Diversification by Deepening Linkages with Tourism

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INTRODUCTION. TOURISM AS A CHANNEL FOR DISCOVERY.

What is the relationship between tourism and the process of economic diversification—and why does it matter? Although economists have examined the effects of tourism expansion on economic growth and development, the role that tourism can play on the emergence of new products and exports has yet to be explored. Arguably, one of the main motivations behind a developing countries’ rationale for attracting tourism is the prospect that it offers as a means of diversification away from tradable goods that have lost competitiveness in world markets. However, this policy orientation may fail to capitalize on an opportunity for diversification into new tradable goods. While tourism can be an alternate sector for economic specialization, a different perspective is to view tourism as a potential channel for the discovery of new products and exports.

Tourism is a somewhat unusual sector in the economy because it is not defined by a single commodity; rather, it is a cluster of inter-related industries. As a composite sector, tourism encompasses a multiplicity of economic activities spanning the agricultural, manufacturing, and services sectors—including foods and beverages, furniture and textiles, jewelry and cosmetics, and transportation and communication services, among many others. One way to think about the economic impact of tourism would be to consider the new international demand it generates within a developing country. Tourism creates a foreign, diversified source of demand within the borders of the host economy, breeding new supply opportunities for entrepreneurs. These opportunities may be captured locally or internationally, reflected in part by the extent of linkages forged between tourism and other productive sectors of the host economy.

When these opportunities are captured locally, tourism heralds the potential for economic diversification. This phenomenon renders itself from the way international tourists behave differently from domestic consumers in a host developing country. In effect, OECD consumers have a different set of preferences than do consumers from the local economy. While on vacation, OECD tourists carry their preferences with them, and demand many of the same types of goods and services they would enjoy at home: this represents a more sophisticated, higher-value demand. In addition, when on vacation, OECD tourists exhibit a new set of preferences for cultural or exotic goods, which are not frequently demanded by local consumers. As a result, tourists create two strands of complementary demand in a host developing country: one pertaining to innate OECD preferences, and another related to cultural or exotic goods. Therefore, in the process of catering to tourists’ preferences and establishing productive linkages with the tourism economy, the host country effectively undergoes a process of product diversification.

Another consideration is that international tourists’ preferences embed a different set of standards. In meeting the demand of the tourism economy, a developing country finds itself not only discovering new goods it can produce, but also adapting to the higher quality standards and technical requirements that are intrinsic to international tourists’ preferences. An OECD tourist wants a good to be produced in a certain fashion, to have a pleasing appearance, to incorporate labeling and packaging requirements, and even to conform to environmental- and labor-friendly practices. Essentially, these are the same
standards that need to be met to sell the product in the tourist’s country of origin. Therefore, once local producers in the host country meet the standards that tourists demand, they will also comply with the technical requirements needed to export the product to OECD and other international markets. As a result, establishing productive linkages with the local economy can serve as a springboard to export diversification.

Against this backdrop, this paper explores the potential of tourism demand as a vehicle for economic diversification. How can tourism stimulate the discovery of new products and exports in the host economy, and what are the conditions that catalyze this process? The next section offers an overview of the growing importance of tourism in developing countries, and takes stock of the empirical relationship between tourism expansion and economic growth. Section 3 describes how the tourism economy lowers the cost of discovery in each stage of the learning process, increasing incentives for local entrepreneurship. Section 4 presents some preliminary evidence of a statistical relationship between tourism specialization and export diversification. In section 5, a model is developed to assess the determinants that foster the productive linkages with the host economy that serve as operative channels for tourism-led diversification. A few final remarks are offered in the conclusions.

2.0 OVERVIEW OF TOURISM TRENDS IN DEVELOPING COUNTRIES

Tourism is one of the fastest-growing sectors in the world, accounting for over one third of world services trade. Over the last three decades, tourism receipts have grown from USD 160 billion to USD 800 billion—or 2.2 billion USD per day (WTO, 2006).\(^1\) Increasingly, an important share of the market is captured by developing countries, where tourism receipts have grown at average growth rates of 11 per cent a year over the past two decades. Figure 1 shows the level of tourism receipts by region. From 1975 to 2000, Latin America and the Caribbean was consistently the prime tourism recipient among developing countries; it has since been outstripped by East Asia and the Pacific. In more recent years, the highest average growth rates in tourism have accrued to countries in the Middle East and North Africa, which have more than tripled their levels of tourism receipts. Equally notable, South Asian and Sub-Saharan Africa have both more than doubled their levels of tourism receipts over the past ten years.

Algieri (2005) has estimated that each increase in world GDP of 1 per cent will be accompanied by a rise in tourism revenues of about 5.8 per cent. Arguably, as countries increase their levels of GDP per capita, an expanding world middle class will generate growing numbers of international tourists, the majority of which will choose developing regions as their destination. The World Tourism Organization (WTO) has estimated that developing countries will receive five times as many tourists as more established markets in Europe and North America.\(^2\) Therefore, the number of tourist arrivals will continue to grow in many developing countries, and the country of origin of these tourists will

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1 World Tourism Organization, UNWTO World Tourism Barometer, June 2006.
become increasingly diversified. This will translate into new markets of foreign consumers—and new sources of foreign demand—within developing countries.

**Figure 1: International Tourism Receipts by Developing Regions, 1974-2004³**

US Billion Dollars (current prices)

![International Tourism Receipts by Developing Regions, 1974-2004](image)

*Source:* Author, compiled from data of the World Tourism Organization (various records).

*Note:* Countries are classified according to World Bank developing regions. EAP is East Asia and Pacific; LAC is Latin America and the Caribbean; MENA is Middle East and North Africa; SSA is Sub-Saharan Africa; SA is South Asia. Central and East Asia is omitted due limitations of available data for the region.

### 2.1 MIXED BLESSINGS: BENEFITS, COSTS, AND OPPORTUNITY COSTS

Apart from evaluating the opportunities that can be derived from growing trends in tourism receipts, developing countries will also need to consider the costs. The perks that flow into a country with international tourists have been widely extolled in the literature.⁴ From an economic diversification standpoint, the injection of foreign currency provides developing countries with a means to finance imports of capital goods that are necessary for the expansion of non-traditional sectors. The examples of Spain (Sinclair and Gómez, 1996) and emerging Asian countries (Lin and Sung, 1983; Song and Ahn, 1983) are illustrative of the role that tourism receipts can play as a source for financing capital goods imports during the process of industrialization. In addition, because tourism absorbs unskilled labor, which is often unemployed or employed in very low productivity sector, tourism increases the overall productivity level of the economy.

Another way to assess the potential benefits of tourism is to look at the kind of demand it generates. A new body of ‘pro-poor’ tourism points to the potential of this demand benefiting unskilled entrepreneurs (Ashley 2003; Meyer, 2003 2006). The tourism economy generates demand for products that can be efficiently produced at a

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³International tourism receipts are defined as expenditures by international inbound visitors, including payments to national carriers for international transport. They may also include any other prepayment made for goods and services received in the destination country (World Tourism Organization).

⁴See Sinclair (1999) for a comprehensive literature review of the role of tourism in economic development.
smaller scale of operation, namely through self-employment and small- and medium-sized enterprises. This, it makes entrepreneurial opportunities available to the poor. Tourism demand also tends to place a high value on goods and services that draw on local culture, tradition, and natural resources, which is knowledge that unskilled workers possess. Finally, demand often develops around the tourism enclaves in remote regions (e.g., coasts, mountains, villages, rainforests) which are inhabited by the poor.

Counterbalancing these potential benefits, meeting the growing demand in tourism can also represent costs and opportunity costs—including for the poor. Tourism involves considerable investments in infrastructure and public expenditure, which can have important opportunity costs, particularly when these investments are specific to tourists rather than bound to a broader public use (e.g., airports). Given that tourism is not a high-technology, dynamic growth sector, the employment of labor in tourism can have opportunity costs in the presence of more dynamic sectors with higher productivity levels. Finally, there are considerable costs associated with the deterioration of the environment and the depletion of natural resources that need to be factored into the equation (Cohen, 1978; Bramwell, 1991; UNEP, 2006).

2.2 TOURISM-LED ECONOMIC GROWTH: MYTH OR REALITY?

What are the economic growth effects of tourism in the host country? An increasing though still limited body of literature has investigated the empirical relationship between tourism expansion and economic growth. One of the earliest econometric analyses was undertaken for the economy of Hawaii (Ghali, 1976), finding a strong positive correlation between the rate of growth of tourist expenditures and the rate of growth of personal income over the period 1953-1970. More recent studies, covering a variety of countries and techniques, seem to suggest that tourism is associated with a positive contribution to economic growth. From the collection of 10 recent available studies displayed in Table 1, eight of them corroborate this result.

An international cross-country analysis conducted by Brau et al. (2003) finds that, from a sample of 143 countries, those countries with a ratio of tourist receipts to GDP greater than 10 per cent performed significantly better than those countries with lower ratios of tourism receipts to GDP. Indeed, the authors show that the “tourism countries” of the sample outstripped the growth rates of OECD countries, oil producers, LDCs, and small economies. The direction of causality, however, is not unscrambled. These findings are questioned by Sequeira and Campos (2004), who adopt panel data techniques that yield ambiguous findings: these results vacillate between a positive, negligible, and negative relationship between tourism and growth, depending on the estimation method.

Eugenio-Martín et al (2004) point out that, on the basis of panel data evidence from Latin America, a positive correlation between tourism and growth clearly exists for low and medium-income countries, though not necessarily for the high-income countries of the region. This finding leads the authors to argue that tourism is a vehicle for growth while countries are developing, but not after they reach a certain threshold of GDP per
<table>
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<tr>
<th>Study</th>
<th>Method</th>
<th>Coverage</th>
<th>Period</th>
<th>Tourism Proxy</th>
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<td>1980-1995</td>
<td>Receipts % GDP</td>
<td>Oil producers, OECD countries, LDC countries, Small countries</td>
<td>OLS</td>
<td>Positive and significant**</td>
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<td>Sequeira and Campos (2005)</td>
<td>Panel data</td>
<td>World</td>
<td>1980-1999</td>
<td>Arrivals % population</td>
<td>Sec. male enrollment, Investment, Govt. consumption, Openness, Black market premium</td>
<td>OLS</td>
<td>Positive and significant***</td>
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<td>Receipts % GDP</td>
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<td>Negative and significant*</td>
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<td>Eugenio-Martín et al. (2004)</td>
<td>Panel data</td>
<td>Latin America (21 countries)</td>
<td>1985-1998</td>
<td>Arrivals per capita</td>
<td>GDP (lagged), Investment, Govt. exp. education, Govt. consumption, Political stability, Quality of governance</td>
<td>GMM (AB)</td>
<td>Positive and significant*</td>
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<td>Cortés-Jiménez (2005)</td>
<td>Panel data</td>
<td>Italy and Spain (37 regions)</td>
<td>1990-2000</td>
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<td>GDP (lagged), Investment, Population growth, Human capital, Govt. consumption</td>
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<td>Oh (2005)</td>
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<td>1975-2001</td>
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<td>E-G</td>
<td>No significant relationship</td>
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<td>Time-series</td>
<td>Taiwan</td>
<td>1956-2003</td>
<td>Arrivals</td>
<td>GDP (lagged)</td>
<td>E-G</td>
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<td>Belaguer and Cantavella (2002)</td>
<td>Time-series</td>
<td>Spain</td>
<td>1975-1997</td>
<td>Receipts in real terms</td>
<td>GDP (lagged), Real exchange rate</td>
<td>MLE (J)</td>
<td>Positive and significant**</td>
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<td>Dritsakis (2004)</td>
<td>Time-series</td>
<td>Greece</td>
<td>1960-2000</td>
<td>Receipts in real terms</td>
<td>GDP (lagged), Real exchange rate</td>
<td>OLS</td>
<td>Positive and significant**</td>
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<tr>
<td>Gunduz and Hatemi (2005)</td>
<td>Time-series</td>
<td>Turkey</td>
<td>1963-2000</td>
<td>Arrivals</td>
<td>GDP (lagged), Real exchange rate</td>
<td>E-G</td>
<td>Positive and significant**</td>
</tr>
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</table>

**Source:** Compiled by author.

**Note:** *** stands for a 1% significance level; ** for 5% significance level; and * for 1% significance level.


1: These results correspond to each of the three estimation methods (OLS, RE, and FE, respectively) used by the authors. The coefficients reported pertain to Tourism Receipts (% of Exports); estimates for other tourism variables were not significant under the three methods. Authors deem RE results most robust.
capita. This hypothesis is countered by Lanza et al (2003) in a panel data analysis of OECD countries. The authors contend that the issue of whether tourism is detrimental to growth depends on the elasticity of substitution between tourism and other goods. The study shows that demand for tourism is very elastic with respect to income: hence, specialization in tourism is not deleterious to OECD countries’ long-term growth.

Time-series analyses for Spain (Belaguer and Cantavella-Jordá, 2002; Cortés-Jiménez, 2005), Italy (Cortés-Jiménez, 2005), Greece (Dritsakis, 2004), Turkey (Gunduz and Hetami-J, 2005), Taiwan (Kim et al., 2006) and Mauritius (Durbary, 2004) unambiguously find evidence of a positive impact of tourism on long-run economic growth. In the case of Mauritius, Durbary (2004) compares the economic impact of tourism to the contributions of other major export sectors, namely sugar and manufacturing. The study finds that a 1 per cent increase in sugar and manufacturing exports increases growth by 0.4 per cent and 0.5 per cent, respectively, while a 1 per cent increase in tourism exports raises GDP per capita by 0.8 per cent. Therefore, tourism clearly outstrips other leading export sectors of the Mauritian economy.

Several studies investigate the direction of causality to determine whether tourism does indeed generate growth, or on the contrary, whether growth generates more tourism. In the cases of Spain (Belaguer and Cantavella-Jordá, 2002) and Turkey (Gunduz and Hetami-J, 2005), the results show a clear one-way positive causality from tourism expansion to GDP growth. Therefore, tourism is shown to have a positive contribution on economic growth, thereby encouraging specialization in the sector.

For Taiwan (Kim et al., 2006) and Greece (Dritsakis, 2004), the authors find a bi-directional positive causality between tourism and GDP. That is to say, tourism and economic growth seem to reinforce each other. This reciprocal relationship would suggest that countries should equally allot resources to tourism and other major industries in order to fuel growth (Kim et al, 2006). Dritsakis (2004) underscores that the force of the causality is stronger from tourism receipts to economic growth than in the opposite direction. In sum, tourism generates GDP growth with a strong causal relationship, while GDP growth increases international tourism with simply a causal relationship.

Arguing against the above conclusions, Oh (2005) does not find evidence of tourism causing growth in Korea. On the contrary, the author finds reverse (if small) causality: a 1 per cent growth of GDP causes a 0.19 increase in tourism in Korea. This discordance with the other studies that use similar methodologies might be explained by the relatively small share that tourism represents in the total GDP of Korea. Tourism only accounts for 1 per cent of Korea’s GDP, as opposed to, for instance, 5 per cent for Turkey, or 6 per cent for Spain. Indeed, Korea is not considered to be a “tourism country.” This may speak to the importance of scale in tourism. That is, for tourism demand to trigger economic growth, a certain degree of specialization may be warranted.

The effects of domestic tourism and its contribution to national growth are explored in Cortés-Jiménez (2005). The author compares the effects of non-resident and resident
tourism on GDP in Spain and in Italy. The results suggest that domestic tourism exerts a more positive and significant impact on growth than does international tourism (see Table 2). This could be explained by the fact that national tourists yearn for their own food, culture, and local products more than international tourists. On the other hand, international tourists have insufficient information about local products or are wary of the quality and sanitary standards of local goods.

Table 2: Effects of Domestic and International Tourism on GDP
Summary of Estimated Coefficients

<table>
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<tr>
<th></th>
<th>Domestic Arrivals</th>
<th>International Arrivals</th>
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<tbody>
<tr>
<td>Spain (17 regions)</td>
<td>0.016**</td>
<td>- 0.001</td>
</tr>
<tr>
<td>Italy (20 regions)</td>
<td>- 0.005</td>
<td>0.013**</td>
</tr>
<tr>
<td>Both countries (37 regions)</td>
<td>0.008*</td>
<td>0.001</td>
</tr>
<tr>
<td>Coastal regions (24 regions)</td>
<td>0.029***</td>
<td>0.006***</td>
</tr>
<tr>
<td>Internal regions (13 regions)</td>
<td>0.012**</td>
<td>- 0.015*</td>
</tr>
<tr>
<td>Mediterranean coast (15 regions)</td>
<td>0.027***</td>
<td>0.007***</td>
</tr>
</tbody>
</table>

Source: Compiled by author, from Cortés-Jiménez (2005)
Note: *** stands for a 1% significance level; ** for 5% significance level; and * for 1% significance level.

Therefore, tourists who have more knowledge of the local market or whose preferences are aligned with the local market will represent a demand that is more likely to have a positive impact on the host economy. However, these conclusions cannot be extrapolated to the context of developing countries, where the bulk of domestic tourist demand is less sophisticated and has a lower spending per capita. Still, it is revealing to consider that the profile of preferences and the purchasing power of tourists seem to have explanatory power on the economic impacts of tourism. The quality and not just the quantity of tourism demand will determine its economic impact on the host country.

3.0 COST MATTERS: LEVERAGING TOURISM DEMAND FOR DISCOVERY

Why might entrepreneurs in developing countries consider tourism an attractive channel for discovery? Foremost because it costs less. It costs less to search for new products and exports through the tourism market than through the world market: after all, the tourism market is a within-the-border international market. The Hausmann-Rodrik (2003) problem of “self-discovery” rests fundamentally on the notion that searching for new products and exports is costly. The literature identifies different costs in this process. Some authors emphasize the costs of learning about foreign demand, which is initially an incognito that must be deciphered (Vettas, 2002; Rauch and Watson 2001). Others focus the discovery problem on learning about production costs of a new activity, which requires expensive experimentation (Hausmann and Rodrik 2003). Still, others highlight the importance of learning about scale, marketing, and reputation to achieve the internationalization of discovery (Zaufack et al 2002; Izquierdo et al 2003).
Tourism demand acts as a catalyst for discovery by lowering the costs and reducing the market uncertainty associated with these “learning investments.” Lower costs, in turn, increase entrepreneurs’ expected profitability of engaging in new activities. There is little denying that entrepreneurs who initiate a discovery venture through the tourism market will enjoy important cost savings and face less extreme impediments than those who search for new products through foreign markets. For any entrepreneur in a developing country, it is more cost effective and considerably less risky to sell to an international consumer while the incumbent is a tourist in the entrepreneur’s country than when she is in her own country of origin. The main cost savings reaped by tourism-led entrepreneurs can be identified at three stages of the discovery process, namely: (1) learning about foreign demand; (2) experimenting with new products; and (3) establishing operations for achieving scale and internationalization.

3.1 Discovery Phase I: Acquisition of Information about Foreign Demand

How does an entrepreneur in a developing country acquire information about foreign demand; and, without this knowledge, how can she go about discovering what to produce and export abroad? Rauch and Watson (2001) contend that one of the greatest sources of uncertainty concerning trading possibilities is the existence of international demand for a product. Such uncertainty is heightened in the case of developing countries, where domestic demand is a very inadequate indicator of demand in OECD markets, given the lower purchasing power and less sophisticated tastes of local consumers. In this context, learning about foreign demand is an expensive and complex venture involving an extensive process of market research, trade fairs, and other undertakings that most public and private entities in developing countries are ill-equipped to perform.

If acquiring information across international borders is relatively costly, even for developed countries, tourism generates cost-free information about international demand within borders. In effect, an OECD consumer vacationing in a developing country serves as a valuable signaling device for existing and potential demand in international markets. By observing the preferences a tourist reveals through her economic behavior, in particular her purchasing choices, local entrepreneurs can garner key information about the characteristics of foreign demand. Tourists demand signals the following information:

- **Tastes:** What goods and services do foreign consumers prefer?
- **Standards:** What quality and technical standards do they require?
- **Price:** How much are foreign consumers willing to pay for a particular good?
- **Niches:** What goods are unavailable in a foreign consumers’ home countries?
- **Markets:** Where is the target export market or region for a particular product?

Crucially, this information is furnished to local entrepreneurs at no cost at all: tourism subsidizes the market research required to launch new exports. Entrepreneurs using tourism as a discovery channel are constantly learning and updating information about
demand across borders, an opportunity that is not available to entrepreneurs in the traditional or modern sectors—or available only at high costs. Furthermore, the uncertainty about the existence of foreign demand which tends to hinder the discovery activity is overcome in the tourism context, where international demand for a product is not an open question mark, but already *de facto* exists within the host developing country.

### 3.2 Discovery Phase II: Experimentation with New Products

Once an entrepreneur acquires information about foreign demand, he must then determine what good he can produce to cater to this demand. This second phase of the discovery process involves learning about the expected profitability of producing a new good or providing a new service. Indeed, the cost of production given a local setting is *a priori* unknown to the entrepreneur. Unveiling this information, what Hausmann and Rodrik (2003) refer to as “cost discovery,” entails a process of experimentation. In some instances, entrepreneurs will experiment with how to produce an entirely new product; in others, they will learn how to adapt and commercialize existing products in a manner that appeals to foreign consumers. High costs of experimentation may abort the discovery process altogether, even when requisite information about foreign demand is available.

Tourism reduces the cost and the risk associated with experimentation in notable ways. Firstly, the kinds of “new goods” channeled through the tourism economy are ones in which the minimum efficient scale of operation is lower than in most other modern sectors. Therefore, it is not necessary to formally establish a firm and hire labor to test new goods in the market. On the contrary, most of the initial “trial and error” dynamic unfolds in a pre-establishment phase, through self-employment or small-scale informal operations. As a result, the costs of initiating the process of experimentation do not typically entail large-scale investments.

Secondly, tourism-led entrepreneurs have the opportunity to test their trial products on a foreign market without incurring in transaction costs associated with exporting abroad. As noted, the tourism market can be viewed as a within-the-border OECD export market. In the process of learning about productive capabilities, entrepreneurs benefit from putting their trials to an “international market test” that does not have tariffs and other cross-border fees. Time is also money, and testing trial products on foreign consumers in the tourism economy dispenses delays and hold-ups in customs. This renders the “trial and error” process quicker and more dynamic. In addition, proximity with the foreign consumer allows the entrepreneur to directly observe the outcome of his efforts, enabling him to identify the successes or shortcomings of his trial products. In sum, the following features make tourism a cost-effective channel for experimentation:

- **Border Barriers**: Experimenting with tourism has no tariffs and NTBs.
- **Administrative Barriers**: Experimenting with tourism bypasses customs.
- **Transportation**: Experimenting with tourism has no transportation costs.
- **Time**: Experimenting with tourism market has no delays or hold-ups.
- **Proximity:** Experimenting with tourism enables observation of trials and errors.

Finally, it bears noting that the level of risk associated with this phase of the discovery process is significantly mitigated in the presence a tourism market, given that entrepreneurs will generally be able to sell their trial products to international tourists to cover costs. Therefore, regardless of the relative success or failure in accomplishing the discovery of a new export, entrepreneurs will at the minimum generally be able to cover the costs incurred in their experimentation efforts.

### 3.3 Discovery Phase III: Establishment and Post-Establishment

How does an entrepreneur in a developing country turn a successful market trial into a mature product and world export? Following a period of experimentation, those entrepreneurs who pass an initial profitability market test will want to establish and mature operations to achieve internationalization. This phase involves learning about scale, marketing, and reputation needed to internationalize (Zeufack et al. 2002, Izquierdo et al. 2003). However, there is a big leap to be made from experimentation to export-oriented establishment. Even when a profitable product is identified in the experimentation phase, the promise of achieving an internationalized discovery can be easily stifled by ineffectual establishment.

The tourism economy dynamics provides a vehicle for cost-savings in the establishments phase. Tourism is touted as being a natural cluster, a term coined by Porter (1998) to define a constellation of interconnected firms and institutions in a particular field, linked by commonalities and complementarities. As noted previously, tourism is by definition a group of interrelated firms that tend to agglomerate around geographically proximate spaces. The collocation dynamics and spillover effects that emerge from the clusters of firms around the tourist nuclei establishment make it an efficient form of investment. Specifically, entrepreneurs establishing their discoveries in the tourism economy tend to benefit from the following costs and learning advantages:

- **Infrastructure:** Reduced cost in communication, energy, distribution, technology.
- **Input Factors:** Lower-cost access to employees, finance, support services.
- **Promotion:** Joint marketing, export promotion delegations, reputation-building.
- **Standard-Setting:** Common and streamlined standards reduce cost and red tape.
- **Know-How:** Observing other firms saves cost of generating know-how internally

As a member of a cluster, a tourism-led entrepreneur can learn about productivity more quickly and at lower cost by observing other firms’ business know-how and capitalizing on informational spillovers. In addition, his membership in the cluster endows him with a marketing brand and other reputation effects that facilitate visibility and the placement of products in both local and international markets. An isolated firm, in contrast,
would have to devote far more resources to learning and logistics in order to achieve a similar level of competitiveness. Thus, the agglomeration economies of tourism lower transactions costs and create incentives for new activities.

Provided that the above behavioral parameters about tourists hold, the tourism market will be a cost-effective channel for entrepreneurs in developing countries to undertake discoveries in new products and exports. There are important cost advantages to be reaped in each of the three phases of the discovery process, namely learning about foreign demand, production, and establishment. As a result, the expected profitability of a discovery will be higher when the new investment is catalyzed through the tourism economy than through other modern or traditional sectors of the host country. To the extent that we believe that entrepreneurs base their decisions on the expected profitability of their investments, it may be reasonable to posit whether the existence of a robust tourism demand in a developing country will yield a greater occurrence of discoveries.

Figure 2: Tourism’s Effects on Discovery Frequency

| Tourism has High Potential for Discovery | Cost-free access to information about foreign demand | Discovery↑ | Lower costs of experimentation | Discovery↑ | Efficient ‘cluster’ establishment and internationalization | Discovery↑ |

4.0 TOURISM AND EXPORT DIVERSIFICATION: PANEL DATA EVIDENCE

Have countries which have specialized in tourism over time developed a more diversified economic structure? If tourism provides powerful incentives for local entrepreneurship, we might expect to see that developing countries that attract significant levels of tourism have a greater occurrence of new products and exports. Therefore, the number and variety of goods in the host economy will increase as a result of such discovery. Additionally, because the nature of tourism demand is multi-faceted and absorbs a broad variety of goods and services, we would expect local production to become more evenly distributed across all sectors of the host economy rather than concentrated in a few commodities. Both effects, increased discovery activity and a more even distribution of production, will yield a more diversified economy.
Klinger and Lederman (2004) generate data on the frequency of discovery in the 1990s, both by country and industry. Their sample includes both OECD and developing countries. It is striking to note that the most innovative country is Indonesia, which is also one of the largest tourism markets in Asia and in the world. Most of the other countries that emerge as leading “discoverers” from the analysis are also characterized by having very prominent tourism markets (including Thailand, Turkey, Mexico, South Africa, Check Republic), or at the least fairly significant tourism markets (i.e., above 3 million annual tourists, such as the cases of Morocco, Hungary, Romania). Hence, it seems that many tourism economies score well on the discovery record.

The authors also find that, contrary to the view that discovery activity is mainly concentrated in modern ‘dynamic’ sectors, the largest occurrence of discovery takes place within the more traditional sectors, such as foodstuffs and agriculture. According to their findings, the industries that have generated the highest number of new exports in the past decade are mineral products and metals (14 and 11 per cent of total discovery share, respectively), vegetable products and foodstuffs (10 and 7 per cent, respectively), wood and word products (8 per cent), transportation (8 per cent), and textile and footwear (7 per cent each). These are key sectors of a tourism cluster, that is to say, they are typically associated through backward linkages with the tourism economy.

In order to explore this pattern more systematically, it is useful to see whether there is a statistical relationship between tourism specialization and productive diversification over the past decade for which data are available (1993-2003). Given that disaggregated production data does not exist, export data is generally used to proxy economic diversification. However, not all new products are captured in export data, and all new exports are not necessarily reflect new products. Still, as noted earlier, there is a discovery in learning how to export an existing product to foreign markets.

The Herfindahl index is a measure of export concentration—or, its inverse, of economic diversification. The Index (H) is defined as follows, where each i is an individual product and J is the total number of products. The index captures both the number of discoveries (J) and the concentration of exports (x’s for a fixed J).

\[
H = \sum_{i=1}^{J} \left( \frac{x_i}{\sum_{i=1}^{J} x_i} \right)^2
\]

Countries’ degree of tourism specialization can be defined as the ratio of annual tourism receipts to GDP. All non-OECD countries with receipts of at least 0.05 per cent of GDP were included in the sample. This yielded a sample of 63 countries from developing regions. Data sources are shown in Annex 1.

5 Only two ‘top discoverers’ in the authors’ findings that are not tourism countries are Peru and Ecuador.
6 The only sector with a high instance of discovery in the authors’ results which does not have a direct link to tourism is plastics and rubbers. The data corresponds to 4-digit level.
Figure 3 shows the estimated relationship between the change in tourism specialization and the change in export diversification over the last decade (1993-2003), controlling for GDP per capita and for time-invariant country characteristics (e.g., size of the country, geography, etc.). The estimated results show that a 1 per cent increase in tourism specialization between 1993 and 2003 is associated with a 0.11 per cent increase in the export diversification index over the same period. This relationship is significant at a 1 per cent level (p=0.00). Additional empirical tests, such as fixed effect panel data regressions, yield a similar relationship between tourism specialization and export diversification (see Annex 2). Therefore, the empirical evidence is consistent with the notion that countries that have experienced an increase in tourism demand have also exhibited an increase in the diversification of their exports over this period.

Figure 3: Tourism and Export Diversification, 1993-2003

Source: Author’s estimates.

5.0 FOSTERING DIVERSIFICATION THROUGH TOURISM LINKAGES

Although tourism offers a potential avenue for economic diversification, the opportunity to achieve this can be elusive. While empirical and anecdotal evidence seem to suggest that some countries have been very successful in leveraging tourism to discover new products and exports, others with similar levels of tourism have not enjoyed the same degree of discovery activity. Therefore, a relevant question to pose from a policy perspective relates to the identification of relevant conditions which may catalyze the
diversification process triggered by tourism demand. Under what conditions is tourism more likely to foster the discovery-cum-diversification of the host economy?

One plausible explanation that merits consideration is the role that linkages play in the impact of tourism on diversification. Linkages can be defined as the network of inter-sectoral supply relationships between the tourism economy and the rest of the productive sectors of the domestic economy. When linkages exist between the tourism economy and the rest of the economic activities of the economy, it is easier for local entrepreneurs to collect the signals from tourism demand and to achieve higher cost savings. The more linkages exist between tourism and the general economy, the more innovative the tourism cluster will be (Oreyalan 2001; Mytelka and Farinelli, 2000; Porter 1998).

Linkages forge clusters that bring together local producers in the agricultural, manufacturing, and services sectors who, whilst producing very different types of goods, share the commonality of catering to the tourism economy. To appreciate the relevance of linkages in the discovery capabilities of local entrepreneurs, one may consider the case of a developing country in which the tourism economy is devoid of linkages with the general economy. That is to say, tourism demand is satisfied through imports, or leakages. In this case, an entrepreneur investing in a new activity (e.g., folkloric furniture) will be isolated from another entrepreneur testing another trial product (e.g., exotic cosmetics). Each isolated rival will need to independently overcome barriers to learning, institutional weaknesses, poor finance, infrastructure deficiencies, and inadequate distribution channels, among other steep impediments.

In a second scenario, where the tourism economy is characterized by a strong network of backward linkages with the general economy, local entrepreneurs serving different industry segments collaborate in joint learning and other productive efforts. The fact that tourism demand draws on highly complementary sectors limits the intensity of rivalry and deepens collaboration in cluster dynamics. Apart from the cost advantages earlier discussed, clusterization affords entrepreneurs greater flexibility in changing decisions on new inputs, process, and other factors needed to successfully execute experimentation. Reinforcing the motivation for discovery, sheer pressure—both competition and peer pressure—forces clustered firms to differentiate themselves and develop new variations of similar products for the tourist. Finally, there are lower barriers to entry as well as lower barriers to exit in the presence of a robust tourism linkages network, thereby ameliorating incentives for local entrepreneurs to try new capabilities.

Of all attributes that characterize inter-firm linkages in clusters, Porter (1994, 1990) contends that competitiveness hinges critically on the proximate location of producers. From a diversification standpoint, a revealing corollary of this is that, once there is a group of inter-related industries that come together in a geographically close space, new types of

---

7 For a detailed overview of collaborative efforts in linkages and cluster dynamics, see Porter (1998, 1990).
8 Although recent literature argues that low barriers to entry aggravate the ‘copy-cat’ problem (Hausmann and Rodrik 2003; Klinger and Lederman 2005), the existence of a tourism cluster formed by linkages implies that first-movers will not be harmed by imitators given that the former are benefiting from agglomeration economies which drive down the costs of operations.
varied clusters with very different purposes emerge around the original cluster.\(^9\) In short, a cluster is a magnet for a constellation of new clusters. By way of illustration, in California the wine cluster emerged around the original tourism enclave. While the new wine industry did certainly benefit from the existing tourism demand, its target market and strategy were not geared to the tourism economy.

The view that spillovers among clustered industries spur the creation of new industries is also reflected in the Klinger-Hausmann (2006) formulation of "open forest." Under this metaphor, products are like trees and firms are like monkeys: economic diversification is about monkeys jumping from one tree to the other. The authors contend that the distance among trees will determine whether a monkey will jump to a new tree. Yet, unlike in Porter's theory, distance is not geographic. Instead, the proximity of two products is defined by how easily the capabilities to produce one can be used to produce the other: it is a measure of the net cost of jumping. If trees are too far apart, monkeys are less likely to jump to new products. A key insight of the model is that when a forest is sparsely populated, it is less likely that new trees will flourish in the forest due to limited spillover effects in the product space. As in the case of cluster theory, therefore, the more densely populated a forest is the more likely entrepreneurs will engage in new activities.

### 5.1 COUNTRY DETERMINANTS OF TOURISM LINKAGES

The successful broadening and deepening of linkages, then, is an integral part of making tourism work for economic diversification. In the absence of sustainable linkages between the existing tourism demand and other productive sectors of the host economy, tourism will fail to foment a supply and discovery response from local entrepreneurship. A derivative benefit that accrues from the productive liaison between tourism and the host economy—recently examined in the new “pro-poor” tourism literature —, is that tourism linkages are able to incorporate the poor. Indeed, tourism spawns productive activities in which small-scale, semi-skilled, and women entrepreneurs can also participate in the discovery process (Ahsley et al 2006, 2003; UNED 1999; Bolles 1997).

In light of the above considerations, a social planner in a developing country may have several good reasons to want to enhance linkages between tourism and other sectors of the host economy. With this objective at heart, the social planner will wonder if and how she can optimize the conditions under which tourism linkages can be deepened and expanded as a means to ignite incentives for new productive activities. What factors make linkages an operative channel for discoveries and economic diversification? What explains that countries with similar levels of tourism arrivals exhibit vastly different degrees of linkages with other economic activities in the host country?

Admittedly, there will be context-specific factors that explain cross-national variations in tourism linkages. Country conditions that might explain cross-country

\(^9\) By way of illustration, in California the wine cluster emerged around the original tourism cluster. While the wine cluster did leverage the existing tourism demand, its target market and strategy were not geared to the tourism economy (Porter, California Wine Cluster Case Study 2006).
variations in tourism linkages can be broadly grouped into five broad domains: natural endowments, level of socio-economic development, institutions, business environment, and policy (e.g., trade). These domains, in turn, can be conceptualized hierarchically in terms of their relative amenability to public policy over the long, medium, or shorter term.

**Figure 4: Country Determinants of Tourism Linkages**

5.2 IDENTIFYING WHAT MATTERS MOST: CROSS-COUNTRY EVIDENCE

The available literature on tourism linkages, largely based on individual country case studies, generally suggests that each of the above domains play a role in harnessing or hobbling linkages. But which of these factors may matter most—and which may not? In order to address this question from an empirical perspective, a simple model is specified to statistically test the significance of each of the above-mentioned issues in explaining countries’ success or failure in generating meaningful linkages and clusterization with the tourism economy. Identifying the country conditions that are most important can help countries understand, and to the extent possible, promote an environment with is conducive to linkages and tourism-driven discovery.

In what follows, the determinants of tourism linkages are estimated using a large sample of 151 countries. The analysis draws on the Tourism Satellite Accounts research from the World Travel and Tourism Council (WTTC), which provides data on the indirect and direct effects on tourism spending in the host economies. The ratio of indirect to direct effects is known as the ratio multiplier of tourism, which is used widely to measure how much of a unit of tourist spending in the tourism economy (e.g., hotels, tour operators, souvenir shops, etc.) reverberates through backward linkages to non-tourism sectors of the economy. The higher the ratio multiplier, the greater the backward linkages will be between the tourism industry and other sectors of the economy. Therefore, the ratio of indirect to direct effects represents a proxy for tourism linkages. Annex 3 offers an overview of these indicators based on the direct and indirect economic impact of tourism.

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10 Data is drawn from the World Trade and Tourism Council (WTTC). Details on this data and methodology are available at the WTTC website ([www.wttc.org](http://www.wttc.org)).
\[ \text{LINK}_i = \beta_{0i} + \beta_{1i} \text{ENDOW}_i + \beta_{2i} \text{DEV}_i + \beta_{3i} \text{INST}_i + \beta_{4i} \text{BUS}_i + \beta_{5i} \text{TRADE}_i + \varepsilon_i \]

LINK, referring to tourism linkages, is the dependent variable in the regression. The explanatory domains correspond to the main issues discussed above, namely the host country’s natural endowments (ENDOW), level of socio-economic development (DEV), institutions (INST), business environment (BUS), and trade policy (TRADE). \( \varepsilon \) is a random error, which is i.i.d. (independent and identically distributed).

In order to select appropriate indicators for linkages in each of the relevant domains, a forward stepwise estimation procedure is performed. For each of the five hypothetical determinants of tourism-led diversification, five indicators are pre-selected. Those indicators that emerge as statistically significant in a stepwise estimation are taken to the final model as explanatory variables for that domain. The first basis for selection for the indicators is data availability for the sample of countries; secondly, but importantly, the selection corresponds to the salient issues that transpire from the literature as key constraints or opportunities in tourism linkages. Table 3 shows a list of the indicators measuring each domain. Of these, those that emerge as statistically significant for each domain are shaded in grey. Data sources are provided in Annex I.11

Table 3: Results of Stepwise Regression

<table>
<thead>
<tr>
<th>Natural Endowments</th>
<th>Socioeconomic Development</th>
<th>Institutions</th>
<th>Business Environment</th>
<th>Policy (Trade)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>Human Development</td>
<td>Democracy</td>
<td>Access to Finance</td>
<td>MFN Tariffs</td>
</tr>
<tr>
<td>Population</td>
<td>Gini Coefficient</td>
<td>Government Size</td>
<td>Corporate Tax Rate</td>
<td>Non-tariff Barriers</td>
</tr>
<tr>
<td>Labor force</td>
<td>Gender</td>
<td>Informal Sector</td>
<td>Labor Market</td>
<td>Export Diversification</td>
</tr>
<tr>
<td>Capital</td>
<td>Environment</td>
<td>Crime &amp;Violence</td>
<td>Internet Users</td>
<td>Signatures to Import</td>
</tr>
<tr>
<td>Agricultural Machinery</td>
<td>Infrastructure</td>
<td>Price Controls</td>
<td>Foreign Direct Investment</td>
<td>Quality of Ports</td>
</tr>
<tr>
<td>111</td>
<td>91 observations</td>
<td>89 observations</td>
<td>87 observations</td>
<td>85 observations</td>
</tr>
</tbody>
</table>

Note: Shaded boxes denote boxes that emerge as significant in each of the domains. Significance threshold in the stepwise estimation was set at \( p \leq 0.15 \).

11 By filtering only the most significant indicators among any number of related variables that might be correlated, the stepwise selection avoids the inclusion of correlated variables within each domain, thereby reducing the problem of multicollinearity.
The results of the stepwise estimation procedure outlined above generate the following equation, which is estimated using Ordinary Least Squares (OLS):

\[ \text{LINK}_i = \beta_0 + \beta_1 \text{ENDOW/AGM} + \beta_2 \text{DEV/HDI} + \beta_3 \text{DEV/GINI} + \beta_4 \text{DEV/GEN} + \beta_5 \text{INST/DEM} + \beta_6 \text{INST/INF} + \beta_7 \text{INST/CRIME} + \beta_8 \text{BUS/TAX} + \beta_9 \text{BUS/LAB} + \beta_{10} \text{BUS/INT} + \beta_{11} \text{TRADE/MFN} + \beta_{12} \text{TRADE/NTB} + \beta_{13} \text{TRADE/DIVER} + \beta_{14} \text{TRADE/SIGN} + \epsilon_i \]

Where,

- ENDOW/AGM denotes gross capital formation in agricultural machinery stock, DEV/HDI, DEV/GINI, and DEV/GEN are measurements of human development, income inequality, and gender participation, respectively;
- INST/DEM, INST/INF, and INST/SEC gauge the extent of democracy, size of informal institutions, and level of security, respectively;
- BUS/START, BUS/TAX, BUS/LAB, and BUS/INT correspond to the cost of setting up a business, corporate tax rates, labor market regulations, and use of internet, respectively;
- TRADE/MFN, TRADE/NTB, TRADE/DIVER, TRADE/SIGN represent average MFN tariffs, non-tariff barriers, degree of economic diversification, and number of administrative import procedures, respectively; and
- \( \epsilon_i \) is a standard error term.

The results of the estimation are displayed in Table 4. The model yields a very high explanatory power, accounting for 71.42 per cent of the total cross-country variation in tourism linkages. The sample consists of 75 countries for which data for the above indicators are available. In addition, separate regressions were run for a sub-sample of countries with relatively lower levels of tourism (tourism < 2.5 M, that is less than 2.5 million annual tourist arrivals) as well as for the sub-sample of countries with very large tourism markets (tourism > 5.0 M, that is above 5 million annual tourist arrivals). As discussed earlier, there may be reasons to believe that a larger level of tourism demand stimulates more linkages with other productive sectors of the host economy.

The broad lesson that can be inferred from these regressions is that promoting tourism linkages with the productive capabilities of a host country is a multi-faceted approach influenced by a variety of country conditions. Among these, fixed or semi-fixed factors of production, such as land, labor, or capital, seem to have less influence than what is generally supposed. Within the domain of natural endowments, only agricultural capital emerged as significant. This is a logical result given that foods and beverages are the primary source of demand in the tourism economy. Hence, investments in agricultural technology may foment linkages with the tourism market. It is also worth mentioning that

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12 In order to ensure the robustness of the estimates, the Ramsey regression equation specification error test (RESET) was performed. Multicollinearity was checked and does not appear to be a problem.
Table 4: Dependent Variable: Tourism Linkages.

<table>
<thead>
<tr>
<th>Variables</th>
<th>All Countries</th>
<th>Tourism&lt;2.5M</th>
<th>Tourism&gt;5.0M</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENDOW/AGM</td>
<td>.162344 (.20)</td>
<td>.0553926 (.80)</td>
<td>.3326256** (.01)</td>
</tr>
<tr>
<td>DEV/HDI</td>
<td>.124751** (.03)</td>
<td>.2293415** (.02)</td>
<td>.4116614* (.06)</td>
</tr>
<tr>
<td>DEV/GINI</td>
<td>-.0681011 (.47)</td>
<td>.0040343 (.96)</td>
<td>.3350986* (.12)</td>
</tr>
<tr>
<td>DEV/GEN</td>
<td>.1370716* (.12)</td>
<td>.0766925 (.53)</td>
<td>.6519206*** (.00)</td>
</tr>
<tr>
<td>INST/INF</td>
<td>.0488461 (.71)</td>
<td>-.0695743 (.67)</td>
<td>.6321267*** (.00)</td>
</tr>
<tr>
<td>INST/DEM</td>
<td>.0727417 (.52)</td>
<td>.0188654 (.90)</td>
<td>.0969869 (.60)</td>
</tr>
<tr>
<td>INST/SEC</td>
<td>-.1815027* (.07)</td>
<td>-.0846718 (.56)</td>
<td>.2171546 (.23)</td>
</tr>
<tr>
<td>BUS/TAX</td>
<td>-.2430787*** (.00)</td>
<td>-.0887392 (.39)</td>
<td>-.4127033** (.02)</td>
</tr>
<tr>
<td>BUS/LAB</td>
<td>-.1559057** (.05)</td>
<td>-.238327* (.08)</td>
<td>-.108777 (.60)</td>
</tr>
<tr>
<td>BUS/INT</td>
<td>.3082481** (.02)</td>
<td>.5285811** (.02)</td>
<td>.1517195 (.69)</td>
</tr>
<tr>
<td>TRADE/MFN</td>
<td>-.3022097*** (.00)</td>
<td>-.2761406 (.19)</td>
<td>-.1069309 (.47)</td>
</tr>
<tr>
<td>TRADE/NTBs</td>
<td>-.3800706*** (.00)</td>
<td>-.2399873** (.06)</td>
<td>-1.320357*** (.00)</td>
</tr>
<tr>
<td>TRADE/EDI</td>
<td>-.1227112* (.11)</td>
<td>-.2402884** (.03)</td>
<td>-.2760479 (.23)</td>
</tr>
<tr>
<td>TRADE/TF</td>
<td>-.0073597 (.95)</td>
<td>.2375628 (.30)</td>
<td>-.6281615** (.04)</td>
</tr>
<tr>
<td>R2</td>
<td>0.7142</td>
<td>0.8214</td>
<td>0.8318</td>
</tr>
<tr>
<td>Obs.</td>
<td>75</td>
<td>38</td>
<td>27</td>
</tr>
<tr>
<td>F</td>
<td>24.66***</td>
<td>37.95***</td>
<td>14.49***</td>
</tr>
<tr>
<td>DF</td>
<td>(14, 60)</td>
<td>(14, 23)</td>
<td>(14, 12)</td>
</tr>
</tbody>
</table>

Note: Regressions correspond to (a) all countries in the sample, (b) countries with international tourism arrivals of less than 2.5 million (tourism<2.5M), and (c) countries receiving more than 5.0 million tourists (tourism>5.0M). All regressions are estimated using OLS, with heteroskedasticity-consistent p-values reported in parentheses. The coefficients reported are standardized Beta coefficients, to facilitate comparability. The constants are not reported. F denotes the F-Statistic; DF the degrees of freedom. Obs. is the number of observations. Significance at 10% level: *, 5% level: **, and 1% level: ***.
for significant backward linkages to emerge with local agriculture, a larger scale of tourism may be important. According to the results, a strong tourism-agriculture nexus will not necessarily develop with a smaller level of tourism demand.

It appears that variables related to the entrepreneurial capital of the host economy are of notable explanatory significance. The human development index (HDI), which is used to measure a country’s standard of living, is significantly and positively associated with tourism linkages. One plausible explanation for this is that OECD tourists may feel more comfortable and thus be inclined to consume more in a host country that has a lifestyle to which they can relate to. Beyond GDP per capita, however, it is important to consider that the HDI measures the relative achievements of countries in the level of health and education of the population. Therefore, a higher HDI reflects a healthier and more educated workforce: the quality of local entrepreneurship. Related to this point, it is important to underscore that the level of participation of women in the host economy also has a significantly positive effect on linkages. In sum, enhancing local entrepreneurial capital and incorporating women into this capital may forge discoveries and expand the linkages between tourism and other sectors of the host country.

Another notable observation deriving from the analysis concerns the relevance of informal institutional arrangements in the formation of linkages. Formal institutions and their regulatory control of the market, proxied by the size of the government and price controls, were not found to have significant effects on linkages formation. Despite the importance of democratic governance, this was not identified as a key determinant either. On the other hand, the prevalence of informal institutions does appear to be significantly associated with higher linkages. While at first sight surprising, this finding accords with the clusterization dynamics earlier discussed, in which linkages are formed on the basis of self-enforcing ‘relations-based’ governance. Also, informal structures cost less than formal, rules-driven institutional frameworks for entrepreneurship. Hence, formal regulations can deter the spontaneous and cost-driven motivation of cluster formation.

Perhaps one of the formal types of institutions that matter most in the context of fostering linkages are institutions for policing and vigilance. As would be expected, the results show that countries with higher incidence of violence or crime have significantly less linkages. Indeed, the emergence of sustainable linkages and product clusters depends fundamentally on trust among local entrepreneurs—and trust can hardly flourish in an environment characterized by social conflict. Equally important, the perception of violence on the part of tourists will dissuade them from venturing beyond the safe boundaries of the ‘enclave’ hotel resort. Finally, hotel managers and other investors in the tourism economy will be less inclined to maintain productive relations with the host economy in the absence of predictability and stability. Therefore, investments in institutions that maintain safety—and a perception of safety—may be critical for spawning trust among local entrepreneurs, tourists, and investors.

13 The Human Development Index (HDI) is computed with the following indicators measuring a countries’ standard of living, health, and knowledge: the gross domestic product (GDP) per capita at purchasing power parity (PPP); the life expectancy at birth; the adult literacy rate (with two-thirds weight) and the combined primary, secondary, and tertiary gross enrollment ratio (with one-third weight).
While all country domains play a role in fostering or hindering linkages, the business environment has an overriding influence on linkages. After controlling for a country’s natural endowments, level of development, and institutions, which are the less amenable domains, the business environment on its own explains almost 20 percent of cross-country variations in linkages. Figure 5 shows that its independent contribution without controls is 53.1%. Variables that increase the cost of doing business have an adverse impact on linkages. In particular, the level of corporate taxes in the host economy has the most significant adverse effect on the formation of linkages, in conformity with the lower-cost motivation underlying tourism-led discovery. In contrast, a widespread use of internet has a positive effect in the ability to forge linkages with the tourism economy.

**Figure 5. Independent Contributions of Domains to Linkages**

<table>
<thead>
<tr>
<th>Domain of Interest</th>
<th>Other Domains</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRADE</td>
<td>43.1%</td>
<td>28.4%</td>
</tr>
<tr>
<td>BUS</td>
<td>53.1%</td>
<td>18.4%</td>
</tr>
<tr>
<td>INST</td>
<td>22.8%</td>
<td>48.6%</td>
</tr>
<tr>
<td>DEV</td>
<td>24.6%</td>
<td>46.8%</td>
</tr>
<tr>
<td>ENDOW</td>
<td>22.6%</td>
<td>48.9%</td>
</tr>
</tbody>
</table>

Source: Author

Finally, the results reveal that the role of trade policy is also very significant. Despite the inclination of countries to protect certain sectors in order to stimulate backward linkages, these results appear to suggest that the contrary is true. An open economy will tend to generate more backward linkages between tourism and the other sectors of the host economy. Tariffs and non-tariff barriers may indeed prod investors in the tourism economy to buy domestic products, but they can also increase the costs of inputs needed by local entrepreneurs. Ultimately, the net effect reflected in these results suggests that tariffs and other form of border protection have a stifling effect in local entrepreneur’s opportunities to forge linkages with tourism demand.
5.0 CONCLUDING REMARKS

The foregoing paper has explored how tourism can be harnessed to promote a process of ‘discovery’ and economic diversification in the host economy. Although tourism is generally portrayed as a new economic activity in which developing countries can specialize into, the potential tourist demand unfolds as a generator of new products and exports has been neglected. Tourism is a “low-cost road” for discovering what one is good at producing. Along this road, local entrepreneurs enjoy free information about international demand, a transactions-free ‘trial and error’ process for testing new products, and a cost-saving means for establishment and internationalization. Therefore, to the extent that local entrepreneurs are able to read the signposts about “learning” along this road, tourism can be an efficient channel to catalyze investments in new economic activities.

Admittedly, local entrepreneurs will have a greater ability to collect signals from tourism demand and will enjoy higher cost-savings when there are greater linkages between the tourism economy and the rest of the domestic productive apparatus. The study explored certain country-specific conditions that may influence the level of tourism linkages in a host economy. Foremost, those factors that facilitate a low-cost business environment (such as lower corporate taxes, high use of internet, and liberal labor regulations) as well as low-cost, informal supporting institutions help foster linkages. Related to this, the quality of entrepreneurial capital, including the participation of women in this capital, are also important determinants. In addition, the results suggest that an open trading environment spurs more linkages than protectionist policies. On the contrary, the findings indicate that more fixed country conditions, such as a country’s natural or institutional endowments, have less influence in the extent of linkages forged.

The paper does not examine the profile of products and exports that are forged by international tourism demand. Hence, a further analytical component that may merit consideration is a more detailed identification of the profile of ‘discoveries’ that are driven by tourism. A better understanding of the pattern of export diversification that is associated with tourism growth in developing countries would enable an assessment of the economic value of discoveries catalyzed through tourism. Does tourism-led diversification lead to structural transformation and higher productivity levels in the host economy?
## ANNEX 1. DATA AND SUMMARY STATISTICS

### A. Data Description and Sources

<table>
<thead>
<tr>
<th>Name</th>
<th>Variable</th>
<th>Description</th>
<th>Units</th>
<th>Trans</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tourism</td>
<td>Tourism Arrivals</td>
<td>Total number of international tourists per year.</td>
<td>Count</td>
<td>Raw</td>
<td>World Tourism Organization</td>
</tr>
<tr>
<td>T&amp;T Expenditure</td>
<td>Tourism &amp; Travel Demand</td>
<td>Nominal aggregate of tourism activity in the host economy.</td>
<td>Current US$ M</td>
<td>Raw</td>
<td>World Tourism and Travel Council</td>
</tr>
<tr>
<td>T&amp;T Contribution GDP</td>
<td>Tourism &amp; Travel Economy GDP</td>
<td>Direct and Indirect contribution of travel and tourism to the host economy’s GDP.</td>
<td>Current US$ M</td>
<td>Raw</td>
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<td>1+Ratio Multiplier</td>
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<td>Ratio</td>
<td>Sqrt inv.</td>
<td>Author calculations, data from World Tourism and Travel Council</td>
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<td>ENDOW/LAND</td>
<td>Arable Land</td>
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<td>Log</td>
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<td>Gross capital formation</td>
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<td>DEV/GENDER</td>
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<td>Share of seats held by women in parliament.</td>
<td>Ratio</td>
<td>Sqrt</td>
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<td>DEV/ENVIRON</td>
<td>Protected Areas</td>
<td>Percentage of environmentally protected areas.</td>
<td>Ratio</td>
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<td>Ratio</td>
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<td>Index</td>
<td>Raw</td>
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<td>INSTITUTION</td>
<td>INDEX</td>
<td>Measure</td>
<td>Description</td>
<td>Method</td>
<td>Source</td>
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**Note:** All data corresponds to 2004 or the last available year when 2004 is not available.
## B. Summary Statistics

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### ANNEX 2. TOURISM AND EXPORT DIVERSIFICATION

#### PANEL DATA ESTIMATIONS

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<th>1993-2003 (11 year panel)</th>
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**Note:** lnTOUR denotes the natural log of tourism specialization, as measured by Tourism Receipts/GDP; lnGDPpc is the log of GDP per capita. FD is first differencing of end years, FE is fixed effects, and RE is random effects. For fixed effects and random effects, the tourism variable is lagged one year. The significance is maintained when it is lagged up to five years. P-values are reported in parentheses. Significance at 10% level: *, 5% level: **, and 1% level: ***.
ANNEX 3. TOURISM MULTIPLIERS

A.3.0 TOURISM'S INDIRECT ECONOMIC EFFECTS

Tourism is touted for having a three-pronged imprint on host economies, corresponding to its primary (direct) and secondary (indirect and induced) channels. Direct impacts accrue from initial tourist spending in the tourism industry—for instance, on travel, hotel accommodations and other services. Indirect impacts are generated when tourist expenditures mainstream from the tourism economy to the mainland economy through purchases of goods and services from the local non-tourist sectors of the economy—for example, on foods and furniture. Finally, induced effects are attributable to the increased income of wage-earners in the tourism economy, such as waiters and receptionist and tour operators, who in turn buy goods and services in the general economy.

That tourism outperforms economists’ expectations regarding its capacity to generate growth in the host economy is largely on account of the tourism multiplier effects. This notion relates to the idea of how a unit of spending in the tourism economy reverberates through different sectors of the general economy. For illustration, a tourist goes to a hotel and pays for his lodging and other services. This tourism expenditure, which is now within the tourism economy, will be streamed into the general economy when the hotel buys goods and services from local suppliers in the general economy (indirect effects). In addition, hotels will also use part of this tourism expenditure to pay wages to local workers, who will in turn spend the tourism expenditure in the general economy (induced effects). This creates linkages with the local economy. Alternatively, if the hotel uses the tourism expenditure to import goods from abroad, tourism receipts will be ejected from the host economy to the world economy. These are the leakages, which will abort any further multiplier effects.

Figure A.3.1: Effects of Tourism: Direct, Indirect, and Induced
Therefore, multipliers capture the economic resonance of the secondary effects of tourism—that is, the extent of indirect and/or induced effects. While considerable research has been devoted to this area, there is significant variability and misunderstanding surrounding the measurement of multiplier effects (Archer, 1977 and 1983; Sheldon, 1990; Fletcher and Archer, 1991; Sinclair, 1997). Different empirical studies calculate multipliers according to differing definitions and technical approaches. This has rendered cross-country comparability of multiplier effects—linkages and leakages—unfeasible. Moreover, the available calculations of multipliers of different countries are widely dispersed in time, which adds to the difficulty of gauging cross-country difference in linkages and leakages.

The methodologies used to gauge income multipliers fall into three camps. The first, and most widely used, is the construction of Keynesian and other types of multipliers. These models are popular because they have relatively simple data requirements. Input-output methods, on the other hand, rely on onerous data requirements, but offer detailed information about how tourism spending filters through different sectors. The third methodology consists of computable general equilibriums. These studies generally address a broader set of questions and achieve a more panoramic overview of how tourism spending reverberates throughout the economy.

Partly as result of inconsistent definitions and techniques across different studies, little has been advanced by way of identifying and explaining differences in multipliers among countries. A few hypotheses, however, emerge from the literature and can be summarized as follows:

a) **The bigger and richer you are, the higher the multiplier:** In analyses of tourism multipliers in a selection of countries, Fletcher (1989) point out that there is an association between large and developed countries and high multiplier values.

b) **Who you attract determines the economic benefits you get:** In a study on Seychelles, Fletcher and Archer (1996) show that the profile of the tourist translates into differing expenditure patterns, which in turn explains variations in multipliers among tourists from different countries. The results suggest that higher-spending tourists have a greater economic impact than others. However, the authors stress that it is not simply volume of expenditure per visitor that matters but also the pattern of the expenditure.

c) **Maturity and scale of the tourism market are a pre-condition for take-off:** A number of studies posit that for linkages to occur, a country needs to attract a certain mass of tourism. Therefore, scale seems necessary for the tourism market to stimulate other sectors of the general economy.

---

14 See Archer, 1977, for a discussion on multiplier techniques.
d) A diversified economy boosts multiplying effects: Heng and Low (2005) emphasize that tourism linkages requires a broad array of supporting services and manufactures. Thus, for there to be sustainable linkages between tourism and the host economy, the latter needs to have a certain degree of diversification.

A.3.2 TOURISM INCOME MULTIPLIERS: LEAKAGES AND LINKAGES

A.3.2.1 KEYNESIAN MULTIPLIER: INCREASING THE TOURISM PIE

The Keynesian multiplier represents the amount of income generated per unit of tourist expenditure. It answers the question of how much richer is the host country getting as a result of tourism expansion. The Keynesian multiplier can be further divided into two components: the direct and the indirect components. The direct Keynesian multiplier measures the first-round income generated in the tourism economy per unit of tourist spending. The indirect Keynesian multiplier measures how much income is generated in the general economy per unit of tourism expenditure. In other words, it captures how much the non-tourist sectors of the economy are growing as a result of tourism. The sum of the direct and indirect components is the total Keynesian multiplier, which embodies the total economic contribution of tourism expenditure in the host economy.

\[
\text{Direct Keynesian Multiplier} = \frac{\text{Contribution Tourism Economy}}{\text{Tourist Expenditure}}
\]

\[
\text{Indirect Keynesian Multiplier} = \frac{\text{Contribution General Economy}}{\text{Tourist Expenditure}}
\]

As discussed, not all tourist expenditure will necessarily be retained within the host economy. A portion leaks into imports and pays foreign factors of production. The portion of tourism expenditure that does not contribute to the tourism or the general economy is referred to as the leakage: this is the difference between one and the Keynesian multiplier. The higher the leakage, the more dependent the tourism sector is on imports. In this context, tourism expansion will not spur demand from the general economy. As a result, a high-leakage tourism economy will fail to foster economic diversification.

\[
\text{Leakage} = 1 - \text{Total Keynesian Multiplier}
\]

Figure A.3.2 shows the average direct and indirect Keynesian multipliers for 151 countries grouped by income level and region. The figure portrays a clear association between leakages and the level of income: OECD countries exhibit the lowest leakages, while low-income countries' tourism is characterized by high levels of leakages. Within developing countries, those in the Sub-Saharan Africa region have the highest leakages of all. In contract, the tourism industries in South Asia and the Middle East & North Africa
depend less on imports. The direct effects of tourism are highest in OECD countries, probably due to the higher spending profile of tourists visiting rich countries. Of interest, Europe and Central Asia is the only region when the indirect contribution of tourism is higher than the direct effect.

A.3.2.2 RATIO MULTIPLIER: DISTRIBUTING THE TOURISM PIE

The income ratio multiplier is the ratio of the indirect and direct Keynesian multipliers. That is, it addresses the question: for every unit of income generated in the tourism economy, how much income is generated in the general economy? How is the tourism pie distributed to the non-tourism economy? This ratio thus measures the intersectoral relation through backward linkages between the tourism industry and other sectors of the economy. The higher the ratio multiplier, the greater the distribution of the tourist’s expenditure across other sectors of the host economy.

\[
\text{Ratio Multiplier} = \frac{\text{Indirect Keynesian Multiplier}}{\text{Direct Keynesian Multiplier}}
\]

The ratio multiplier effect has palpable distributional consequences. With the exception of wages, most of the income generated through direct effects within the tourism economy goes to hotel and restaurant owners, namely local or international elites. By contrast, the income generated through indirect effects trickles down to the lower income layers of the economy. Since most of the industries that supply the tourism economy are non-high tech and labor intensive, the majority of backward linkages are forged by smaller unskilled producers. From a policy perspective, increasing the ratio multiplier promotes an equitable distribution of the tourism pie and offers a sustainable livelihood to smaller and lower-income producers in a broad array of economic sectors.

\[
\text{Linkages} = 1 + \text{Ratio Multiplier}
\]

Assuming that these smaller and lower-income entrepreneurs are not employed in alternative economic activities, linkages also promotes economic diversification. Figure 5 shows that high ratio multipliers are correlated with higher number of exports. With very few exceptions, countries with a concentrated export structure do not exhibit high ratio multipliers. Does this imply that a diversified economy is a pre-condition to higher linkages, or that greater linkages result in a more diversified economy? While it is difficult to disentangle this chicken or egg effect, at the end of the day countries whose tourism economy is closely entrenched with the general economy exhibit a fairly diversified export structure. Hence, there is a firm case for fostering backward linkages between tourism sector and the other sectors of the economy. This process not only yields a more diversified economic structure, but one that incorporates small and unskilled producers.
Figure A.3.2: Direct and Indirect Effects versus Leakages: Which Effect Dominates?

Source: Author based on data from the World Travel & Tourism Council.
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