit for a period of one day, then enter it into the cold chain, as is the case with asparagus. There are many logistics operators, and all the cargo is transported by sea.
- » There are 68 registered producers and 30 exporters of **avocado**. After packaging, which is a much simpler process than with other fruits, the fruit enters the cold chain. All the cargo travels by sea, and Peruvian producers have become quite sophisticated in matters of traceability, labeling, and certification.

Value Chain for Exported Fruits



Costs, Prices and Delays along the Downstream Value Chain

	Citrus and Avocado	Mango	Grapes
Processing and packaging	1 day, and US\$0.22/Kg (cit) US\$0.45/Kg (av)	US\$6914 per container	1–2 hrs –
Paperwork	–	US\$634.70 per container	
Plant to port	It takes 4–6 hrs at the port for loading, and US\$0.05–US\$0.067/Kg, for customs, the shipping agency, land transport, and container rental. Citrus and avocado wait 7–15 days at the plant, and 5 days at port, to meet U.S. sanitary requirements.		
Shipping to main markets	9 days, and US\$8,152.80 per container, to the U.S.; 23–25 days to the EU; 30–40 days, and US\$4,679 per container, to China		
Importer and distributor	US\$0.84/kg for tangerine and grapefruit, US\$0.494/kg for orange		US\$1.944/Kg

Source: Interviews.

Despite this sector's clear strengths and potential, a number of improvements could be made to improve the competitiveness of Peruvian fruit exports. After all, this is a very challenging market, in which several Latin American countries (Mexico in avocado and berries, Costa Rica in tropical fruits, Chile and Argentina in grapes and winter counter-seasonals, and Brazil almost across the board) have reached high levels of productivity, differentiation, and penetration. Those countries also have a lead in developing

Special case: Consorcio de Productores de Frutas Frescas

The Consortium of Producers of Fresh Fruit (CPF, after its initials in Spanish) is an association of about 50 producers and exporters of citrus and avocado created in 2001. It is currently Peru's leading citrus exporter and the second largest avocado exporter. Since its creation, it has increased its exports from 3 to 19 million Kg per year, of which 30 percent is avocado and 70 percent citrus. They market their “Malki” brand abroad, and account for 80 percent of Peruvian citrus exports.

CPF is organized to provide producers with pre- and post-crop technical support, supervision of field operations, and analysis of the fruit and pesticide residuals. It receives the fruit, contracts the processing plant, and advances the money for packaging, paying the logistics operator and the shipping, all of which it supervises. It contracts directly with the foreign customer, organizes the finances, maintains traceability of all production, and offers a more differentiated product than its competitors, meeting the different requirements of specific buyers and markets. It owns three of the four processing plants that it utilizes in its business. Clearly, individual producers making up the collective could not possibly run these services on their own. CPF exports around 1,200 containers per year, is certified by Global Gap, and is preparing to market grapes as well.¹

¹ This manner of association by growers into an integrated firm that can provide very specialized services at reasonable conditions is a valuable way of breaking the barriers that individuals have to meet on their own in terms of the quality and efficiency requirements of the market. It also makes possible further differentiation and vertical integration than would otherwise be possible. In products where the processing and logistics (domestic and export) are complex, like dairy, there are examples of cooperatives that integrate to make the farmer an owner of the industrial plants, rather than maintain an arm's length relationship with the possibility of inherent conflict of interest. See, for instance, the case of Dos Pinos R.L., in Costa Rica. In products where technical support is key, like some fruits, it is either producers' associations (in some countries, with government involvement), or the integration of smaller farmers around a large farmer/processor (like Pindeco in pineapple production, also in Costa Rica, or Zimbabwe operators growing in conjunction with the expansion of tobacco plantations to Mozambique), that allows these synergies. Trade capacity building in some cases may relate to generating the resources and guidance for these mutually beneficial arrangements to emerge in environments where producers presently compete in very non-cooperative ways.

processing technologies that permit commercial utilization of surplus products, substandard produce, and by-products that are not exported as fresh fruit. In our analysis and in interviews with participants in the industry—especially citrus, avocado and grape growers—a series of weaknesses in the business climate have been identified in addition to the general competitiveness problems mentioned in Chapter 2. These are as follows:

- » There is insufficient competition in the provision of packaging materials, which results not only in high prices but also lower quality and service. Take the case of cardboard boxes. Between 80 and 90 percent of the boxes needed are purchased from one producer in Chile. Because of the distance, the boxes must travel flat, requiring the Peruvian packager to use a shaping machine, which raises costs. Moreover, since Chile's production of similar products is much larger than Peru's, the latter represents a small sliver of market for the companies that produce boxes, with the result that the specific containers Peruvian exporters need may not be available.
- » The European market, perhaps more than any other, is very sensitive to the use of pesticides, and exporting to that region requires verification that pesticide concentrations are minimal. No laboratory in Peru can perform that analysis and certification, which means that exporters must send their product to Chile, which is both costly and also causes a delay of 10–15 days. A similar cost is not incurred by foreign competitors. Moreover, given the time spent in analysis and certification, if the Peruvian product does not meet European standards, there is little opportunity to re-route it to other markets.
- » U.S. rules require that some Peruvian fruit undergo 15–17 days of refrigeration between 1.1°C and 1.67°C. This is problematic for several reasons, including damage to the fruit resulting from an extra few days required to store it, since the shipping time is about nine days, and that along the route fruit is typically kept at a different temperature, 0°C during transportation by ship (i.e., the U.S. rules not only lengthen the time between harvest and market, but also induce additional loss by virtue of the temperature change they require).
- » Exporters also encounter barriers in accessing certain U.S. ports, either due to the manner in which sanitary tests are performed or because the port lacks the inspection equipment. Proximity of the port to plantations of the same product creates political pressure for the inspection to be much more demanding than what is required to meet purely sanitary criteria. Thus, West Coast ports are very difficult for avocado, citrus, and grapes, and the exporter faces risks that any rupture in the cold chain treatment could prevent the container from being unloaded. The same applies to citrus in Miami. Shipments to New York, Philadelphia, or ports in New Jersey, where there is no proximity to growers of the same products, constitutes a longer distance from Peru, and higher transport costs. This kind of obstacle is even more serious considering that Peru's main competitors, with access to Atlantic ports, are closer to those U.S. Northeast entry points.

High Impact Interventions – Port Capacity and Costs

Fresh fruit, especially citrus, is a very bulky product with a low value-to-weight ratio and a time limit for reaching its market. As a result, the competitiveness of fruit exporters is more sensitive to transportation costs and delays than that of other goods or services. In the case of Peru, fruit production is largely spread out across a very large and mountainous country, where only 16 percent of roads are paved, as opposed to 29 percent in Argentina, 46 percent in Indonesia, 75 percent of Malaysia, and 97 percent in Thailand. It is estimated that Peruvian land transportation costs, even on a paved road, are 40 percent higher than in competing countries; 58 percent to 180 percent higher in the case of gravel roads, and 115–290 percent higher for unpaved roads. The highway deficit in Peru has been estimated at \$77 billion. Transport times have doubled on many routes due to the growth of the amount of cargo being shipped.

At the end of the road, the products must queue at ports that, while offering reasonable efficiency, have been put to the test in the last few years by the very success of export growth, which has outstripped needed investments. Peru has 107 ports of different installed capacities, of which 62 are suitable for international trade. Callao, inside Lima proper, handles 70 percent of the export cargo, with Matarani and Paita handling an additional 12 percent. There are 14 port terminals managed by the Empresa Nacional de Puertos (ENAPU, a government enterprise). Only the Matarani facility has been leased to the private sector in a BOT operation. The table on page 42 identifies the costs of moving a container through a Peruvian port, not including costs related to the customs and sanitary processes.

Improvements in Peruvian port infrastructure have not kept pace with the volume of cargo passing through it. This is especially true in the case of SENASA, which today uses the same facilities and personnel to inspect the 64 million tons of product that pass through ports today as it did four years ago, when it had to inspect only 20 million tons. SENASA often requires a month to prepare certificates, which frustrates efforts to sell or liquidate the cargo. Errors in these certificates are frequent, and lack of information technology impedes communication among different government offices. The exporters interviewed insist that the quality of the SENASA staff is very good, but that their number has become very insufficient. All fees charged by SENASA go to the centralized Federal budget; increases in fees that SENASA generates do not influence the size of its budget.

The shipping costs are shown in the following table. Some of these costs exceed the regional mean, especially considering that some of these items are not charged in

other places, such as the cost for lashing and unlashng deck containers, or are only partially covered by the state, such as the sanitary charges. If we include surcharges, Callao has similar costs as Limon, Costa Rica (US\$323.11 vs. US\$377.80 per ton), and is much cheaper than Buenos Aires (US\$646.32). But if we look at per TEU charges paid for the port operation, Callao is expensive (US\$105.05 vs. US\$65.61 in Costa Rica and US\$83.44 in Buenos Aires). The ENAPU charge is also out of the norm (US\$91.67 in Callao, US\$46.82 in Puerto Limón, and US\$35.35 in Buenos Aires).

Total Costs for Shipping a Container

Cost Charged to User	Per unit
Shipping agency (transmission, insurance, control, approval, self-liquidation)	77.10
Port operator (loading and unloading, movement in ground, towing, docking, gate in/gate out, transfer, storage, administration), surcharges	162.08
Customs charges and sanitary approval	131.23
ENAPU (for use of facilities)	99.42
Total Cost to the User	469.83
Cost Charged to the Ship	
Towing, pilotage, use of docking station, beacon and buoy duties	40.06
Lashing and unlashng, receiving and dispatching, sanitary inspection	13.79
Maritime and port security, immigration services, agency commissions	5.56
Loading and unloading, transfer, and handling in transfer	35.42
Storage for empty containers, transshipment facilities	18.19
Total Cost to the Ship	113.02
Cost Charged to the Port Operator	1.32
Total Cost	US\$584.20

Absent from the table are additional costs caused by port inefficiencies, lack of structures, or bad management. These pass directly to the exporter, who then loses margin and competitiveness and ends up paying less for inputs, including labor. The main overcharges are:

- » **Waiting at sea:** On average, ships have to queue for one day in open sea while waiting for space to free up at port, as there are not enough docking stations. This costs US\$141.54 per container.


- » **Slow loading and unloading:** Callao handles 15.6 containers per hour, while the international benchmark is around 60 Containers. This inefficiency represents an additional cost of US\$93.87 per container.
- » **Inventory cost:** The delays force companies to maintain an additional inventory and to pay charges for trucks for the entire six hours that it takes to deliver in Callao; the international benchmark is 30 minutes. This costs an additional US\$181.60 per container.
- » **Structural costs:** Callao runs like a “tool port” with satellite storage. This means that cargo needs to make several trips between facilities, that workers need to move back and forth, and that shipping agencies need much more labor allocated to each ship. This is different from a “landlord” port, where the port workers are the only ones needed, and the loading, reception, storage, and delivery are carried out as parts of a single process. As a result, in Callao, both the port operator and the shipping agencies must take on additional tasks, which are costly. These add up to US\$32.43 over the international benchmark, per container. Another US\$35.42 per container could be saved if the port was run as a landlord port.
- » **ENAPU:** The benchmark of the cost for the port administrator is internationally about half of what ENAPU charges, or US\$66.51 per container.

The above costs, taken together, add up to US\$1,146 per container.

Developing an Integrated Strategy

As a pilot project, the analysis here remains a work in progress. We hope that even in this preliminary form, and without econometric analyses, it becomes clear that an industry’s success in exporting requires more than a good overall business climate, but must also include the ability of that industry to connect effectively to the world market. For a developing country, integration with the world market certainly requires reductions in formal barriers to trade and the establishment of a legal right to access the market. But it also must go beyond that, to understanding and removal of other barriers imposed by geography, lack of competitiveness, or market circumstances, and creation of the effective strengths and strategies.

Further steps in this project would involve benchmarking Peruvian perishables against other Peruvian export successes. Mapping the supply chain of existing successful enterprises would allow Peruvian policymakers and the IDB to evaluate progress in perishable agricultural product exports against those benchmarks. It might also



help illustrate how successful enterprises overcame barriers to trade elsewhere in the Peruvian economy and connected themselves to local, regional, and global markets.

This analytical step could also take the form of benchmarking Peru's perishables sector against successful exporters of similar goods in other countries, such as Costa Rica, Brazil, and Chile. Analyzing the value chains in perishable agricultural products in other countries might offer instructive examples of how to build profitable and sustainable export sectors in perishables that include a greater share of small and medium-size exporters.

Significantly, value chains such as those serving the perishables agriculture sector in Peru do not exist in isolation, but are rather served by other value chains. To the extent warranted by the basic supply chain analysis (i.e., the extent to which either sector represents one of the high value barriers to be addressed), it would also make sense to apply the supply chain analysis to particular sectors that facilitate both trade and broader development goals.

Such an analysis would illuminate inefficiencies, and therefore higher costs, involved in delivering services such as finance and telecommunications that Peruvian producers of perishables and other products depend upon to access export markets. Those sectors have their own supply chains and it may prove helpful to similarly analyze the delivery of those key services as well as the supply chains of product and services markets.

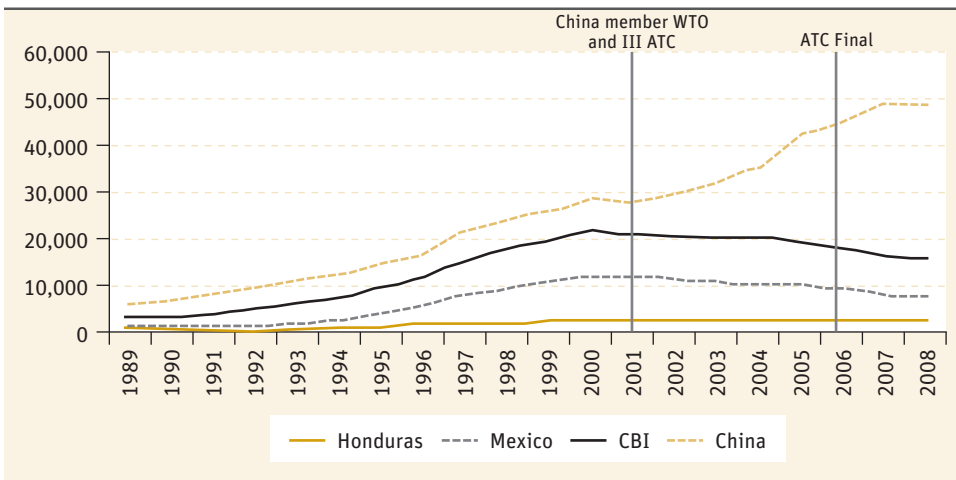
A final step would use the value chain analysis in developing both a country's or a region's trade negotiating strategy and its regional integration strategy. The supply chain analysis outlined above offers a means of identifying those foreign trade barriers, the removal of which would generate the greatest return for a country's or region's exports.

The value chain analysis could also assess where changes behind the border would contribute to the ability of a country's producers to integrate successfully on a regional basis as well as integrate into global markets. As the discussion above reflects, many of the challenges that Peruvian producers of perishable agricultural products face consist of delays caused by domestic institutions and deficient physical infrastructure, which raise both costs and uncertainty. These are the two factors of greatest concern to potential global buyers of Peru's products.

Textiles and Apparel in Honduras

In many respects, Honduras is a very successful exporter of textiles and apparel, and has developed quite a competitive and complete cluster of companies in that industry. With Honduran exports accounting for 3.4 percent of the total U.S. import market by value, the country is the seventh largest provider of textiles and apparel to the U.S., after China, Mexico, Vietnam, Indonesia, India, and Bangladesh, all of which have much larger populations and total output by volume.²² Honduran exports reached \$2.6 billion in 2008, placing the country fourth by volume of apparel, with 6 percent of the Square Meter Equivalents (SME), and the main regional provider of materials within DR-CAFTA. Market share, on the other hand, has fallen in recent years, largely due to the expiration of the Textile Agreement in WTO in 2006 and increasing Chinese competition.

Total Exports of Textiles and Apparel to the United States in US\$Millions



Source: OTEXA 2009.

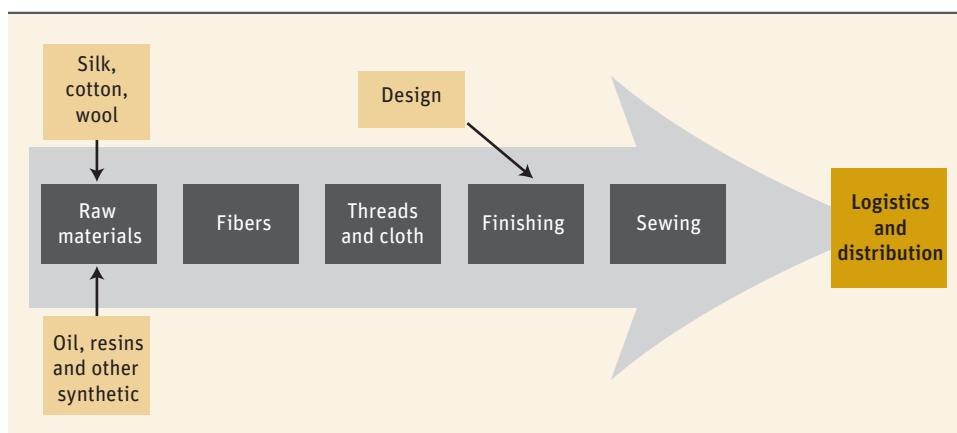
Such a large volume of trade for such a small country makes Honduras a very important player in the world apparel market, and at the same time makes exports of these products a key component of the country's economy. Textiles and apparel are by

far the biggest line items of Honduran exports, and 89 percent of these products go to the U.S. market.²³ Clearly, the overall performance and development of production in Honduras is quite weak, so the specific strengths, efforts, and initiatives that have made these remarkable achievements possible in the case of the textile and apparel industries deserve much analysis, and should be a standard against benchmarks are set. Furthermore, because so much rides on this sector for Honduras, it is essential to identify the challenges and critical steps for the industry in the future.

Textile and Apparel Value Chain

Textiles and apparel have a very simple (i.e., close to linear) value chain. The following graph describes the stages of this process.

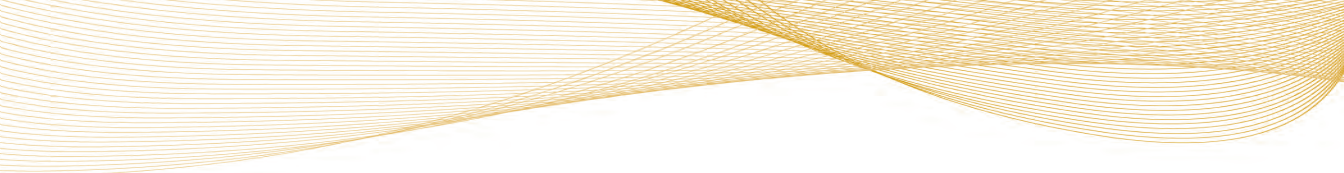
Generic Value Chain for Textiles and Apparel



Source: Condo, A.; Jenkins, M.; Figueroa, L.; Abandon, L.; Morales, L. Reyes, L. (2004). “El sector textil exportador latinoamericano ante la liberalización del comercio.” Centro Latinoamericano para la Competitividad y el Desarrollo Sostenible. CLACDS - INCAE.

The first steps—the acquisition and production of raw materials (natural, based on cotton, silk, and wool, or synthetic, usually petroleum-based), fiber processing, and production of threads and cloth—are capital intensive and produce increasingly significant returns to scale. Furthermore, due to a low value/volume ratio, shipping costs can be very relevant in these upstream components of the process. The market in thread and cloth is highly competitive, with many participants and very low margins.

The parallel design process takes place outside the main chain as it typically has little-to-no material content. It is, however, critical for the next two stages, which are



confection (sewing, or assembly) and finishing. Both of these stages are very labor-intensive and subject to extremely cut-throat competition worldwide. Because of the low human capital requirements to enter this industry and the importance of low-cost labor and the feasibility of small-scale operation, literally hundreds of nations take part in the confection stage, whether they are integrated backwards (like the dominant players) or not.

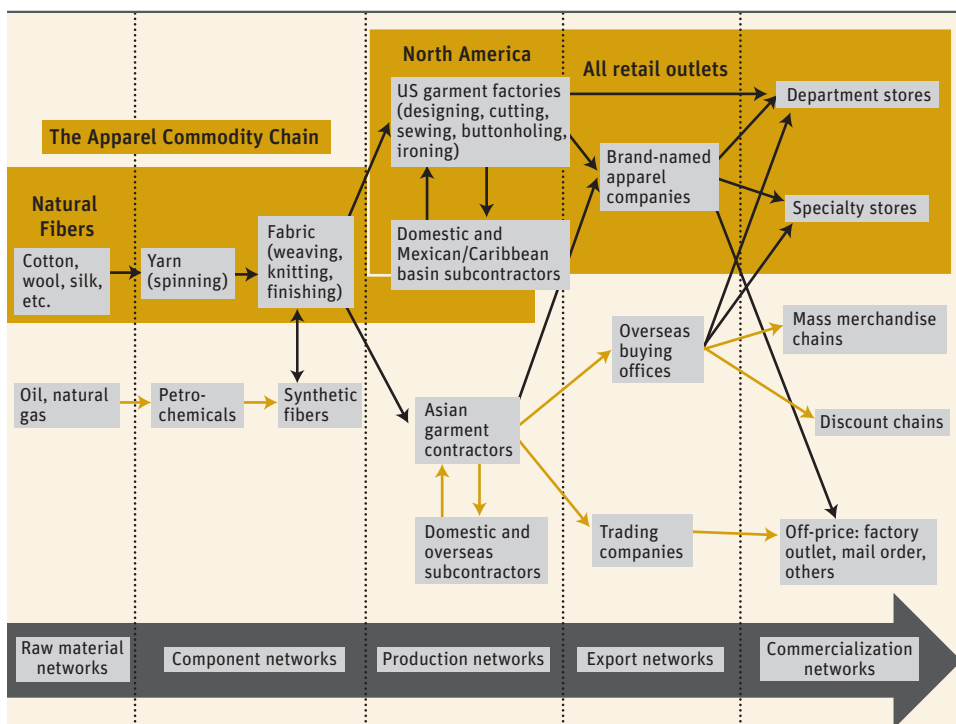
The end of the process, commercialization, comprises logistics, distribution, and retail. Although the bulk of that stage occurs in the main destination markets, and not where production takes place, the quality of logistics and the timeliness and preparedness with which output can link to the distribution process are very relevant characteristics that significantly differentiate the producers and become fiercely guarded competitive traits.

Despite the fact that the final product is not perishable, time to market—and not only shipping costs—is a key aspect of a country's ability to compete, since sales opportunities are tied to seasons, especially in temperate climates.

In the CAFTA+NAFTA region, the headquarters of the main brands and distributors are generally located in the U.S. These firms establish contracts throughout the region with *maquiladoras*, as well as with more integrated producers, to prepare orders according to their specified design, cut, and assembly. In the Honduran case, many *maquiladoras* are subcontractors to more integrated producers, and are not in direct contact with the distributors and retailers. Also, 90 percent of the *maquilas'* output ends up in the U.S., including some product that is then globally distributed from there. In this industry, proximity (cultural and physical) to the hub of the market is a key competitive strength.

Honduran textile companies import the bulk of their natural raw materials, since the country produces insufficient quantities of cotton thread and no silk and wool. It also imports dyes and the petrochemicals and resins for the synthetic raw materials (as well as these finished materials directly). That is not surprising given the fact that these processes are very capital intensive and the comparative advantage in those processes lies elsewhere. Other imports include accessories, whose production is increasingly specialized and displays massive scale economies. As a result, some of the very early stages in the value chain take place abroad, which is not a problem in itself provided that those inputs can be acquired by Honduran producers in a timely and cost-competitive manner. Many distributors and providers of these imported materials have physical presence and even production facilities in Honduras, so their sourcing is not complex.

Participants in the International Value Chain of Fibers, Cloth, and Apparel Assembly



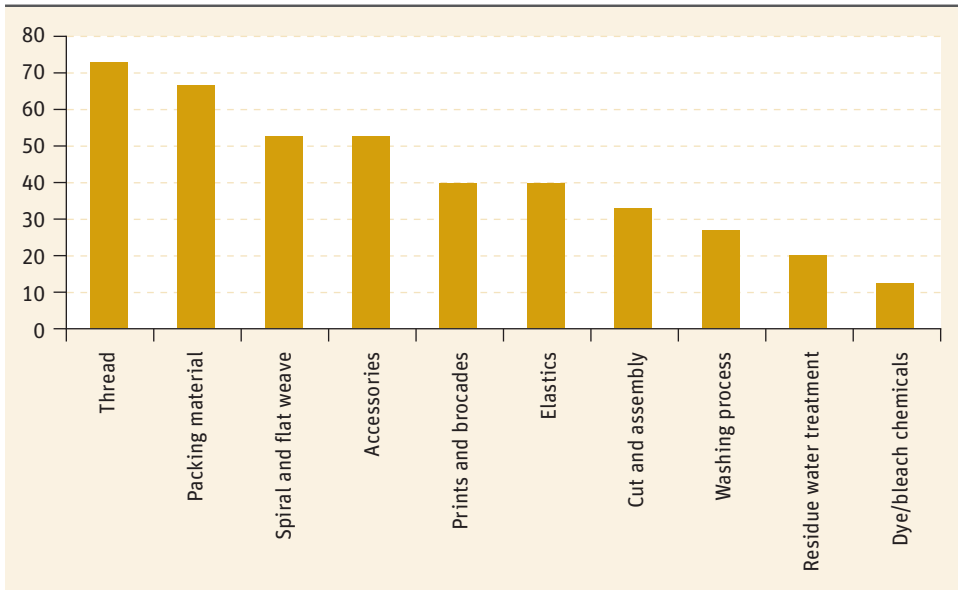
Source: Gereffi, Gary (2002).²⁴

Nevertheless, most of the remainder of the process occurs in Honduras, often within single companies or inter-related conglomerates. That allows Honduran firms to avoid the extra shipping delays and costs that competitors commonly face.²⁵ The main imported input is the yarn that is transformed in cloth and knit fabric flat weave, which then undergoes confection, full package, and other finishing processes.

Confection plants make up the main concentration of firms in Honduras. Fewer in number, but larger in size, are the accessory, full package, and knit providers. For these vertically integrated companies, thread and packaging materials are the critical inputs in terms of cost and quality, as reported in a recent poll. More than half of respondents reported that they need quality over the mean of the global industry, and 45 percent report that they can make most of their purchases from local producers.

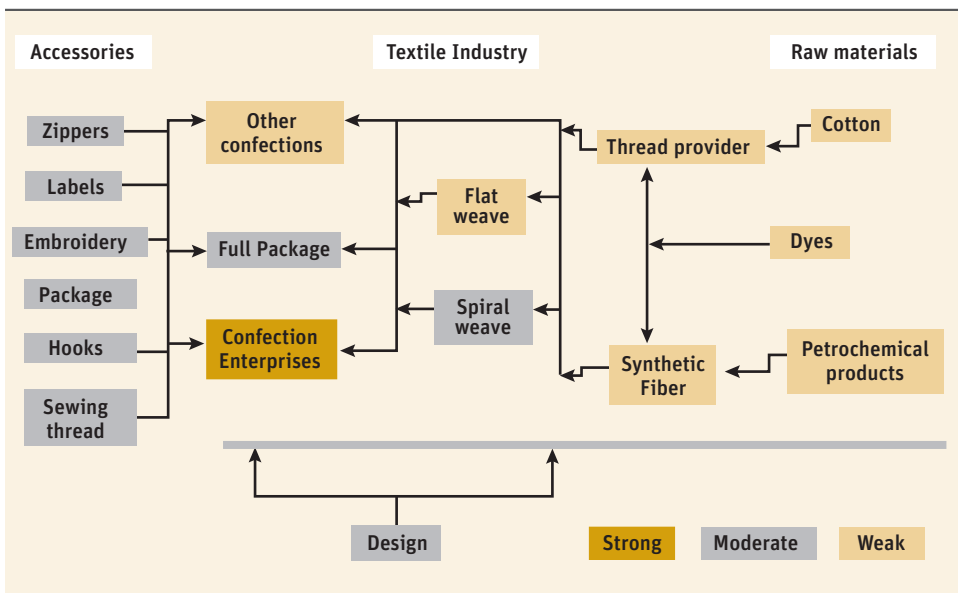
The Honduran textile and apparel sector exhibits many of the characteristics of a successful industrial cluster. The overwhelming majority of industry participants in Honduras are concentrated around the city of San Pedro Sula and the harbor at Puerto Cortés, in the departments of Cortés, Atlántida, and Santa Barbara.

Reported Priority of Different Inputs



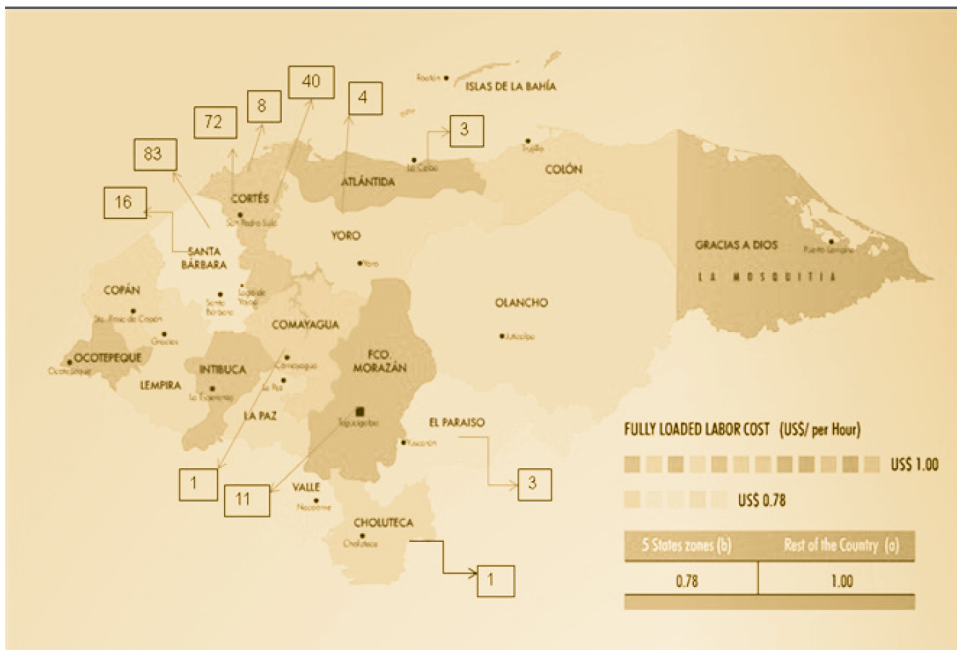
Source: Ávila (2008) based on a poll of 28 companies.

Textile and Apparel Cluster in Honduras—The Key Components



Source: Condo, A.; Jenkins, M.; Figueroa, L.; Obando, L.; Morales, L. Reyes, L. (2004). "El sector textil exportador latinoamericano ante la liberalización del comercio."

Geographical Distribution of the Honduran Textile Cluster



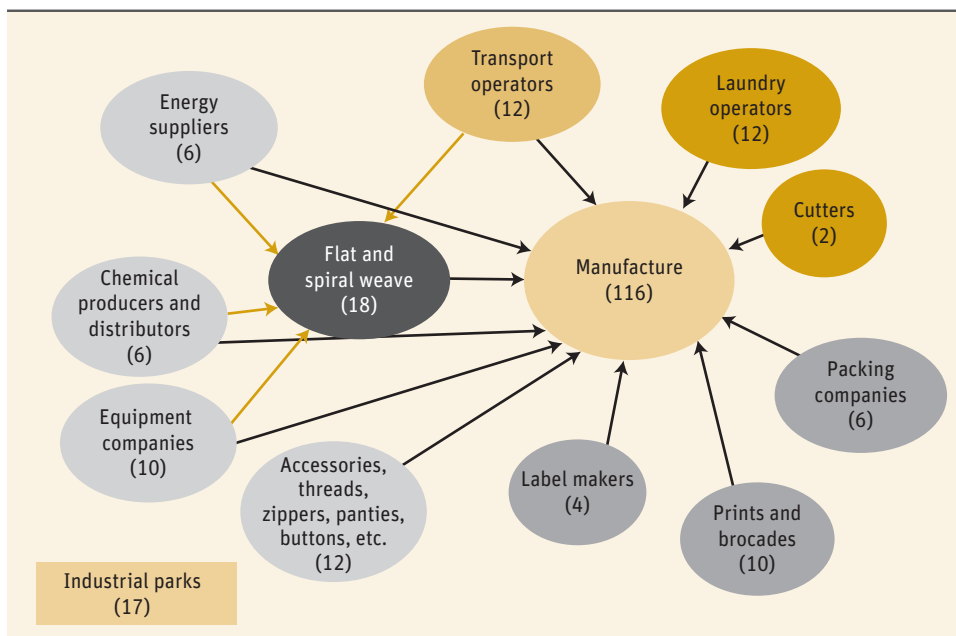
Source: FIDE and AHM.

The geographical concentration in San Pedro/Santa Barbara/Cortés is not necessarily a weakness. In many countries, notably in Europe and North America, the most successful industries tend to agglomerate in relatively small geographical areas to take the fullest advantage of the clustering effect. The situation in Northern coastal Honduras with textiles follows this pattern. Furthermore, geographical concentration and the proximity to Puerto Cortés have been essential for enabling the industry to bypass some of the infrastructure problems that affect the country as a whole.

By 2008, 242 firms were registered in the Honduran Maquila Association, the sector's chamber that includes producers and service providers. Of those, 116 manufacture textiles and employ roughly 110,000 workers. Their principal output consists of casual shirts and t-shirts (30 percent), undergarments (30 percent) and socks (26 percent).

Most of the 116 firms involved in confection, plus all of the 18 firms that produce textiles and flat weave, are located in 17 industrial parks, generally in very close proximity to each other. They are the target (or link to the chain) for a large number of service providers, including energy companies (2), equipment companies (10); and chemical producers and distributors (6). Other firms include producers of accessories

Textile and Apparel Cluster in Honduras – Number and Relationship



Source: Adapted from Ávila Baroque Abel, “La industria maquiladora hondureña de Textiles y Vestido post Acuerdo de Textiles y Vestido: Estrategias y Resultados”, CINPE, 2008 y www.ahm.hn.

Note: Some firms participate in more than one activity, so the sum may be less than the number of firms.

such as zippers, buttons, and other detailing (12), label makers (4), packaging companies (6), and prints and brocades (10). Other services include specialized laundry operators (6) and cutters (2).

Finally, there are logistics and transport operators (12) that provide specialized services of shipping, distribution, and storage, and dealing with the port authorities. In that regard, the volume and cost competitiveness of the port at Puerto Cortés is of essence, as only a handful of these companies, and typically not the main ones, also serve the local and Central American markets. As we shall see, this is very relevant for logistical reasons.

Honduran Competitiveness in General

With a per capita income of roughly US\$1,300, Honduras is one of the poorest and least productive countries in the hemisphere. This is reflected in the overall levels of remuneration as well as in the quality of the business climate. Problems, both economic and political, are abundant.

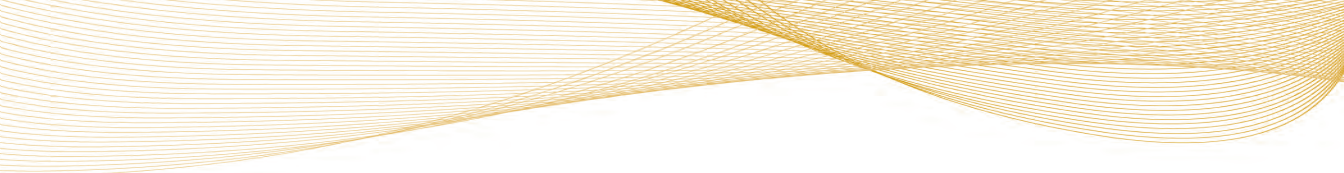
As we did in the previous chapter with Peruvian perishables, before we look specifically at the Honduran textile and apparel sector, we will describe in general terms some of the strengths and weaknesses of the country's competitive position. The following table presents the summarized results of the 2008 Global Competitiveness Report for Honduras and a few other countries, mainly from Latin America, which also participate in the industry.

Relevant Textile and Apparel Competitors for Honduras in the GCI 2008

Country	HON	ES	MEX	GUA	DOM	NIC	CR	PER	ECU	COL	CHN
Overall Rank	82	79	60	84	98	120	59	83	104	74	30
Institutions	82	100	97	98	119	118	50	101	129	87	56
Infrastructure	75	56	68	71	81	128	94	110	108	80	47
Macroeconomy	89	62	48	87	78	123	85	67	16	88	11
Prim Health/Ed	83	86	65	99	106	98	37	95	92	67	50
High Ed.& Train	93	95	74	103	99	113	49	89	115	68	64
Effic Goods Mkt	75	59	73	54	86	112	49	61	129	82	51
Effic Labor Mkt	82	57	110	81	86	99	35	75	122	92	51
Effic Fin Mkt	84	72	66	95	101	100	70	45	125	81	109
Tech Ready	96	90	71	74	73	122	60	87	104	80	77
Size of Market	84	81	11	74	72	108	78	50	61	37	2
Manag Sophist	82	79	58	52	75	119	42	67	99	64	43
Innovation	104	118	90	74	103	127	38	110	129	61	28

Source: Global Competitiveness Report 2008–09, World Economic Forum.

If anything, the data for Honduras are better than expected, putting the country on a par with, or not too far behind, considerably wealthier and more productive nations such as Peru, Colombia, the Dominican Republic, and El Salvador. While far behind Mexico and Costa Rica, those other nations have been pricing themselves out of the competition in the apparel sector in the last few years due to the emergence of other industries. Furthermore, weaknesses in the areas of higher education, innovation, and technological readiness, are less relevant in the apparel sector. Honduras' main concern is not competition with other Latin American countries, but with China and other Asian producers, which combine low cost with a better business climate.



One area of concern is the availability of basic human capital. Success in meeting the needs of global buyers inevitably requires a greater use of capital equipment and an increase in skills, not only in operating the capital equipment but also in communicating with other links in the value chain that produce the finished product. This is particularly important in textiles and apparel, where global buyers are looking to their suppliers to provide a complete package, forcing the Honduran firms to manage all materials costs and costs associated with inventory.

Not all of this is bad. Honduras ranks 20th in the world in low bureaucratic costs, and 36th in seaport facilities. The tax treatment for foreign investors, the associated regulations, and the number of days spent creating a new business are all comparatively favorable (41 to 54). Taxes on labor are relatively low, and it is easy to hire and fire workers (although firing costs are high, with Honduras ranking 94 among 134 nations).²⁶

But the GCI also highlights some serious weaknesses that the average Honduran producer confronts and for which the textile and apparel industry has found shortcuts and alternatives, sometimes at a cost. Road and railroad transportation infrastructure is particularly bad, telephone penetration is poor, and electricity services are bad and erratic. There is insufficient competition in the local market for many inputs and services, with resulting high markups, and lack of concern for client satisfaction and consumer rights. In most export activities, firms exert very little control over international marketing and logistics of their output (a ranking of 104 out of 134 countries). Access to finance is scarce, crime is a serious problem, and some specific bureaucratic processes (most notably, the environmental license from the Department of Natural Resources and the Environment) are costly and very time consuming to obtain. These problems do not fully apply to the textiles and apparel industry, which is characterized by intense competition among many providers of inputs, is situated close to the ports, has little need for land transportation, and maintains separate electricity services. But addressing these generalized problems is essential if Honduras wants to replicate its performance in textiles and apparel to other industries.

Cost Competitiveness and Honduran Textiles

The key strengths that have fostered the competitiveness of the Honduran industry have been the ability to perform “complete package” and multi-style production, the capacity to deliver quickly, and the certification of labor standards that PR-minded retailers demand.

The development of full package—that is, vertical integration that enables the foreign purchaser to acquire integrated processes ranging from the thread and cloth through the cutting and sewing to the labeling and shipping, from a single local entity—has enabled Honduran firms to remain competitive despite having higher labor costs than China, Bangladesh, and other Asian competitors. It allows higher margins and simplifies the sourcing operations of the foreign buyer. According to the Honduran Maquiladora Association (AHM), 45 percent of the participants in the industry are vertically integrated, and 30 percent offer complete package.

Multi-style production, in which a number of small to medium volumes of similar but slightly differentiated lots are batched together, is another specialty of the more nimble producers in Central America, and especially in Honduras. The bulkier Asian competitors have difficulty emulating this ability. Because this process is often the mechanism used to replenish inventories in response to demand for each of the different styles within a single season, multi-style production is one reason why time-to-market is critical. Thus, proximity to the main markets in the Eastern U.S. is an important advantage for Honduras in the apparel market. It takes three days for a ship leaving Puerto Cortés to arrive at Houston, 19 days reach Southampton, and 21 days to Rotterdam. Travel time from Asia to these locations is more than 10 weeks. The shipping time advantages largely explain how Central American producers, and Honduras in particular, successfully meet competition from Asian providers with their lower wage costs and similar industrial productivity.

Textile Wages, Turnaround Time to the Eastern U.S., and Shipping Costs of a 40 ft. Container (US\$)

	Wages	Turnaround time	Shipping costs
México	2.20	3 weeks	1,750
Dominican Republic	1.70	4 weeks	1,600
Haiti	1.40	5 weeks	1,550
Honduras	1.70	4 weeks	1,400
Guatemala	1.80	4 weeks	1,950
Nicaragua	1.50	4 weeks	2,050
El Salvador	1.85	4 weeks	2,100
Costa Rica	2.10	4 weeks	1,450
China	1.12	10 weeks	4,300
United States	5.00	2 weeks	—

Source: AAFA Sewn Products Resource Council, 2001. The Magazine Apparel Sourcing Show, 2004.

Features like capabilities for quick delivery or full package are valuable, of course, if and only if costs are also competitive, which is a challenge in Honduras.²⁷ Costs are far more concentrated in textile and apparel than in other industries, with the key drivers being labor, energy and logistics.

Labor and Energy Costs

In a country with a weak record in creating human capital and in forming an established and mature industry, slow growth in labor productivity is to be expected. As apparel is a very labor-intensive process—perhaps the most in all of manufacturing—one cannot exaggerate the importance of this subject. Not only it is difficult for Honduras to compete in wages with many Asian countries, but the pressure is mounting due to currency overvaluation and rigidities in the labor market.

For several years, inflation of the Honduran lempira has exceeded by several percentage points that of the U.S. dollar, yet the nominal exchange rate has been kept roughly constant over a long period. This means that, measured in dollars, the cost of living for Honduran apparel workers is rising, which is eventually reflected in the costs of production. The problem is worsened by the rigidities caused by the fact that very few workers earn more than the minimum wage, and that the policy regarding the minimum wage has been erratic during the last couple of years.

Producers are in a difficult labor-cost position due to the real appreciation of the lempira relative to the dollar and the significantly lower wages of Asian competitors than the US\$1.28/hr that Hondurans are paid, with little difference in productivity. The apparel maquiladoras were exempted by presidential decree, late last year, which ordered a 60 percent hike in the minimum wage. Still, the exemption implies that the industry is now facing upward pressure on wages from unions and increased turnover, while national competitiveness has eroded.

Honduras: Minimum Wage Structure 2007

Wage and benefits	US\$
Minimum wage/direct payment to worker (2288 hrs *0.7379)	1,688.42
Benefits to worker (vacations, paid holidays, bonuses)	763.52
Taxes (health, social security, national training institute, etc.)	469.30
Total Direct Labor Cost	2,921.24

Source: FIDE

The other big cost driver is electricity. Cost increases in the last few years have been significant, especially if measured in U.S. dollars, as the government has chosen not to adjust the lempira/dollar exchange rate in response to the accumulated and large differences in inflation rates. Part of the problem, of course, is dependence on foreign oil for electricity generation. Honduras relies on fossil fuels for 61 percent of its energy, as opposed to, for instance, Costa Rica, which generates 97 percent of its electricity from renewable resources whose prices have not risen. As shown in the following chart, Honduras has higher electricity rates than several of its regional competitors, as well as China and the Dominican Republic.²⁸

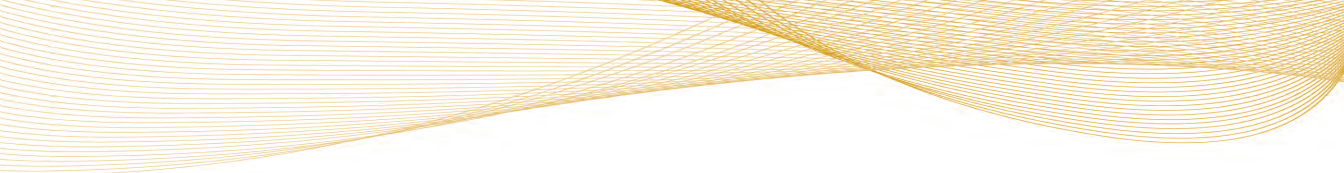
While obviously cost competitive enough to remain in business and outperform some of its key rivals, these costs create serious pressures on firms, which must rely on a very favorable business climate and a very fluid relationship among players in the value chain to remain viable.

These costs vary throughout the country. Starting in March 2006, through Decree 027-STSS-06, the Secretary of Commerce can designate specific underdeveloped regions as Investment and Employment Zones (ZIE) where it can reduce the energy costs and minimum wage levels and allocate additional public resources to training the local labor force. As a result, the minimum wage in the departments of Santa Bárbara, Choluteca, El Paraíso, Olancho, and Valle has been cut by \$0.12 per hour. Perhaps not surprisingly, Santa Barbara, located near the apparel hub of San Pedro Sula and the shipping port of Cortés, has become a full participant in the industry and home to 34 percent of the number of apparel firms. It was expected that investment would also result from the ZIE incentives in other beneficiary departments, although that has not happened yet due to serious logistical difficulties.

Of course, how much a company can afford to pay in wages and energy costs in a particular location depends on the productivity that it can achieve there. In a very inhospitable business climate, firms can grow and make profits only when their costs are very low, while in a location with highly productive resources, high unit cost will simply reflect value and demand.

Logistics

The shipping process for the Honduras textile industry is quite streamlined. According to operators moving consolidated cargo between ship and factory door, in either direction, takes 2–4 days, with relatively low policy-related (i.e., tariffs, corruption, or irregularity) expenses.



However, processing paperwork for shipping and unloading can take between 14 and 15 days. But large producers, with carefully planned shipments and orders, can do a good part of this paperwork beforehand, even in a couple of hours, especially if they have internal departments charged with logistics. These large producers depend on no other firms to conduct their logistics, and have at their disposal very highly specialized customs agents who are familiar with the sector, understand the requirements of the business, and have the capability to fill some of the gaps left by government, thus facilitating the compliance of import and export prerequisites.

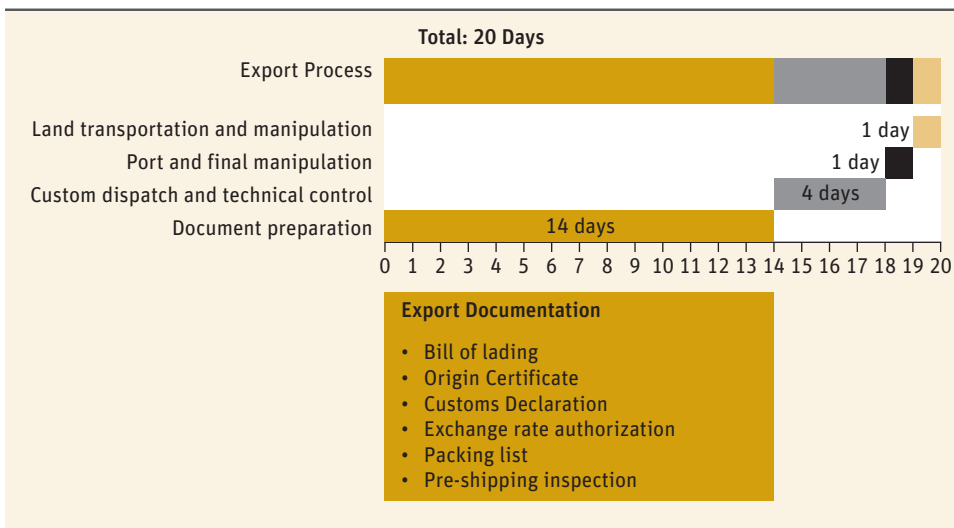
On the other hand, smaller producers or cargo consolidators that must wait for a container to be filled by different clients before it is shipped typically cannot carry out the bureaucratic procedures beforehand. The first producer to bring in his cargo must wait for other producers to arrive, and only then will the two weeks of paperwork get underway. Even though the very competitive logistics companies can provide them with a tailor-made process, their costs are higher, and the wait is particularly onerous.

Most operators operate in a free trade zone, or maquila, in which customs procedures are expedited, imported inputs are never “internalized” into the local economy, and most duties are exempted. Puerto Cortés is a high-volume port, arguably the most efficient in Central America. Its location is also ideal, as average transit between San Pedro and Miami is about three days; an order from the U.S. can be met within one week. There is no way Asian competitors can even begin to match this, since not only is their production time longer, but also their shipping time is over 10 weeks. Puerto Cortés is security certified by the Department of Homeland Security of the United States, and this facilitates the docking, transfer, receipt, dispatch, storage, and reloading of merchandise. It was the third “mega port” in the world to achieve this status.

The World Bank’s Doing Business Report confirms that Honduras’ overall export process in general requires less than 20 days, even including companies outside the textile sector. These include 14 days in pre-shipment paperwork (probably more for perishables, and less for textiles), ranging from a bill of lading, origin certification, order forms and receipts, customs declaration, exchange rate authorization, packing list, and pre-shipment inspection. The system is automatically synchronized with the U.S. port authorities, so the turn-around time is indeed kept under one week, and at relatively low cost.

The same source estimates that imports take 23 days to be processed, again with most time devoted to pre-shipment document preparation. The same list of documents is required as in the case of exports, plus a tax certificate, a release authorization, and

Days to Process Exports from Honduras, 2008



Source: World Bank.

a request for unloading at port. Once the ship arrives, the whole process may take less than three days, especially for textile companies in Free Trade Zones.

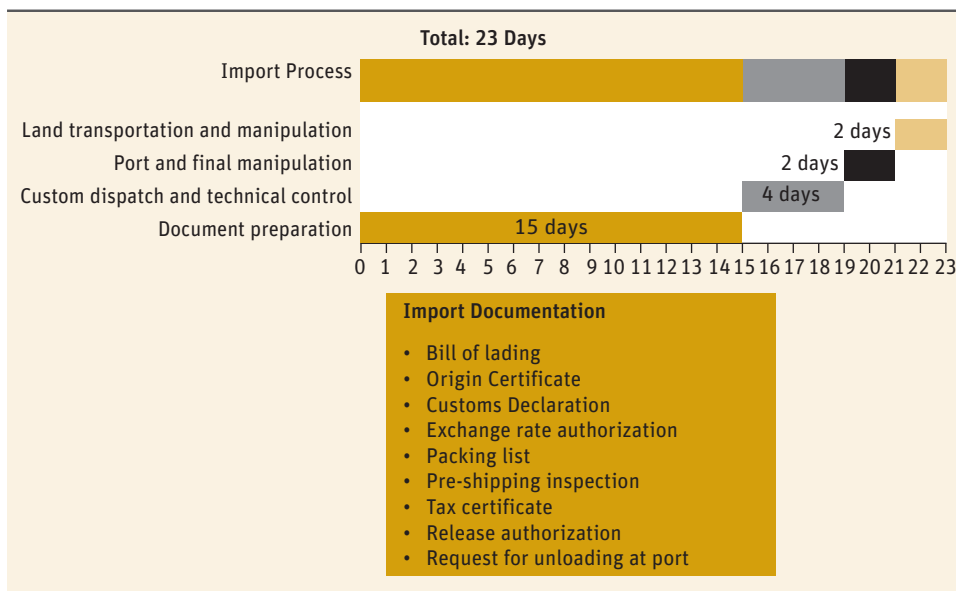
The Honduran Tax Authority is undertaking a project of technological upgrade and modernization in all of the country's customs offices, and implementing a new system of customs information, the Automated Customs Collection System of Honduras (SARAH for its Spanish initials). It may result in a significant improvement, judging from the success of similar initiatives in neighboring countries, for example, Costa Rica. Nevertheless, it is also a source of tension with customs agents, who feel that SARAH is co-opting some of their roles. The agents also fear the punitive fees that the system will levy for mistakes in its use.²⁹

The Steps Ahead

The competitive advantage of textile and apparel companies in Honduras is cost competition, not product differentiation. The industry is what the country needs right now, but it still has to demonstrate its ability to further improve quality and value added and achieve higher levels of productivity and wages.

The industry in Honduras so far has developed the mechanisms to adapt successfully to the changing world market and the challenges of the local business environment. Products flow very easily along the different links of the value chain, activities are highly

Days to Process Imports in Honduras, 2008



Source: World Bank.

integrated (and, when they are not, the immediate availability of local providers allows for smooth sourcing), and the port infrastructure and logistics operations are first rate. Competitive firms can interact efficiently with each other and with the world, both as providers and as costumers. These firms find in Honduras what they need, offered by a sufficient number of competing suppliers. Honduras' strength in this business is the manner by which companies link efficiently to the global value chain; its weakness is the quality and availability of the inputs they need. There are a number of needs that require priority action:

- » An electricity supply that is untrustworthy, irregular, or expensive will place a cap on the growth of the textile industry, in addition to other export-oriented manufacturing sectors. The backlog of investments in electricity generation, and the dependence on fossil fuels are too large, and will become even more onerous as the price of oil recovers in the coming years.
- » The supply of qualified workers is too limited in Honduras. The installed capacity of INFOP, the national training institute, is insufficient, and although the textile industry currently employs mainly low-skilled workers, there are activities where quality and complexity demand a more highly qualified workforce. In Costa Rica, for example, where small apparel plants have been supplanted by other, more complex, forms of manufactures, textile firms still operate in more

Competitiveness Drivers in Textiles and Apparel

Business Climate:

- Safety for workers, property (and property rights) and shipments
- A transparent and predictable legal, commercial, and regulatory system
- Low management and bureaucratic burdens; low corruption
- International standards on health and working conditions
- Subsidies and competitive taxation
- Free trade areas
- Realistic exchange rates
- Market demand and economic growth

Raw Materials:

- Access to quality threads and fibers and domestic or foreign fabric at a competitive price
- Tariffs applied on equipment and raw materials
- Rules of origin for preferential market access
- Cost and availability of working capital or capital to acquire new equipment

Labor and Management:


- Labor availability and competition with other sectors for talent
- Wages in synch with labor productivity
- Abilities, training, and work ethic
- Availability of qualified middle management
- Availability of technicians and services

Service and Trustworthiness of Suppliers:

- Reputation for quality and timely deliveries
- Existing business networks (linkages, clustering, intercompany relationships)
- Level of services provided (full package, etc.)
- Flexibility to size, style, and design in all types of services and manufacture
- Time and flexibility to respond to special requests, complaints, etc.

Infrastructure and Proximity to Markets:

- Highways, ports, railroads, and airports for shipping domestically and internationally
- Shipping costs and shipping times
- Proximity to market
- Access, cost, and reliability of water, electricity, and telecoms



Realistic
Access
to Preferred
Markets

specialized areas, such as men's suits, lingerie, baby clothes, clothes for therapeutic or medical needs, or higher fashion, regardless of the fact that wages in that country are twice those of Honduras. If Honduras is to enter those more specialized apparel areas, it must increase its pool of more highly qualified labor.

- » The barriers a small, local operator in the textile industry must overcome to enter the market—especially the slow and costly paperwork for shipping consolidated cargo—are too great. In a majority of the processes in this industry scale economies are large and the viability of small-scale companies is still limited. Yet,

there are exceptions in some auxiliary services as well as in the confection of higher quality, targeted apparel and fashions.

- » The heavy concentration in the U.S. market also needs to be addressed. Of course, in a way the advantages that Honduras enjoys in the U.S. are quite unique: proximity, high integration into the U.S. marketing end of the value chain, a culture of co-production, and important preferential market access. There is no way that the European market, for example, could offer some of those features. On the other hand, the EU is now negotiating a bilateral Free Trade Agreement with the Central American Common Market, and this presents a unique opportunity. Shipping distances are great, but they are even greater for other key competitors. Market access to the EU is quite limited, and outside of Central America no key player in the textile and apparel industry has sufficient preferential access to the European market. This is a matter where the devil is often in the details, so the specific terms of the agreement are very important. Rules of origin are of particular importance, since usage of European fibers (analog to the yarn-forward rule in CAFTA) would be prohibitive, and better access would have to be secured.
- » It is difficult for other industries to emerge, grow, and succeed as competitive exporters in Honduras because so many of the solutions to domestic competitiveness problems relating to the textile and apparel industry, and to the separation between people and markets, are so specific to that particular industry. How can Honduras replicate the good parts of this story in other manufacturing sectors, or in agriculture and services? Finding answers to this question is important if development is to reach other regions of the country and segments of the population, and also if diversification is to realize its potential for providing more stable and sustainable roots for economic growth. It is very telling that there is such a contrast between strengths in the business climate reported to us directly from the textile and apparel sector (bureaucracy, shipping delays, international trade logistics, competition among suppliers, etc.) and the weaknesses reported to WEF in the very same areas by a sample of businesspeople from different industries. The special status that Puerto Cortés enjoys regarding the Homeland Security restrictions in the U.S. is, of course, very valuable in the case of the textile industry, but it would also provide an enormous advantage in other areas, especially in foodstuffs, where non-tariff barriers are more prevalent.

Applying an Investor's Perspective to Medical Tourism in the Caribbean


As made clear in the World Bank's report, *A Time to Choose – Caribbean Development in the 21st Century*, the countries of the Caribbean confront a unique set of development challenges in a rapidly changing global economy.³⁰ Given their small market size, they cannot offer potential investors, whether foreign or domestic, the scale that would attract investment in manufacturing and services based on domestic markets alone.³¹ The problem is compounded by the Caribbean's exposure to natural disasters; the resulting economic volatility also make it difficult to sustain investment based on local markets alone.³²

The Caribbean faces two additional challenges that raise the bar still higher. The countries of the region have seen rising competition in traditional export markets as a result of the erosion of tariff preferences.³³ At the same time, the region as a whole has experienced declining productivity.³⁴

Responding to these challenges will require a coherent development strategy designed to lift productivity and increase the region's attractiveness as a destination for investment. That will require action on multiple fronts, from education to regulatory reform. But, the most important step the Caribbean can take is embracing global markets in ways that take maximum advantage of what the Caribbean can already offer—strong institutions, solid human capital, and a profoundly beautiful natural environment.³⁵

For the Caribbean, success in the global economy requires attracting investment in industries that can use the Caribbean as a base from which to serve global markets. Given the constraints imposed by geography, those industries are likely to lie in the services sector.³⁶

The Caribbean has already had considerable success in attracting service industries, particularly in tourism and financial services directed at the global market. Investment in both sectors has meant that the Caribbean has, for some years, attracted a disproportionate share of global foreign direct investment relative to the size of its markets.³⁷ Both sectors, however, have faced their own unique difficulties of late.³⁸ Indeed, the IDB suggests that conventional tourism, which has driven much of the



growth in the service sector to this point, may soon decline as a major driver of future economic growth.³⁹ Thus, the challenge lies in diversifying the Caribbean's services export base.⁴⁰

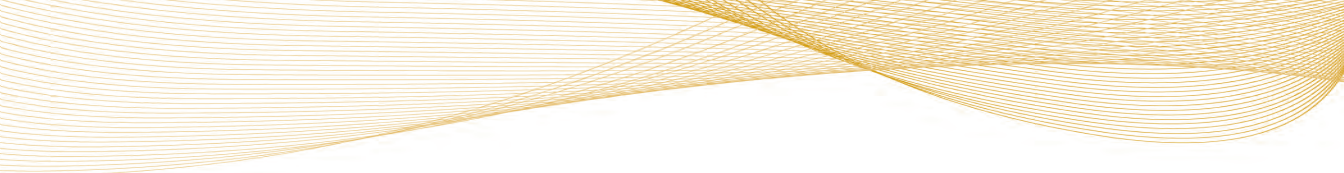
Diversifying the Caribbean's exports would yield a number of benefits. There is ample evidence that diversifying exports offers significant benefits in terms of both growth and development.⁴¹ The effects are particularly pronounced in the case of diversifying into a broader range of services exports that offers unique benefits: expanding exports to existing markets, broadening the range of services offered along with the potential positive network externalities that might flow from their interaction with similar services, and lowering input and transaction costs that yield gains in merchandise exports as well as services.⁴²

In effect, diversifying the range of services exports can create a virtuous circle in which successful investments in new industries or markets foster local supply chains that serve the businesses the investment creates. Attracting investment by globally engaged firms to those sectors creates spillovers into the rest of the business sector by introducing world class business practices and offering Caribbean producers a window into global demand for services in a variety of sectors. By raising the local producer's game, attracting investment by such globally engaged firms strengthens the investment environment and leads to further investment, rising productivity, and stronger growth.

With those benefits in mind, the challenge of diversifying the Caribbean's services exports raises two practical questions from a policy perspective. The first is what steps Caribbean governments might take to improve their ability to attract the investment that would help the region seize the opportunities that the accelerating integration of global markets creates. The second is how best to prioritize those policy options.

For donors and financial institutions like the IDB, the Caribbean's unique development challenges raise a similar issue. As will be discussed, approaches to aid for trade that are geared toward improving a country's ability not simply to export, but also to participate successfully as a key link in a broader global value chain that serves world markets, do not adequately address the Caribbean's circumstances.

Aid for trade in a Caribbean context is not as simple as identifying the choke point in customs clearance and providing assistance to overcome that obstacle.⁴³ What is needed is a similarly market-oriented framework for analysis that directly addresses the challenge the Caribbean faces in attracting new investment to diversify its services export base.



The broad objective of the following case study is to begin building a tool that Caribbean governments, aid donors, and lenders such as the IDB could use in developing aid for trade projects relevant to services-oriented economies in the Caribbean. As discussed previously, the approach involves the application of standard tools of investment analysis as a means of illuminating the challenges that Caribbean governments will face in attracting investment in industries engaged in services exports, as well as the way in which donors and the IDB could support that effort.

The following discussion explores how governments in the region, donors, and the IDB might fill that gap. It does so by adopting the perspective of an entrepreneur examining a potential investment in a growing segment of the market—medical tourism—as a basis for assessing how best to spur investment in non-traditional activities, and where aid for trade might contribute to creating a stronger platform for services exports from the Caribbean.

Diversifying the Caribbean's Exports

Diversifying the Caribbean's services exports requires that investment be attracted in new service industries, specifically ones in which the countries can make more effective use of their significant investments in human capital and generate a higher overall rate of return for their economies. That argues for examining what drives the “serendipitous decisions of entrepreneurs to invest” and how those decisions might be shaped by the policy choices of Caribbean governments.⁴⁴

Examining the entrepreneur's decision to invest, in turn, suggests the possibility of drawing on other tools commonly used by global businesses—in this case, investment analysis—to inform both Caribbean policymakers and the IDB's judgment with respect to the use of aid for trade assistance to augment Caribbean export of services.

Adopting the perspective of the private investor would highlight where the existing business environment raises the cost of local operations in a particular service sector, which, in turn, lowers the return on the investment and complicates the decision to invest. Equally important, because of the dependence of service industries and services exports on the local institutional infrastructure, an investment analysis could help to illuminate those policy changes that would offer the greatest return in terms of their impact on investment decisions.

In this regard, the fact that the Caribbean's future lies in diversifying the region's export of services is actually helpful. As Aaditya Mattoo of the World Bank has pointed out, the determinants of comparative advantage in the service industries are

far more amenable to policy choices that rest in the hands of the Caribbean governments.⁴⁵

The amenability of services exports to support from policy choices flows from several important differences between the export of goods and services in terms of the infrastructure on which they depend. Services industries differ from mining, textiles, and apparel, or from the production and sale of agricultural goods, in terms of the infrastructure on which they depend and the institutional hurdles they face, both domestically and abroad. Contrasting the production of a good like ore in a mining operation and the production of services like airline reservation systems helps illustrate the point.

In considering an investment in a mining project, the investor will recognize the need for significant capital investment, often including the associated physical infrastructure needed to bring the minerals to market, such as roads, pipelines, power stations, and electrical grids. Indeed, governments frequently insist that the private entity develop the infrastructure needed as part of the bargain for access to the mineral rights.

For an investor considering locating a call center for airline reservations, there is less need for capital investment. Investors in service industries tend to rely more heavily on the existing publicly provided infrastructure, such as power, telecommunications, or transportation. The nature of the transportation needed for services is different as well, tending more to air transport and telecommunications than ports, roads, or rail.

As a result, prospective investors in the services sector tend to take the business environment and the publicly provided infrastructure largely as a given in their investment analysis. That means that they incorporate many of the cost factors over which government policy has a control into their initial decision to invest.⁴⁶ By the same token, government policy choices can affect the investor's decision in important ways.

This suggests that the Caribbean, given its relative dependence on services exports, may have more to gain from a diversification strategy than might be the case for other countries, and the payoffs from diversification may be greater as well. It also suggests that government policy choices by Caribbean governments, and aid for trade assistance that helps with their implementation, can play a significant role in reinforcing the Caribbean's efforts to diversify its services export base.

The following discussion develops a framework for evaluating the Caribbean business environment by using the standard tools of investment analysis employed by potential investors. Like the value chain methodology discussed above in the Peruvian and Honduran context, the purpose of investment analysis is to help identify those barriers, the removal of which would maximize the attraction of investing in the Caribbean.

Analyzing the Market for Medical Tourism from an Investor's Perspective

While not all standard elements of a business plan are relevant to challenges facing Caribbean policymakers, aid donors, and the IDB, applying the basic concepts to a specific case can yield important insights into what would drive investment in that region. In the case of aid for trade initiatives, the analysis can help illuminate where assistance would prove helpful in overcoming the challenges the Caribbean faces in attracting the capital needed to diversify its services exports.


What follows is a stylized version of a business plan and investment analysis that is contoured to the needs of the policymaking community. In this case we have chosen to focus on a potential investment in an elder care facility in the Caribbean to illustrate how the analysis might work and what it might suggest to policymakers, donors, and the IDB in terms of aid for trade.

The specific investment we use to drive the analysis here involves the development of a facility that would combine aspects of a retirement community with a high-quality medical facility specializing in the care of the elderly. The facility would be designed to serve aging, well-off clients from industrialized countries seeking to avoid rising health care costs.

As reflected in the discussion below, there are several reasons for choosing a medical facility. The most important from a business perspective is that the medical tourism market for elder care is, as yet, relatively untapped.

Medical tourism is already a growing industry. Indeed, travel for medical services or other health-related reasons has long been a factor in modern life. Wealthy individuals often seek the best available care, regardless of the distance travelled. Specialized clinics, such as the Mayo and Cleveland clinics, offer a variety of services to an increasingly international clientele. Heart hospitals associated with major research universities in the U.S. attract increasing attention for their accomplishments.

What has changed, however, is the growing availability of the highest quality health care in many emerging markets. That has been driven by growth in the number of highly qualified clinicians, laboratories, and public health personnel in those markets. Developing country markets have also seen a greater degree of specialization by state-of-the-art medical centers and specialized units within larger medical complexes. These factors, combined with an increasing willingness on the part of health insurers to pay for treatment abroad, has expanded the market for medical tourism significantly.



Many developing countries, from India, to Mauritius, to Singapore, Malaysia, and Thailand, are already major players. Even within the region, an investment in the Caribbean designed to serve the general market for medical tourism might face stiff competition from Brazil, Costa Rica, and Cuba.

That said, most countries have developed their specific niche or target market within the broader field of medical tourism. India, for example, specializes in joint replacements and certain heart surgeries. Brazil is widely known for its cosmetic surgery. Costa Rica has focused on high-end dentistry.

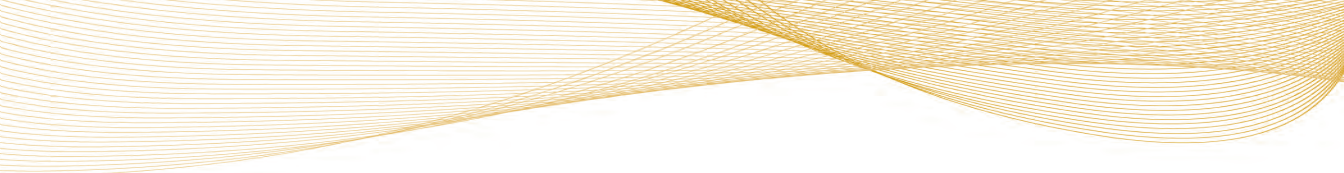
In each instance, the basic motivation is obtaining quality care at a lower cost than would be possible in the patient's home market. The availability of alternatives that are unavailable in the patient's home market adds to the attraction of medical tourism. The tourism benefit is generally an add-on.

What none of those investments specifically target, however, are two potential markets that the Caribbean could uniquely serve. The first consists of retirees looking for a longer-term residence that will extend their retirement dollar while providing an opportunity to remain relatively active. For these potential consumers, the medical tourism is incidental to their choice of location and lifestyle. At the same time, the local availability of high-quality, low-cost medical care across specialties is an essential part of the package they are buying in whatever locale they choose.

The second target market involves elderly people who need specific procedures and longer-term care. Here, the primary motivation, as in other destinations, involves lowering the cost of the initial procedures as well as the cost of longer-term care during the patient's recuperation. Proximity to the patient's home market is particularly important in this case to facilitate visits of friends and family during the patient's convalescence.

There is an obvious synergy between the two target markets. Developing a specialty in the health of the elderly, including higher-end surgery and extended recovery that elderly patients face, helps establish the reputation for quality care that is most attractive to the second group.

The Caribbean makes sense as a target for such investment because of its proximity to customers who are most likely to look outside their country of residence for care and a shared cultural affinity. In the case of the first target market, for example, a growing population over the age of 65 in the U.S. confronts rapidly rising health care costs on a fixed income. For different reasons, largely to do with the methods of rationing health care under national health care programs in Europe, a number of Europeans might be attracted as well. In each case, these retirees are looking for ways



to stretch their retirement dollar. The fact that the Caribbean is perceived as safe, friendly, and inviting reinforces the attraction of the region to potential customers. At least in the case of the U.S., Canada, and the United Kingdom, the widespread use of English as a first language ensures that potential patients will not fear communication difficulties with something as important as medical care.

The following analysis examines how an investor might evaluate the Caribbean as a location for an investment that would exploit the existing gap in services provided by various destinations for medical tourism.


General Market Analysis

Attracting investment to diversify the Caribbean's services exports makes sense for a variety of reasons. First, international trade in services is very dynamic, expanding faster than trade in goods. According to the World Bank, services exports are growing at an annual rate of 17 percent.⁴⁷ Growth has been resilient, even during the global economic downturn.

The Caribbean can, moreover, build on existing strengths to tap services export markets that are among the fastest growing in the global economy. The global market for health services represents a US\$3 trillion industry annually.⁴⁸ Reflecting the increasing willingness and ability of individuals all over the world to travel, tourism yields roughly US\$4.5 trillion in sales annually, making it the world's largest industry, according to the United Nations Conference on Trade and Development (UNCTAD).⁴⁹ Using tourism as part of a strategy to develop the Caribbean's health care sector as a significant exporter, also offers important spillover benefits. It creates positive externalities that benefit up and downstream entities, as well as producers of goods and services in entirely different sectors.⁵⁰ Tourism generates higher demand for a variety of local goods and services, which, in turn, offers local producers greater economies of scale.

Medical tourism involves splicing the two industries together.⁵¹ It offers a wide range of opportunities for new entrants from the developing world based on alternatives to, and cost advantages over, care available to patients in developed country markets.

The market for medical tourism is expanding rapidly for a variety of reasons. The first is a rapidly aging population in industrialized countries. Estimates of global population growth suggest that the world's population will level off near nine billion in 2050.⁵² Industrialized countries will have a smaller share of the global population, but a larger share of the elderly.



The Organization for Economic Cooperation and Development (OECD) estimates that the over aged 65 population in its members' countries will double from the current 100 million to 200 million by 2030.⁵³ Japan and Europe already have significant populations above age 65. The U.S. population is headed in the same direction, with 80 million “baby boomers” born between 1945 and 1965 who are preparing for retirement in the next two decades.⁵⁴

This demographic shift is significant for the potential growth in medical tourism due to the propensity of an aging population to disproportionately consume medical services. The OECD estimates that this aging cohort accounts for half of all health expenditures in member countries.⁵⁵

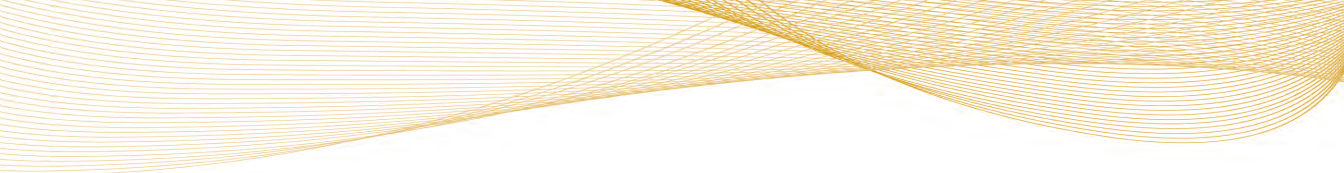
The percentage of total health care spending consumed by the elderly is not just a function of age or the maladies that affect this cohort. It also reflects the rapidly rising cost of health care in industrialized markets generally. In the U.S., for example, this “cost push” inflation in health care outlays will drive health care spending from an already considerable US\$1.3 trillion in 2000 to US\$2.8 trillion by 2011, thus more than doubling the size of that country's health care market.

While rising health care costs in industrialized countries ensure that residents of industrialized countries will make up the bulk of the target market, opportunities for medical tourism are growing in the developing world as well. Successive years of strong economic growth in developing countries have translated into rising incomes and a stronger appetite for quality medical care. In Latin America alone, people already spend an estimated US\$6 billion annually on health care outside their own country.⁵⁶

Recent figures on the number of patients traveling for medical care outside their country tend to confirm the size of the market. In 2004, for example, Malaysia hosted 130,000 foreign patients, continuing a trend of 25 percent annual increases.⁵⁷ Indian health care facilities have experienced similar growth, seeing 150,000 foreign patients in 2004, a 30 percent increase over the previous year.⁵⁸ Costa Rica saw similar numbers.⁵⁹ Cuba hosted 25,000 patients that same year.⁶⁰ But, Thailand was, at the time the front-runner, with an influx of roughly 400,000 patients in 2004.⁶¹

Export revenues from medical tourism are significant and are expected to grow rapidly as well. Malaysia, for example, earned US\$27.6 million in revenue from its 2004 exports of medical services, while medical tourism in Cuba garnered roughly \$40 million.⁶² McKinsey & Co. estimates that India alone will earn over \$2 billion annually from medical tourism by 2012.⁶³

All of this suggests that, broadly speaking, the demand for health care has been growing globally at a significant rate and that medical tourism has been expanding



along with it. There clearly is room within those figures to determine what niche the Caribbean might serve. Much will depend, however, on the Caribbean's ability to reduce the potential costs of such investment as well as build on its existing strengths in health care to secure a share of the medical tourism market.

One reason for that cautionary note is that the health care industry has extraordinarily high barriers to entry. Participation requires a great deal of financial, physical, and human capital. Any investment in the sector also depends heavily on access to capital and to a wide variety of goods, services, and technology that may not be readily available in local markets and must be imported. Those factors must be combined with low costs of production, yet extraordinarily high quality.


That suggests that investors considering new locations for investment in medical tourism will look for markets that are already relatively open to foreign direct investment and to trade in the goods, services, and technology needed to sustain such an investment. They will also look to areas with the infrastructure such an investment would need and locations with a broad pool of human capital. All that, plus tourism attractions.

The following discussion examines the Caribbean's relative strength in each of those areas.

The Caribbean remains relatively open to foreign direct investment, which is a particular strength in this sector. FDI is relatively high at 6 percent of GDP, but varies considerably by country.⁶⁴ Interestingly, existing FDI is highest in the Dominican Republic, Trinidad and Tobago, and Jamaica, while the investment specific to the health care sector seems to be concentrated in the English-speaking Eastern Caribbean. In addition, the relative attractiveness of the Caribbean to FDI appears to be declining and what exists in the way of services investment remains concentrated in traditional sectors (i.e., tourism, telecommunications, and finance).

As always, the tax treatment of investment will be important. Traditionally, Caribbean governments have made use of a variety of tax holidays to attract investors. Broad experience in countries across the world suggests that lowering long-term corporate rates generally would prove more effective and create less of an inhibition to investors.

The trade picture is mixed, but improving. Traditional barriers to trade remain relatively high in various countries in the region. There has been marked reluctance to open markets fully to trade in goods, services, and technology. That attitude is reflected in the statistics: According to the World Bank, several indicators suggest that the Caribbean has seen a reduction in its competitiveness over the last decade. Shares in world markets have dropped, trade has fallen as a share of GDP, and the current account has deteriorated.⁶⁵



That said, the picture is now changing significantly with the advent of the Economic Partnership Agreements (EPA) between the EU and various countries of the region and the conclusion of a free trade agreement between the Dominican Republic and the U.S. While there is considerable concern throughout the Caribbean regarding the impact of the EPA arrangement on local markets, the agreements and the change in direction they suggest would be helpful in terms of attracting investors to the health care sector. As is true generally for the Caribbean, further integration into the global economy would help it overcome its market-size limitations as an obstacle to development. In the case of any investment in the health care sector, that is absolutely essential.⁶⁶

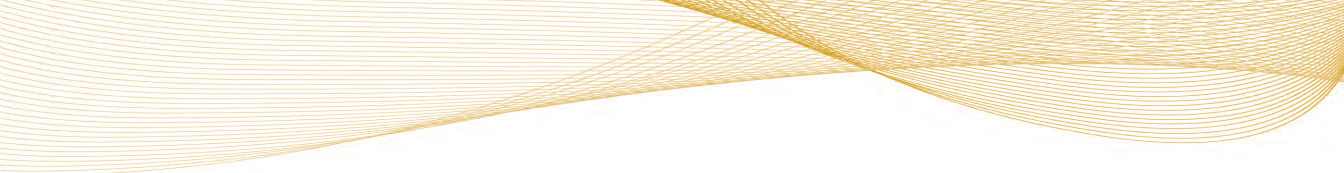
The World Bank points to health care and medical tourism as one sector in which the Caribbean could compete successfully in world markets. The Bank points to existing investments in Antigua in the “wellness” industry, opportunities for telemedicine, and the ability to monitor patients remotely via video and/or computer technology as reasons why investors might rank the Caribbean high on their list.

Yet even there, greater openness could help. For example, airfares from Miami to the Dominican Republic are lower than elsewhere in the Caribbean by virtue of that country’s open skies arrangement with the U.S. Other Caribbean countries might consider following suit as a means of reducing the overall cost a patient would face in making use of their health care facilities.

Tapping the market for medical tourism will, of course, depend heavily on the infrastructure that is needed to perform those services and to offer an attractive tourist destination on top of the quality of health care. Indeed, a World Bank survey indicates that investors in the Caribbean “attached more importance to the quality of the infrastructure than any other aspect of the investment climate.”⁶⁷

Fortunately, the Caribbean already benefits from a significant base of installed infrastructure that serves the existing “sun and sand” tourism industry in the region. The regional quality of ports, airports, and telecommunication services is very good. Airport capacity, for example, is more than adequate due to infrastructure built for the tourism industry, and airfares to the Caribbean are lower than for other potentially competing destinations in the medical tourism market.

However, the Caribbean lags in the institutional infrastructure that investors look for, such as the quality of overall policy and legal regimes, including tax and customs. That broad statement obviously masks considerable variations among countries. For example, Barbados ranks very high with investors for its legal and policy environment. But in general, the Caribbean region lacks a policy or legal environment



that would specifically serve the health care sector. That is not as much a deficiency as a challenge to overcome in order to attract investors to the Caribbean.


That challenge flows, in large part, from the unique features of the health care market that will have an impact on the ability of any new facility to tap consumer demand. One issue is the question of who makes the decision on whether a patient will travel for their care. That will not always be the patient, particularly in the markets that hold the highest potential for marketing Caribbean health care—the U.S., Canada, and Europe.

For example, the U.S.'s heavy reliance on employer-provided health care and the employer's reliance on outside insurers to control costs mean that the ultimate decision to consume may be made by an insurance company rather than the patient or health care provider.⁶⁸ This creates a significant local-market bias and poses an obstacle for Caribbean health care facilities that must not only meet U.S. regulatory standards, but must also qualify under the commercial standards of health insurers in order to attract U.S. patients.⁶⁹

At the same time, other developing countries have had some significant success in addressing that challenge by taking advantage of the process of qualifying under U.S. standards as a means of branding their industry and strengthening its reputation for quality care. Qualification under U.S. regulatory standards has greatly enhanced the prospects of qualifying under health insurers' plans. That suggests an important role for Caribbean governments to negotiate with U.S. regulatory officials on regulatory standards. Assistance in meeting those standards would pay a double dividend by enhancing the possibility of qualifying under U.S. health insurers' commercial standards.

Regulatory standards play an important role in one other aspect of Caribbean health care facilities' prospects for gaining access to industrial counter export markets like the U.S. That involves the cost of developing the human capital needed to staff medical facilities in the Caribbean with doctors who graduated from and maintain an affiliation with a U.S. institution. In addition to the direct cost of schooling over a 3–6 year period and the costs of internships and residency, there is the growing cost of obtaining a visa to the U.S. and the rising cost of living over the roughly 10-year period that it takes to train a physician in a quality U.S. institution.⁷⁰ In other words, qualification involves two steps; one greatly eases the other.

In the case of Canada and many European countries, particularly the United Kingdom, the decision to cover the cost of care as well as the qualification of the facilities to which a patient might travel will be made by the national health services. Again, this points to an important role for Caribbean governments as an interface with



their counterparts in these markets. It is worth considering, for example, whether the potential Caribbean suppliers of health care might approach the British government under the umbrella of the recently concluded Economic Partnership Agreement between a number of the Caribbean states and the EU to ask that the U.K.'s National Health Service be open to the provision of services by facilities in the Caribbean. That would be a natural extension of the EPA as well as a means of branding the Caribbean health care sector at the same time.

As is increasingly true of investments in all service industries, an educated labor force is a requirement to attracting investment in health care.⁷¹ Health care sector investment is highly dependent on a highly educated labor force. That is certainly true in terms of the trained medical personnel needed to provide the direct care, but it is also critical in other areas of the operation, from systems engineering to administration to dietitians, and any of a variety of other specialties.

Human capital, fortunately, can be one of the Caribbean's selling points. Caribbean governments have made significant investments in education, averaging 4.9 percent of GDP from 1995–2002.⁷² That partly reflects higher per capita income, particularly in the eastern Caribbean, but government spending on education has actually been rising faster than per capita income over that time period.⁷³

One challenge, both for Caribbean governments and for any potential investor in the health care sector, is the tendency for students graduating from tertiary education in the region to migrate away from the Caribbean.⁷⁴ It is worth considering whether attracting investment in the health care sector designed to serve as a hub for medical tourism might help reverse that trend. But, at least at the initial stage of the project, the trend raises a concern from an investor's perspective because it means that the region may lack the highly-trained labor force such operations require.

For some fields, wages will be an issue. In recent years, wages in much of the Caribbean have outstripped productivity. That is particularly true for skilled workers, such as engineers, technicians, professionals, and managers—precisely the slice of the labor market of greatest interest to an investor in health care. There would appear to be interplay between the migration of skilled labor to the U.S. and Canada as a significant feature of the local labor market and the wages paid to skilled workers relative to their productivity.

Another potential problem is the relatively low spending in the Caribbean on health care, which has remained relatively constant as a percentage of GDP in the region for some time.⁷⁵ That level of investment helps explain why the Caribbean has relatively few physicians and hospital beds.⁷⁶ What that level of investment would sug-

gest to an investor is a smaller pool of highly trained workers with the skills needed to provide health care and manage the sort of operation the investor envisions.

Those figures need not be an insuperable hurdle to attracting investment in the sector, but it does mean that investment is likely to go to those countries that are already investing more in health care. It also suggests that an investor may look to projects that could expand from an existing base, rather than starting a medical facility from scratch. Thus, locations like St. Lucia, St. Vincent and the Grenadines, Barbados, and Antigua, which already have some investment in various health care niches, would be likely targets, as would Grenada and Dominica due to their medical schools.⁷⁷

The Caribbean's existing tourism industry is an obvious strength in terms of the region's attraction to potential investors as a destination for medical tourism. Indeed, development in this traditionally strong sector for the Caribbean suggests that the region may want to look harder at attracting tourism in higher valued-added niches, such as medical tourism. Growth in Caribbean tourism has slowed since the 1990s in the traditional "sun and sand" product line, while competition has risen significantly.


Part of the tourism challenge lies in the fact that most of the Caribbean represents an "undifferentiated commodity market with extreme price competition."⁷⁸ Tourism as an industry is always beset by very high price elasticities—consumers are highly cost sensitive. The high cost of labor and utilities in the Caribbean exacerbates the problem that this poses and highlights the need for diversification.

That suggests a need to focus on new segments of the tourism market with less price elasticity. Success will require "real improvements in product and service quality," particularly if health care is one of the sectors targeted.⁷⁹

Many of the steps that the region might take to support its tourist industry would also pay dividends in the health care sector. Certainly, opening the region with a CARICOM passport and liberalization of "mode 4" services would help to overcome some of the challenges potential investors might see in terms of the availability of a deep pool of highly trained workers needed to succeed in the medical industry.

Targeting Elder Care

As noted above, standard gap analysis of the medical tourism sector indicates that the Caribbean has an opportunity to enter the market as a provider of integrated services to patients in their middle ages and above. A gap analysis examines the existing pattern of dispersion throughout a particular industry to see if there are areas of unmet



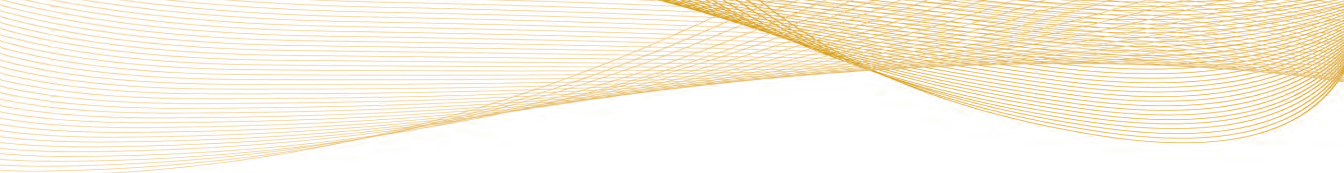
demand that would suggest lower barriers to entry and potentially higher returns than in an area already filled with competitors. A survey of medical tourism shows considerable competition in many specialties, such as cosmetic surgery, but not in health care for the elderly—a gap that might be of particular interest to potential entrepreneurs in the health care services sector.

For example, health tourism is the fastest growing segment of the tourism industry in Thailand, Malaysia, and India. It is also a strong addition to the tourist sector in Singapore, the Philippines, Argentina, Costa Rica, Cuba, and Dubai. But, a closer look reflects an interesting pattern of specialization. Argentina, for example, specializes in research and development and laboratory services linked to medical facilities located elsewhere in the world. India specializes in tertiary care, such as highly complex heart surgery and joint replacements. Other countries, such as Dubai, which is building an entire “Health Care City,” hope to become premier regional providers of health care in the Middle East.

In many of those niches, the sector developed as a result of links between service providers and medical facilities in developed country markets, particularly in the U.S. Those relationships often link back to bonds between doctors and other medical personnel, such as medical technologists and researchers that were created during school, internships, and residencies. In the case of Argentina, specialization in laboratory research and services flows from the country’s own high quality educational opportunities in the field of biomedicine, but also from links established between individual researchers and institutions in the U.S., such as at the Henry Ford Hospital in Detroit, Michigan.

There are, as yet, no linkages of the sort that led to the development of laboratory services in Argentina for the market niche of elder care. The peculiar nature of information barriers in the health care sector help explain the absence of such linkages in that field. Specialties like cosmetic surgery often develop based on referrals that come from within a network of colleagues that a surgeon develops over the course of his or her career. In addition, in many developing country markets, there might be only a limited number of highly qualified surgeons in that specialty, which would tend to reinforce the surgeon’s position in the local market by offering greater experience and the opportunity to build a stronger reputation based on outcomes that would extend into the global market for such services.

In the elder care market, however, the problems of aging are only now becoming pronounced in many markets as life expectancies rise and societies lower their reproductive rates. Therefore, health care for the aged represents a relatively new specialty.



The lack of linkages in the elder care market may also reflect the nature of demand in this market segment. Reluctance on the part of the elderly to travel or to be apart from their families and friends for an extended period of time might explain why there has been relatively little investment in the sector to date and fewer linkages between colleagues in different countries. Similarly, retirees may have less money to spend and therefore do not show up in the category of other medical specialties, such as medical tourism for cosmetic surgery.


Given that investors generally back projects designed to meet market demand, one question worth exploring further is whether there are particular characteristics of this market segment that might inhibit growth. But it is worth underscoring that many of the same forces shaping market demand for elder care in developed country markets—principally the cost of care—would suggest that investments in the area are worth exploring further. Retirees' dollars will go further in a lower cost environment, whether for health care or other services.

That basic equation means that some level of demand has thus far gone unmet. Looking deeper into the demand for these services may also help to identify the type of investment that the Caribbean might reasonably attract in this market niche. One example would be expansion of existing tourism facilities to cater to retirees with health care services, particularly services such as physical therapy, as an adjunct to their vacation. Another would be the creation of a world class medical facility that would attract greater tourism traffic from this cohort of the population in the region.

The foregoing highlights the fact that there are really two distinct markets for elder care that may make sense in the Caribbean. One is health care that is provided to retirees who have moved to the country to enjoy a warmer climate and reduce their cost of living. The other serves patients who are traveling to the destination expressly for treatment, for example, a joint replacement followed by physical therapy. Both markets could be potential targets for investment in the Caribbean due to factors affecting demand for health tourism generally.

Four factors tend to shape demand: cultural affinity, distance, specialization, and reputation. The market is shaped most significantly by the last two—patients want to know that the doctors and medical facilities at their destination can offer the quality care they seek. But, those two factors can be acquired by many countries.

The Caribbean may find a real advantage in the other two factors, which are a function of geography and culture, and which cannot be acquired. The Caribbean is far closer to the principal markets that are likely to direct demand toward the region or other potential destinations. That makes travel easier and allows for greater visitation



by friends and family after care or during extended therapy. In addition, the Caribbean is a part of the culture of the principal consumer markets, not just by virtue of common language (both English and Spanish), but in terms of shared values. That is one of the main reasons for the strength of the existing tourism industry in the Caribbean today.

In addition, the region shares a common legal and policy framework with the major markets it would serve in terms of elder care. The Caribbean legal system is well-developed with respect to allocating risks associated with medical care, which would tend to increase (1) the willingness of doctors in the U.S., Canada, and Europe to recommend that their patients go to there for care, (2) the willingness of patients to go to the Caribbean, and (3) just as important, the willingness of health insurers to pay for their care.

All of this suggests the Caribbean may have a certain natural advantage in seeking patients among elderly consumers based on the perception of the region as friendly and service oriented.

Pricing information is critical both to measuring the potential size of market demand and the potential return on investment. Unfortunately, pricing information is also notoriously difficult to get in the health care sector. But some relatively clear rules of thumb can help to identify the kinds of investments that might work in the Caribbean.

Advocates for medical tourists tend to advise their clients that any care that will cost less than US\$2000 in their home market is better done at home. For care above that amount, the cost savings reaped by traveling to another market in the developing world will generally be worth considering. From an investor's perspective, this suggests that the success of any new venture in the Caribbean (or elsewhere) will depend on tapping the market for services above that cost benchmark.

The same rule of thumb helps to explain why much of the market for medical tourism lies in high-end activities such as cosmetic surgery or joint replacements. Insurance may not always cover such costly items, making the patients more cost sensitive and therefore more willing to explore alternatives abroad.

This suggests two complementary sets of actions for fostering investment in elder care in the Caribbean. The first, following the pattern of other niches in other markets, is that the investment should target the higher end of services routinely offered to the elderly. The second is that effective policy innovations by governments can create cost savings that can alter the equation significantly in the Caribbean's favor.

High-Impact Interventions – Building Institutional Linkages to Consumer Markets

High-impact policy interventions designed to foster an environment capable of attracting domestic or foreign investment in medical tourism could take any of five principal forms. Four of those are summarized as follows:


- » Investments in the physical infrastructure needed to ensure a reputation for high quality medical care and a positive patient experience, such as efficient air travel, reliable electrical power, etc.
- » Investments in institutional infrastructure, the positive legacy of the Caribbean's existing legal systems, with new provisions that will encourage health care providers and insurers to view the Caribbean as a part of the U.S. or European health care market.
- » Investments in the human capital needed to develop skilled technicians and professionals required by the medical field.
- » Promotion of the Caribbean as a destination for elder care services.

A fifth intervention, which may prove to be the most important to the potential development of investment in this target market, is building the linkages that have proved instrumental in creating a medical tourism market in other countries and regions. In this instance, the Caribbean already has some extraordinarily important advantages due to its previous investment in medical schools that serve the principal market from which the Caribbean would hope to attract patients.

There is currently an undersupply of positions in North American medical schools, as well as an undersupply of licensed physicians in the U.S. In particular, there is an imminent shortage of primary care physicians, the group most relevant to an aging population requiring greater medical care.

The Caribbean is already uniquely equipped to fill that gap. The region has developed a comparative advantage in the supply of off-shore medical education. Over 70 percent of the international medical graduates entering the United States between 1984 and 2000 have been from the Caribbean. An estimated 11,000 students have been enrolled in Caribbean medical schools, over half of which are in the Eastern Caribbean.

The two largest medical schools serving the U.S. market are in Dominica and Grenada. But, new facilities are coming on stream rapidly. Only four schools were



established before 1990. Seven were opened from 1990–2000. Thirteen new schools have been added since 2000.

At this stage, the Caribbean schools focus solely on training in the basic science needed to qualify as a doctor in the U.S. The schools partner with U.S. hospitals for their students' clinical rotations (essentially outsourcing this part of the service they provide to their medical student customers), which keeps investment costs low. Caribbean schools do not offer residencies at this stage.

The principal obstacle to Caribbean medical schools whose students hope to practice in the U.S. lies in the U.S. accreditation requirements, which are governed by state law. The two largest medical schools in the Caribbean have solved that problem by receiving accreditation from New York, which allows reciprocity with other states.

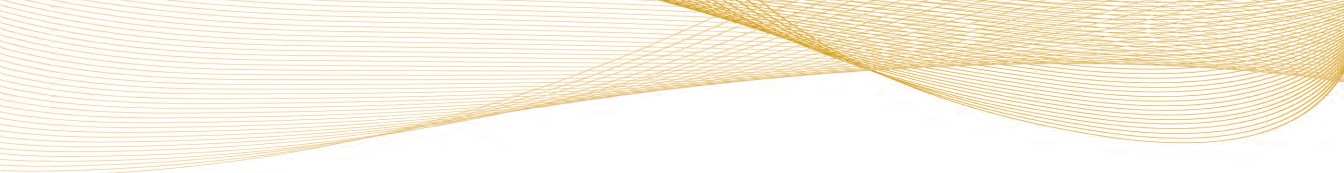
From an investor's perspective, the current status of the Caribbean medical sector suggests three conclusions, all of which are relevant for attracting investment to the region in the market for elder care and medical tourism generally. First, the rise of the Caribbean medical schools points toward an increasing globalization of health care worldwide, which is the very trend of interest to the investor.

Second, the rise of the medical schools has paralleled the growth of clusters in the medical sector that could serve a facility dedicated to elder care. Those include facilities like Island Dialysis in Barbados and wellness facilities or rehabilitation facilities in St. Lucia and Antigua. This suggests an increasing potential synergy between investments in medical education and the industrial clusters developing in different parts of the health care supply chain.

Third, and most importantly, the medical schools, which prepare students for the U.S. market, could provide the foundation for the linkages with U.S. medical facilities and institutions that would become the source of patient referrals and specialization in the region. In effect, the medical school could become the basis for building the networks that have driven the growth of health tourism for other countries and become the basis for overcoming many of the informational barriers that beset the health care sector in general and the market for medical tourism affecting the elderly in particular.

Investing in the effort to build a public-private partnership with the schools could help create a virtuous circle benefiting the Caribbean in a number of ways. Using the medical schools as a basis for attracting investment in elder care tourism could lead to the development of facilities that would allow the schools to offer a wider range of services themselves, including clinical rotations and residencies.

By the same token, offering those rotations and residencies in facilities dedicated to elder care would reinforce the Caribbean's reputation as an industry leader in that



sector of the health care tourism market. In that sense, the schools offer the Caribbean a significant untapped advantage in entering the market and gaining a first mover advantage in this particular market niche and one that no other country or region of the world can duplicate.

Developing an Integrated Strategy

The above analysis suggests is that the analytical framework used by investors in approaching particular projects could offer a way to operationalize the concept of development as a process of self-discovery. To the extent that development is driven by “the serendipitous decisions of entrepreneurs,” the approach outlined above offers a way of inserting the perspective of entrepreneurs into a policymaking environment.

The analytical framework will require additional work in order that it focus more precisely on the critical decision points that potential investors face. At this stage, the preceding discussion, including the case study of the medical tourism industry, goes a step beyond the conventional analysis of the Caribbean’s investment environment as reflected in the World Bank’s Doing Business series and in the World Economic Forum’s annual competitiveness report. But it does not yet incorporate information on costs and prices needed to fill in the elements of a return on investment calculation that would offer a better guide to the IDB, governments, and the private sector of where policy interventions would pay off by reducing risk or costs in ways that would improve return on investment and encourage capital investments that would help diversify the Caribbean’s export base.

The analysis also suggests that medical tourism offers a significant opportunity for the Caribbean that is worth exploring further. Because of heavy governmental involvement in the health care sector in the main markets the Caribbean might serve, the Caribbean governments themselves could play a significant role in shaping market opportunity in the sector by building a broader and deeper economic relationship with those markets. The progress being made within the framework of the Economic Partnership Agreements with the European Union is a step in this direction for the region.

In particular, the analysis suggests the elements of a clustering strategy among various actors in the market. That strategy would knit together (1) the medical schools in the region that serve the U.S. market, (2) the growing investment in a variety of medical services that already serve the U.S. market that could therefore help in building out the private infrastructure needed to encourage medical tourism, and (3) the tourism industry that is already a mainstay of the Caribbean’s services exports.



The analysis clearly indicates that prospects for medical tourism can be shaped by the policy approach that governments in the region adopt and that the IDB could support.

The most important step that Caribbean governments could take at this stage would be to engage local entrepreneurs in the medical tourism field to undertake a joint examination of the Caribbean's potential and solicit the input of potential investors in what specific steps policymakers might take to improve potential return on investment.

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Endnotes

- ¹ Dymond and Hart 2008, 13. Dymond and Hart underscore the extent to which the lack of solid statistics on the “origin of value-added in a complex multi-country production process” compounds the challenges confronting policymakers. Recognizing the limitations of ignoring the multi-stage nature of production, recent academic work has attempted to capture the productivity effect of trade in a context of a neoclassical model where output is produced through vertical integration. See Ferreira and Trejos, 2006.
- ² Dymond and Hart, 13.
- ³ Bryan et al. 1999, 186, highlighting the extent to which “[l]eading globalizers are becoming more and more adept at using a variety of relationships to capture both global and country-based opportunities” as a means of gaining an edge on their competitors); see also Sturgeon 2005, (indicating that, “[i]n both manufacturing and service industries, . . . many companies have been shifting specialized activities out-of-house to an increasingly competent set of suppliers, contract manufacturers, and intermediaries”).
- ⁴ Bryan et al. 1999, 187, pointing out that, “[a]s geographic barriers between markets disappear and new global value chains start to form, competition for the most attractive partners or counterparties intensifies,” creating a new basis of global competition; see also Dymond and Hart 2008, 13.
- ⁵ Dymond and Hart 2008, 22, capture this point well in highlighting the cost of internal barriers to trade in Canada that inhibit stronger economic performance because they “impede Canada’s participation in global value chains, and lock Canadians into the limited opportunities of the small domestic market.”
- ⁶ Gardner and Cooper 2003, which highlights the importance of mapping supply chains as part of an enterprise’s strategic planning because of the help it provides in evaluating supply chain structure and supplier relationships.
- ⁷ Ibid.
- ⁸ Ibid.
- ⁹ Ibid.
- ¹⁰ Hausman and Rodrik 2003.
- ¹¹ Ibid.
- ¹² Mattoo 2009. 161–182. “Preliminary evidence suggests that the determinants of comparative advantage in services include endowments (especially of human capital), infrastructure (especially relating to telecommunications), and institutions (especially regulatory and contract enforcing). While these determinants are given today, their future evolution can be influenced by current policy choices.”
- ¹³ Mattoo 2009, 166.
- ¹⁴ Information on the targeted sector will generally highlight relevant characteristics of secondary markets, on both the supply and demand side of the proposed business, and examine how

- shifts in those markets might alter prospects in the primary market targeted for investment.
- ¹⁵ World Bank (2008). The World Bank's data set has some limitations for our purposes because it focuses primarily on tasks such as starting a business or paying taxes, rather than exclusively on the barriers to trade that a Peruvian entrepreneur would actually face in connecting to markets. In addition, where the World Bank's data does address processes directly affecting the ability of Peru's farmers to gain access to markets, it focuses on barriers they face in connecting to markets as a producer while ignoring the barriers that would inhibit connecting to markets as a consumer in ways that would lower production costs and improve competitiveness.
- ¹⁶ The value chain analysis, helps underscore that, in today's global marketplace, commercial standards may play a far more important role than do individual national trade barriers in defining whether or not goods or services will enter the global stream of commerce.
- ¹⁷ According to the World Bank's Doing Business Report, it takes 65 days, 10 separate legal/documentary procedures, and nearly three months of average income, to start a new firm. Readers may remember that *The Other Path*, Hernando de Soto's seminal work on understanding the cost of bureaucratic burdens and forced informality on the productivity and success possibilities of the poor, was based on documenting the massive cost of operating a business within the law in his native Peru.
- ¹⁸ Djankov, Freund and Pham (2006) run a regression of a geography model in which, in addition to distance and shipping costs, delays in the export and import process are counted as an independent variable. They find statistically significant and actually quite large coefficients for the explanatory power of time in the volume of exports. The effects are larger when only perishable products are considered.
- ¹⁹ The following findings emerge mostly from our interviews with participants in the industry. To the extent possible we contrasted them with the WEF and World Bank data at our disposal to verify its plausibility.
- ²⁰ At 345,000 MT, orange is the most produced fruit, by volume, in Peru. Until recently, however, it all went to the local market, which still absorbs about 98 percent of the output.
- ²¹ As an illustration, Costa Rica, a much smaller country than Peru, but whose agriculture is much more geared to the international rather than national markets, allocates 140,000 hectares to non-traditional exportables, and 200,000 to traditional exportables, out of a total 450,000 hectares of available arable land. In that sense, the Peruvian export perishables industry is still a minority stake with potential for growth for years to come.
- ²² Office of Textiles and Apparel (OTEXA), International Trade Administration, U.S. Department of Commerce.
- ²³ *Informe de Actividad Maquiladora 2007–2008, from the Honduran Central Bank.*
- ²⁴ Geriffi 2005. See also, CEPAL (2004).
- ²⁵ Some of the nations at the margin of the global textile industry, due to the existence of a very incomplete cluster, need to ship unfinished materials back and forth to other countries. Indeed, before the negotiation and implementation of CAFTA, the same sort of traffic shaped the industry in Central America in order to satisfy the Caribbean Basin Initiative's rules of origin where producers in Central America were able to produce a complete package.
- ²⁶ Fernandez and Trejos (1998) estimated the durations of employment and unemployment, and the size of the flows across job states for all the Central American nations. While the

numbers showed that most markets were very fluid relative to the international norm, only two, Costa Rica and El Salvador, displayed the levels of mobility and the short unemployment duration characterized by the U.S. Unemployment duration in Honduras was significantly higher, which may be caused by firing costs, or by other aspects of the country's very fragmented labor market.

²⁷ A recent survey (MSN 2008) confirms that because textiles and apparel are such a mature industry and a cut-throat market, with many participants, global clothing brands essentially base their sourcing decisions on cost, knowing that other valuable traits (like time-to-market) can be made up with adequate planning.

²⁸ In 2002, the relevant electricity costs for comparable textile operators were US\$0.1172 per kilowatt in Honduras and only US\$0.507 per kilowatt in China. As oil prices go up, Chinese rates, which are more tied to the price of fossil fuels, jumped faster than Honduran rates, although Honduras occupies a position behind Costa Rica, Colombia, and other competitors that rely more on renewable resources for energy production.

²⁹ As noted at the outset, we used World Bank data from its Doing Business series as a proxy where it was relevant to the sections of the Honduran textile and apparel value chain, as was the case with data related to customs processing. However, much of the data in the Doing Business series relates to more general issues with respect to the business climate in Honduras. While not useful for examining the connections between links in the Honduran value chain or the relative strength of the enterprises within each link in that chain, the World Bank's measure of business climate is nonetheless significant. For example, the data the World Bank provides on Honduras' recent success in reducing the time it takes to open a business to 20 days, which raised Honduras' rank 45 places in that category, is undeniably helpful, particularly for start-up enterprises trying to enter the value chain for the first time. What this suggests is the need for a further refinement of the tools used here and at the World Bank to attempt to capture the implications that more general business environment issues may hold for the value chain in any Latin American country (i.e., whether it represents an insuperable obstacle—essentially forcing potential investors in various firms in the value chain to make a “go-no/go” binary choice—or simply adds further time, cost, and distance to market).

³⁰ World Bank, 2005, xiv. The Bank's study of the development challenges facing the Caribbean represents the most thoroughgoing evaluation of issues that confront the countries of the region as a result of an accelerating globalization of production of goods, services, and ideas.

³¹ Ibid.

³² Ibid.

³³ Ibid., xxiv. Significantly, while there is little doubt that trade preferences have eroded, there is less consensus on whether that, in fact, harms the Caribbean's long-term economic gains. The erosion of preferences will necessarily require adjustment, but it is also true that the preferences never delivered the results their proponents expected. Ibid. 76. The existence of the preferences appears to have affected the composition of Caribbean exports rather than significantly augmenting their volume. Moreover, the gains from preferences were bound to be limited to the extent that they encouraged investment in areas that were increasingly inconsistent with the changing nature of the Caribbean's comparative advantage in a rapidly

shifting global economy. Id. What that underscores—and not just for the Caribbean—is the simple truth that gains from trade result as much from imports as exports because it is import liberalization that frees capital and resources to engage in activities that are more consistent with the Caribbean’s comparative advantage.

³⁴ Ibid., at xiv.

³⁵ Ibid., 49. The Caribbean’s experience in attracting foreign direct investment (FDI) to date underscores that “openness is a key determinant of FDI”—one that “offsets the disadvantages of limited domestic market[s].”

³⁶ Ibid., 7. The World Bank’s report makes a point of emphasizing the extent to which the “engine of growth” in the Caribbean “has shifted from agriculture to services”—a sector which involves higher value-added activities and the potential to take greater advantage of the Caribbean’s relatively strong investment in education and the development of human capital.

³⁷ Ibid., xxii.


³⁸ U.S. AID 2004. A study done for the U.S. Agency for International Development by Deloitte Touche Tomatsu highlighted the dual structure of the financial services industry in the Caribbean with a high number of local institutions serving the local community and a smaller number of closely held private banks or branches of foreign institutions serving an offshore market made up of top-tier global companies and other international clients. By contrast, the local market was characterized by state controlled banks, particularly among the members of the Organization of Eastern Caribbean States, which, unsurprisingly, were “deemed to be the weakest [and] least commercially orientated.” The report concluded that this “duality presents a unique challenge in addressing the question of how to catalyze sector development in the region” (i.e., attract investment in the financial services sector to expand the ranges of services provided to global markets, while serving local markets more efficiently).

³⁹ Ibid.

⁴⁰ Ibid., 25. The World Bank highlights the need for diversification, underscoring the beneficial impact such diversification would have on productivity, which has fallen. Productivity rises as economic activity diversifies, thereby freeing factors of production to pursue activities that exploit their highest comparative advantage. In this instance, diversification implies the need to draw investment away from traditional areas such as mineral extraction, agriculture, and travel tourism, where high levels of investment have tended to exhaust available economies of scale and the returns to the local economy. The Bank points toward needed improvements in the region’s investment climate in order to compete for scarce investment dollars.

⁴¹ Brenton, et al. 2009, 6. According to a recent World Bank publication, export diversification “may improve growth through several channels.” At a minimum, diversification reduces the cumulative investment in traditional products, which alleviates the exhaustion of economies of scale and a resulting decline in export earnings from sales abroad of traditional goods. Ibid. Diversification also reduces a developing country’s exposure to adverse shifts in its terms of trade by stabilizing export earnings. Id. Lastly, diversification encourages potential knowledge spillovers regarding markets, foreign demand, new business processes, etc., that raise the quality of local manufacturing and services with a concomitant gain in terms of competitiveness on global markets.

- ⁴² Ibid.
- ⁴³ Ibid., xxii. The recent declines in the Caribbean's share of global FDI highlight the challenge the Caribbean will face in its efforts to diversify its services export base. The current global downturn, driven by a drying up of credit and investors losing their appetite for risk, will compound that picture further.
- ⁴⁴ Hausman and Rodrik 2003.
- ⁴⁵ Mattoo 2009, 161–182. “Preliminary evidence suggests that the determinants of comparative advantage in services include endowments (especially of human capital), infrastructure (especially relating to telecommunications), and institutions (especially regulatory and contract enforcing). While these determinants are given today, their future evolution can be influenced by current policy choices.”
- ⁴⁶ This is not to say that the distinction between goods and service industries is complete or that an investor considering producing agricultural or industrial goods would not take some of the same costs into account. Rather, it reflects a greater tendency simply to evaluate the business climate as it is and make a “go-no go” decision, rather than negotiating with the government over significant improvements in public infrastructure.
- ⁴⁷ Bookman and Bookman 2007, 26.
- ⁴⁸ Ibid., 22.
- ⁴⁹ Ibid., 21.
- ⁵⁰ Cattaneo 2009. 192.
- ⁵¹ Bookman and Bookman 2007, 1.
- ⁵² Ibid., 4.
- ⁵³ Ibid.
- ⁵⁴ Ibid.
- ⁵⁵ Ibid.
- ⁵⁶ Ibid.
- ⁵⁷ Ibid., 3. Medical tourism, of course, is not strictly a one-way street. Both the U.S. and the United Kingdom continue to be favored destinations for medical services, with over one in five U.K. hospital beds being filled by foreign patients in 2004. In the U.S., four clinics alone were attracting more than 10,000 overseas patients annually by the late 1990s. *Id.*
- ⁵⁸ Ibid.
- ⁵⁹ Ibid.
- ⁶⁰ Ibid.
- ⁶¹ Ibid.
- ⁶² Ibid. More recent figures point toward a slowdown in health tourism to Cuba, but not necessarily to a decline in Cuban exports of health services. The decline in health tourism there appears to reflect an increasing trend for Cuban doctors to treat foreign patients in the country of their residence. See also, ECLAC 2007, 135.
- ⁶³ Bookman and Bookman 2007, 3.
- ⁶⁴ World Bank, 2005, 47–48.
- ⁶⁵ Ibid., 67.
- ⁶⁶ Ibid., 49–50.
- ⁶⁷ Ibid., 50.
- ⁶⁸ Mattoo 2009. 173.

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- ⁶⁹ Ibid.
- ⁷⁰ Mattoo 2009,177.
- ⁷¹ Ibid., 57.
- ⁷² World Bank 2005, 35.
- ⁷³ Ibid., 36.
- ⁷⁴ Ibid., 39.
- ⁷⁵ Ibid., 39–40.
- ⁷⁶ Ibid.
- ⁷⁷ Ibid., 41.
- ⁷⁸ Ibid., 100.
- ⁷⁹ Ibid., 105.

