Tourism in an open system: What do theories of international trade and competition teach us?

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Abstract

Tourism is a critical determinant of international trade and GDP. Openness affects tourism by allowing (especially small) countries to achieve sufficient economies of scale and scope. Thus, clarifying the relationship between tourism and factors of international demand and supply is essential to improved understanding of international trade and economic growth. This chapter reviews the main theories of international trade from tourism's perspective, focusing in particular on supply-side (comparative costs, factors endowments, new trade theory, endogenous comparative advantage) and demand-side (demand-driven trade) theories. The chapter also stresses their theoretical predictions and empirical validations in static and dynamic settings, discussing the determinants of international tourism and its implications on economic growth, and the relationship between the tourism-growth nexus and natural amenities.

Keywords: Economic Growth, International Trade, Natural Amenities, Openness, Tourism

3.1. Introduction

This chapter examines tourism in an open system and its involvement with international trade and competition theories. An open system facilitates economic interactions with the economies of other countries through buying and selling goods and services and the free flows of capital and labor. Openness plays an essential tourism role as it provides countries with the volume to address deficient domestic demand and to achieve sufficient economies of scale. Demand and supply forces at the international market level determine prices and quantities, often constrained by government regulations (i.e., tariffs and quotas) and (fiscal and monetary) policies. Tourism had become one of the world's most significant, rapid-growth economic activities before the Covid-19 pandemic, substantially contributing to economic growth and the living standards of industrialized and developing countries. According to the World Travel and Tourism Council (2021) tourism accounts for 10% of world GDP in 2019, and according to the World Tourism Organization (2020) it reveals 7% of the world's export and 28% of global services exports, making tourism the world's third-largest export category.

Since international trade and GDP levels depend on tourism, a clearer understanding of this activity can promote our theoretical and empirical understanding in fields such as macroeconomics, international trade, economic growth, and development. In assessing the determinants of international tourism, patterns and trends can be discerned that help clarify production and consumption outcomes at global levels. It facilitates comprehension of why certain countries specialize in tourism while others do not. What determines why a country exports and imports certain goods and services, and which countries to exchange these goods and services with? International trade theories can help explain a country's position in international tourism exchanges.

This chapter addresses different strands of theory, distinguishing between the supply-side (the comparative costs of Ricardo, the factors endowment of Heckscher and Ohlin, the new trade theory, and the endogenous comparative advantage) and demand-side (the demand-driven trade of Linder) theories. The chapter also discusses the theoretical predictions and empirical validations of these different theories in static and dynamic settings, contextualizing and assessing their impact in analyzing the tourism industry and tourism development. Particularly, it focuses on theories' implications for international tourism and relationships with economic growth, discussing also how the tourism-growth nexus is related to the exploitation and protection of natural amenities.

3.2 Trade and tourism

Trade theories examine the basis and gains from trade. Trade refers to what, why, and how people exchange goods and services and how this exchange affects the wealth and prosperity of nations. People exchange and trade goods and services, and these exchanges play a crucial role in the global economy. These exchanges stem from permanent interactions with the economies of other countries. In other words, economies are not autarchic; rather, economies function in an open system.

Critical in this open system is determining the real exchange rate ε, i.e., the price of foreign goods in domestic currency divided by the price of home goods. The corresponding notation is $\varepsilon = \frac{EP^*}{P}$, where ε is the competitiveness measure; P is the domestic price level, P^* is the overseas price, and E is the nominal exchange rate (domestic currency /overseas currency). An increase in the real exchange rate ε (i.e., in the degree of competitiveness) will increase net exports NX, given by the difference between exports and imports, thus increasing aggregate demand, production and domestic income.

NX depends on people possessing different abilities, skills, and resources to meet different needs and preferences. They may want to consume goods in different proportions, which, combined with preference heterogeneity and various endowments, triggers the opportunity of profitable trade. This exchange opportunity, since Adam Smith, resulted from product cost and price differences due to differences in resource endowments, preferences, technologies, scale economies (Salvatore, 2004).

Consider tourists wanting to visit other destinations. They exchange US Dollars for destination currency to pay for hotel rooms, etc. Changes in currency exchange rates affect tourism's supply and demand, thereby affecting the economic stability of destinations. For example, when the British pound decreased to nearly one pound to the US dollar, American travel to the United Kingdom increased. When the pound and US dollar ratio increased to almost two dollars per pound, British travel to the US increased dramatically.

These exchanges and payments reveal trade performance and patterns affecting tourist destinations. Some destinations may uncover different price elasticities that may increase or decline over time or shifts in demand and supply curves could cause volatile price fluctuations.

Income and price elasticities could contribute to export earnings instability. A small open economy is prone to business cycles that are deviations from the growth trend and can result in major macroeconomic imbalances because they can have immediate spillover effects through tourism.

Gray (1982) noted tourism goods do not conform to the traditional goods' descriptors of trade theory. That is, a destination's allure may be monuments, beaches, etc. as opposed to exports. Further, maintaining sustainable tourism impacts allocation of destination resources across various economic sectors. Moreover, while tourism can create income advantages to aid in development and resident living standards, it also draws resources (labor, etc.) from other economic opportunities for its development and ongoing support. Further, there are costs involved in protecting the very natural resources which the destination markets to tourists

While tourism is a prominent phenomenon in international trade, international trade theory never mentioned tourism explicitly. Gray (1982) alleges that the contribution of tourism analysis to international trade theories resides in highlighting the phenomenon that a tourist travels to a destination seeking amenities that the home country lacks. Gray's assertion is critical because it implies that tourism and money course in like directions, unlike merchandising. In other words, a tourist buys amenities and services and that spending adds to the countries' foreign exchange. Because the balance of payments includes money flows from tourist spending, this spending becomes an export, and the home country becomes an import. The resulting economic effects relate to the tourism economic multiplier and the stabilizing/destabilizing impact on the balance of payments. In fact, the balance of payments depends on the terms-of-trade, meaning how export (tourist) prices increase/decline relative to import prices.

The critical question remains why costs and prices should differ from destination to destination? Why are there differences in the structure of costs and prices? Several theories of international trade examine these questions.

3.2.1 Ricardo's theory of comparative costs

Deciding what to produce requires establishing the comparative costs of goods. Then, one can explain international tourism exchanges taking place. Ricardo's 1817 theory posits that though a country can produce all goods and services, it fares better by limiting production to goods and services at lower production costs than other countries. Production cost depends on one variable, labor cost, with trade stemming from labor productivity.

Ricardo studied Portugal and Great Britain to illustrate his point. Portugal had an absolute cost advantage in producing wines and sheets than Britain. His example demonstrated that no matter what a country's situation, international trade benefits all involved countries as all gain in the transaction. The theory, therefore, predicts it is in Portugal's best interest to produce wine and Britain to specialize in sheet production.

Following Ricardo, exchanging tourism products occurs because of differences in production efficiencies in different countries, and gains can result from specialization in production. Candela and Figini (2010) illustrated Ricardo's comparative advantage with two-country and two

tourism products (beach and mountain). Consider country A producing 12 million mountain (M) nights (N_A^M) and 4 million sun and beach (S) nights (N_A^S). The S price relative to M, $P_A^S=3$, means that if country A foregoes the production of one S unit, it can allocate resources to produce three tourism M units. Country B produces 3 million in M (N_B^M) and S (N_B^S), making $P_B^S=1$. The study assumed that A and B tourists demanded equal vacation amounts.

A critical assumption observation is that country A possesses absolute advantage over country B ($N_A^M>N_B^M$ and $N_A^S>N_B^S$). Why should country A trade with country B given absolute advantage if no need or trade incentive exists? Intuition is not the same as economic rationale because comparative advantage triggering specialization is more efficient. If countries A and B only engage in domestic production, they would produce six and three million overnight stays, respectively, equaling nine million overnight stays. However, if they trade and engage in an open international tourism system, country A would gain half a million overnight stays (8.3%), while country B would gain one million (33.3%) overnight stays. Global tourism would increase to 10.5 million (16.6%) overnight stays.

Candela and Figini (2010) infer three implications from the comparative advantage theory:

- Specialization is an efficient solution when each country enjoys a comparative advantage.
- Specialization increases the welfare of both countries.
- Specialization increases global welfare.

Comparative advantage theory displays several drawbacks. First, focusing only on the relative costs of tourism's components, e.g., transportation and attractions, can be tricky. Tourism products are heterogeneous and challenging to replicate making time and place comparisons difficult. Determining comparative advantage based on production efficiency and opportunity costs cannot explain the variations in tourism trade output among nations. Second, comparative costs advantage focuses on tourism's supply-side equation. This could be untidy because the buyer is an inherent part of the production process. Therefore, neglecting demand in tourism's production process could be misleading in explaining the patterns of outcome in trade among nations.

Third, prices do not directly follow the theory because the theory only indicates price ranges. The example provided by Candela and Figini (2010) illustrates that the price range was 1<P<3, and assumed P=2 to advance the economic rationale that trade makes sense and matters. The comparative advantage theory can explain the one-time event and what destinations can specialize in but lacks explaining the destination's life cycle. That is, the framework is static and lacks dynamic considerations. Moreover, the comparative costs advantage's central tenet is that technology makes the difference in efficiency. Differences in demand growth rates for the two products can cause a movement on the commodity terms-of-trade against the country producing the product indicating low demand growth. In this sense, specialization can be detrimental to a country.

Tourism literature includes few studies that applied the comparative advantage theory, such as Hassan (2000) and Zhang and Jensen (2007). Their study asserts that comparative advantage

through technology affects labor efficiency, which determines tourism flows. However, their study assumed specialization as a one-time event without considering unemployment or underemployment. Moreover, their study assumed that tourism production is linear and homogenous, which is inconsistent with the perspective of Stabler, Papatheodorou, and Sinclair (2010) that labor and capital intensity affect tourism's life cycle.

3.2.2 The neo-classical factor endowment model and the Heckscher-Ohlin theorem

The neo-classical factor endowment model assumes away differences in relative productivity, espoused by the classical theory embedded in Ricardo's comparative advantage theory. Alternatively, the neoclassical theory postulates that all countries have access to the same technology. The rationale for trade occurs due to different factor endowments (labor, capital, land, and natural resources) across countries. Different factor endowments generate different price structures because different products require different factor proportions and combinations, and countries enjoy different factor endowments. Therefore, it is more efficient for countries with abundant capital to produce and export their capital-intensive products and countries with abundant labor to produce and export their labor-intensive products.

One of the most widely used economic theories for explaining trade patterns and behavior employs the factor-proportions model of Heckscher and Ohlin (H-O). This model accommodates a two-country economy given technology, labor and capital factors to create two products, idyllic competitive circumstances and stable returns of scale. Labor and capital are amenable to various intra-country sectors, although they are not responsive to inter-country use. Finally, this model reflects that the relationships between the factors are principal in ascertaining the patterns of trade.

This model suggests the trade pattern is a supply-side phenomenon. Under circumstances where various factor endowments unite with various factor concentrations of products, comparative advantages can emerge even under equal access to technological use. Moreover, commodity exports arise from a country's copious factors while imports are comprised of the more limited. Achieving international specialization and comparative advantage are sourced by this supply-side phenomenon.

The H-O framework was amended by Samuelson in 1949, who contended that prices would equalize over time because consumers demanded low-price products from low labor costs, thereby increasing the demand for labor and the wage rate. A similar process would happen with products commanding low capital costs.

Tourism literature is relatively silent on applying the neo-classical factor endowment model. Tourism economics textbooks addressed the theoretical model, including Vellas and Becherel (1995), Sinclair and Stabler, and Candela and Figini (2010). Kondrashov and Šima (2014) examined whether the H-O theory can explain tourism flows across 25 EU countries. The analysis employed the Balassa Index (BI) to measure comparative advantage across this group of countries, which is defined as BI=X_{ij}/X_{iEU}, where X_{ij} is the share of product i in country j total exports and X_{iEU} stands for the share of the same product in the total EU-25 exports. The study

found that the EU25 countries export according to their comparative advantage, validating the neoclassical model.

Webster, Fletcher, Hardwick, and Morakabati (2007) raised concern regarding the use of BI due to its narrow focus to export only. They applied several techniques, including revealed comparative advantage and the Grubel-Lloyd Indices to measure comparative advantage suggesting validity to the neoclassical models. However, the study of Viljoen, Saayman and Saayman (2019) did not find the validity of the neoclassical theory in the African context.

Nowak, Petit and Sahli (2010) constructed a dynamic trade model to explain the international division of tourism production, which attempts to explain how tourism entities fragment their production process globally. The study applied the model to 36 countries (18 OECD countries and 18 countries) to examine their tourism specialization pattern. Their study shows how several countries have shifted from one type of specialization to another type, de-specializing in one segment, upwards movement in the tourism industry, and reinforcement of upstream and downstream specialization due to circumstances. According to Nowak et al. (2010), these movements determine tourism specialization patterns and potential gains or losses. The study identified several dynamic trade patterns and ascribed these patterns to potential comparative advantage due to differences in technology (Ricardo) or differences in relative factor endowments (H-O).

Prima facie, this model appears to explain international tourism rather handily. Tourism is highly contingent on its natural resources and based on their comparative advantages correspondingly. Therefore, the international tourism specialization of a country will be directly linked to an abundance of resources to develop the supply of tourism products to be aimed at international buyers. Islands in the Caribbean with abundant sun and sea will specialize in tourism by aligning these resources to the tastes and preferences of buyers in search of the sun, sand, and sea product ("SSS product"). Similarly, countries like Switzerland and Austria, with an abundance of mountains and snow, will specialize in sky resorts to attract Dutch and Belgians and other buyers from countries lacking mountains.

However, tourism can involve significant capital investments (e.g., accommodation, airports and harbors, theme parks) combined with skilled labor. Capital efficiency, for example, consists of a metric called incremental capital-output ratio (ICOR), which reveals the amount of capital needed to produce one more unit of output. In the tourism sector of many countries, the ICOR ranges between 2.5 and 4.0. This ratio may vary over time and at different stages of tourism industry development (Sinclair and Stabler,1997). Croes, Ridderstaat and VanNiekerk (2018) underscore the relevance of physical capital and its marginal utility in buttressing tourism specialization in the case of Malta.

Empirically international comparisons between natural endowments are challenging to undertake because they are complicated by measuring factor abundance and quality. The challenge here is that several goods are not exchanged on the market involving those public goods and externalities. These are collectively enjoyed goods, and they are non-rival in consumption. They often represent one of the essential components of the tourist product, if not the most important.

One of the most important consequences of this condition is that such goods give rise to congestion or overuse because they are offered at a zero price. There usually is excess demand regarding the capacity for satisfying consumption.

This factor endowments approach is attractive once factors of production can be adequately approximated by a low dimensional vector (e.g., labor and capital). For tourism, however, the most critical factors of production are unique and hard to quantify and measure (beautiful beaches, the Grand Canyon, the Eiffel Tower, the Pyramids). This uniqueness makes the explanation of cross-sectional tourism flows theoretically unappealing (a more practical way is to capture the attractiveness of the beaches by measuring the tourist who enjoys them).

Ricardo's accounting of comparative advantage addresses impacts of resources on production: basically, advocating adjustments allowing nations to experience comparable trade benefits. However, ascertaining a priori the trade balance impact cannot occur. Moreover, it is supply and demand price elasticity that determines balance (Schumacher, 2013). Gains and losses are dynamic while Ricardo's concept of comparative advantage is fixed. Thus, his perspective does not account for economic situations that prompt gains or losses

The H-O theorem was contradicted by the "Leontief Paradox," named for the scholar who discovered US exports are, on average, relatively labor-intensive while its imports are more capital intensive. Perhaps a crucial theoretical objection to the H-O model is its underlying assumptions exclude developing countries. For example, assumptions of full employment, perfect factor mobility, and similar technology across countries are largely untenable in developing countries. Further, according to Candela and Figini (2010), the H-O theorem is static and cannot explain factor price movements due, among others, to elasticity of tourism demand and economies of scale.

3.3. Linder and the demand-driven trade theory

Linder (1961) proposed an alternative to the supply-side models. The difference between countries in the factor endowments levels did not always reflect international exchange. He posited, therefore, a demand-side model believing the trade pattern derives from "overlapping demand", meaning that countries generally produce goods for the domestic market, achieve economies of scale reducing costs to then export surpluses to countries with similar demand structures (income per capita). He assumed that countries acquiring this surplus would have demand patterns similar to the exporting countries. Linder's prediction that most trade should occur between countries with similar tastes and income levels is no paradox: it is the natural result of demand-driven trade.

Demand for difference buttresses the exchange. Slight differences in tastes can induce demand to a neighboring country with similar resources. Linder predicted that the cycle of tourism development in production and consumption would be domestic, regional, and long-haul tourism. Tourists would move from adjacent geographical countries with similar resources and

benefit from more significant tourism flows than countries with different resources and farther located origin countries.

There are powerful theoretical considerations to focus on demand over supply. First, demand level depends on some minimum income level. After satisfying material needs and wants, smaller marginal utility amounts are obtained by additional consumption of the same products. The desire for "something different" is simply an outward manifestation of marginal utility. Travel desire has become a valuable source of additional marginal utility for the consumer. Second, tourism supply, at least eventually, appears to be highly elastic regarding total costs.

The most important production factors are non-substitutable (i.e., beaches cannot produce any other goods) or non-rival goods (i.e., tourists can enjoy a climate resource without wasting it for other tourists or industries). Therefore, they determine the demand level, but their supply does not respond to prices. The intermediary inputs of tourism (accommodations, restaurants, entertainment) likely adjust to any demand level without having a drastic effect on tourism prices. Tourism prices cannot be disentangled from the destination's general price level.

Based on Linder's postulates, one can ascertain international tourism flows. Linder assumed that GDP provides a reasonable proxy to measure tastes. Buyers in higher income per capita countries demand higher quality goods, while those in lower income per capita countries demand lower quality goods. The more similar the demand for products supplied by different countries, the greater the likelihood of trade among those countries. For example, trade among OECD countries, according to UNCTAD (2021), is higher than trade between OECD countries and African countries.

A correlation seems to exist between domestic tourism and the GDP level. The likelihood for greater domestic tourism increases with its GDP level. Concurrently, firms can expand opportunities by selling their surplus products and, in the process, achieve more significant economies of scale and scope. Firms seek economies of scale to increase profitability and raise the entry barrier for other firms. Tapping domestic demand, however, might not attain significant economies. International trade can provide opportunities to attain increased returns to scale. Trade has the advantage of increasing choices and lowering prices.

The tourism literature applied the gravity model to examine the validity of Linder's demand theory. The gravity model's basic assumption follows Linder's postulates that a country will experience a high trade intensity with countries with similar characteristics, including shorter distance (geographically and culturally), similar language, currency, colonial connection, and political connections. The empirical results stemming from the gravity model application are mixed. For example, Ean's study (2015) measured the intra-industry trade in the tourism context and found empirical evidence that countries with similar economic levels have mutually high trade/travel levels, supporting the Linder theory for the demand-driven trade in the tourism industry. The results suggest a clear tourist flow between the US and high-income trading partners. Alternatively, the results from Keum's (2010) and Lorde, Li, and Airey's (2015) studies indicate that the Linder theory cannot explain tourism flows in Korea and the Caribbean, respectively.

3.4 The new trade theory

Concerns appear to question the rigid assumptions emanating from the neoclassical trade theories. One of the first concerns revealed the inclusion of economies of scale in production. Tweaking the neoclassical model involved the impact of increasing returns on trade patterns and trade's mutual benefits. Economies of scale revolve around the consideration of firms' size and market structure. The new trade theory views economies of scale as inconsistent with equilibrium because producers in such positions could influence the market through price or market share. Imperfect competition with monopolistic competition, oligopoly, or monopoly could be the result. Economies of scale, imperfect markets, and product differentiation distinguish new trade theories from old trade theories and negate the H-O theory to predict trade patterns based on factor prices (Krugman, 1979).

One effect of trade in international tourism is the rapid global expansion of firms. Tourism's industrial organization has changed dramatically in the past two decades. The sector has become more centralized and integrated at the global level. Transportation network companies (TNCs) predominate in transportation (airlines), accommodations (hotels), distribution channels, and attractions and entertainment. Technology, especially information technology, has also altered the sector. For instance, computer reservation systems allow travelers to plan almost every aspect of a journey at once. The internet links major firms offering transport, lodging, and entertainment and facilitates mapping the tourism commodity chain generating one single offering to the consumer.

The rapid globalization expansion poses intriguing questions on why particular processes or stages of production occur in specific locales, how the industry is organized and governed, and where the economic surplus goes. These thoughts change the unit of analysis from the domestic to the international perspective, and searches to discern international influences upon local development patterns. Identifying industry's underlying global organization plays a central role in uncovering fundamental power relations within the chain and allocating economic surplus. Scholars have identified two types of governing structures, "producer-driven" and "buyer-driven" commodity chains.

The first structure encompasses TNC's which have internalized the complete production, consumption, and marketing aspects. Ownership and control are reflected in vertically integrated organizations. The second structure is related to loose types of organizations or alliances, where firms externalize actual production: instead concentrating on design and marketing. They maintain arm's length relationships with producers in low-wage countries, not owning the factories, but keeping their suppliers nearly captive.

The form of firm expansion arises from firm's strategies, specifically shifting toward favoring non-equity participation. Flexibility and avoiding high initial capital outlay associated with constructing new hotels or purchasing existing ones are essential to these chains (Dwyer, 2005; Nowak, Petit, & Sahli, 2010). The frequent result is control of the hotel by the chains with little or no sunken costs or significant risks to the parent firm. Name recognition is a destination issue (most frequently a new destination seeking to export tourism). A chain's main asset is its

reputation for reliability as a device to contain the risk of the tourists visiting that destination (Ledesma, Navarro & Perez-Rodriguez, 2005; Keane, 1997).

Manufacturing this unique experience as an end product is difficult. It requires maintaining the quality of a tourist product reproduction. It also requires balancing growth with environmental protection. Government intervention must control the negative externalities of tourist activities. The short-term drive to maximize profits may affect the destination's ability to support greater inflows of tourists, jeopardizing the destination's attractiveness (the Butler cycle effect). Firms have an incentive to extract premium prices under conditions of information asymmetry, which typically exist at tourism destinations (Crase and Jackson, 2000). However, preventing the market from destroying itself requires offering quality goods and services and attracting repeat customers (Keane, 1997).

Rent-enhancing activities under conditions of incomplete and imperfect information pose a crucial issue. Imperfect information may create opportunities for intermediaries to extract excessive rents in the exchange process. Buyer's preference for more certainty may create an oligopoly favoring the intermediaries. Supply providers may become less innovative if they cannot cope with demand uncertainty. Ventures become risky under this condition. A solution is to transfer this risk to the intermediaries, but then the supplier's capacity becomes hostage of the intermediary. Forward capacity sales through commitments are made at contract prices that surrender potential profits through consumer surplus. The intermediaries may have the upper hand in the price market creating powerful incentives to underprice the product.

Under imperfect competition in the international context, governments are incentivized to implement strategic policies (Krugman, 1979). The incentives are associated with tourism's contribution to the net balance of payments surplus and employment creation. Its surplus contribution on the balance of payment has long-been recognized by developing and developed nations. The latter has been more recently relevant in Europe's more economically mature countries due to deindustrialization (Balaguer and Cantavella, 2002).

International and domestic tourism generate income and employment. Usually, the latter exceeds the former. It is important, therefore, to consider the effects of both types of expenditures within an international context to recognize leakages abroad in such forms as payments for tourism associated imports, remittances of income, profits, and dividends, which may be particularly relevant in small economies. Sinclair and Stabler (1997) contended that the extent of the impact of tourism expenditure is contingent on the appropriate surplus resources (labor, capital, and land). Marsiglio (2018) highlights the critical role of human capital - more so than physical capital - to attain sustained increases in output and income levels.

Therefore, some governments implement a strategic commercial policy such as providing subsidies to national carriers, imposing taxes on airport departures, devaluing the country's exchange rate, and imposing measures to restrain inflation and increase tourism's price competitiveness. They also may implement a strategic industrial policy, such as tax incentives, loan guarantees, and a moratorium of hotel rooms to control the entry of new firms. Control of

entry by the government can stimulate quality and enable existing firms to continue to charge premium prices.

3.5 The dynamics of trade and tourism

Gray (1970) was among the first to address the neo-classical trade theories' tourism shortcomings. He indicated that neo-classical trade theories do not apply to tourism because tourism is a different perishable and intangible product than commodities consisting of non-reproducible production factors such as scenery, culture, history, weather, and service quality differences. These unique characteristics prompt singular economic agents' calculation rendering the basic assumptions of the neoclassical model futile. For example, the neoclassical theories claim a competitive market, while Gray argues that tourism trade reveals a monopolistic competitive market. Moreover, Gray also includes demand into his trade model, adding preferences to the model equation and price, substitution, and transportation.

Gray resonates with Adam Smith who proposed trade as a dynamic process. His premise was that the country's economic (re)organization stems from the division of labor. Labor depends on the market and consumer preferences for a particular good or service. The larger the market, the more can be sold depending on income and price elasticity, and the higher the opportunity for expanding the labor division and specialization. Smith (1976) claims that differences in productivity and demand preferences determine society's economic surplus benefits and trade. These differences exist if individuals choose different levels of labor allocation in producing a good. These differences in productivity thus depend on people's choice regarding specialization levels (Yang and Ng, 1993; Sachs, Yang, and Zhang, 1999) and their consumption preference.

The main difference between Ricardo's comparative advantage and Smith's dynamic comparative advantage lies in how price is measured. In Ricardo's concept, price is the result of cost, and cost stems from natural differences in skills. Alternatively, Smith posits that natural differences are not fundamental to trade, but trade is triggered by desire for product and preference variety. The logic behind this reasoning is that the economic problem is not about the efficient allocation of resources; the problem is the deliberate choice of specialization level and the consumption variety that accompanies it. From this perspective, cost is defined as a combination of costs and preferences. These preferences are identified through a learning-by-doing process, which determines efforts and resources that go into production.

Individuals' choices of labor allocation determine specialization's levels and patterns (Yang and Ng, 1993; Sachs, Yang, and Zhang, 1999). Yang and Ng (1993) refer to these choices to engage in learning-by-doing, and these efforts shape productivity level and intensity. Productivity depends on experience in organizing existing specialization processes, which is the backbone of endogenous comparative advantage. Endogenous comparative advantage is dynamic and claims that specialization is the source of trade and productivity growth due to economies of scale (Schumacher, 2013) and consumption patterns. Two conditions must exist for endogenous comparative advantage to trigger welfare-enhancing effects: learning-by-doing (experience in the production process) and expanding demand for the good (demand elasticity).

Contextualizing Smith's propositions to tourism means that tourism specialization refers to a dynamic process integrating resources and assets, providing a sense of place and identity to the tourism markets. The process involves the organization and coordination of several agents that together provide a unique attractiveness by creating experiences, managing the experience process, and understanding the demand determinants for that experience. The ever-changing conditions in aligning the production process and preferences requires, according to Marsiglio (2018), constant societal learning to create and process less expensive but appealing experiences. This requirement depends on individuals' feelings and perceptions regarding the benefits tourism specialization generates. Marsiglio (2018) suggests that this learning experience should be an integral part of destination planning and management.

Tourism production reveals a simultaneous interface between supply factors and demand, and tourism economic prowess relies on on-demand elasticity. In tourism, supply and demand elasticities are not automatic. The problem manifests itself in a destination's incentive and coordination problems (Candela and Figini, 2010; Álvarez-Albelo and Hernández-Martín,2010). Croes & Ridderstaat (2017) demonstrated that income effects vary over time and shape tourism consumption. Studies addressing tourism specialization mainly centered on measuring (Biagi, Ladu, and Royuela, 2017; Croes, 2013, and Ridderstaat et al., 2016), rather than defining the concept. These studies seem to assume that tourism specialization relies on the premises of comparative advantage anchored in trade theory, as posited by Ricardo (2001). The principal economic problem that remains is identifying the balance between income elasticity and price elasticity ambiguity.

3.5.1 Tourism and growth

No tourism study anchored in the endogenous comparative advantage framework exists. Despite this absence, Smith's view on the importance of trade's dynamic features has not passed unnoticed and has been widely applied in tourism contexts. Particularly, the mutual dynamic implications of tourism development and economic growth have been frequently discussed to investigate whether tourism specialization may benefit the development prospects of a single country and its residents. To do so, dynamic trade models extended along the tourism sector are incorporated in macroeconomic models of economic growth to analyze the interplay between domestic capital accumulation, saving, and the terms-of-trade.

Hazari and Sgro (1995) rely on Samuelson's framework to analyze a two-goods setup in which one good (capital) is internationally tradeable while the other (tourism) is not. The tourism good is consumed locally by tourists and residents providing the domestic economy with additional resources to finance its capital investment needs. They show that tourism specialization may promote capital inflow that reduces the needs for domestic saving, thus allowing for increases in domestic consumption. This may be the case whenever tourism demand increases faster than world income such that the capital accumulation effect induced by the terms-of-trade brings tourism and growth to move hand-in-hand. In this setting, tourism generates increases in domestic consumption and saving, favoring economic growth and raising welfare.

Hazari and Sgro's (1995) work showed that tourism may be growth-enhancing, a conclusion popularly referred to as the tourism-led growth hypothesis (TLGH). This theory is a straightforward extension of the export-led growth hypothesis suggesting that economic growth can result not only from the accumulation of production factors (capital, technology, labor force) but also from export expansion. The TLGH has been subjected to extensive theoretical and empirical investigations. Theoretically, several works show that tourism demand is characterized by a low elasticity of substitution, implying that tourism may effectively promote growth only when terms-of-trade move in favor of tourism activities (Lanza, Temple and Urga, 2003; Brau, Lanza and Pigliaru, 2007; Schubert, Brida and Risso 2011). Empirically, extensive numbers of tests have been performed employing different econometric techniques, countries, and time periods. Overall, such works have found convincing evidence supporting the TLGH.

Lanza and Pigliaru (2000) stress that tourism allows countries to overcome the problems associated with a small market size. Moreover, a large share of the fastest growing countries is represented by small countries and, in particular, by small island countries. Brau, Lanza and Pigliaru (2007) emphasize that small countries are able to experience fast growth only when they highly specialize in tourism. Examples are Antigua and Barbuda, Maldives, Mauritius, Seychelles, and St Kitts and Nevis, in which a predominant contribution to GDP comes from the tourism sector. Extending this argument, Lee and Chang (2008) show that the impact of tourism on GDP is larger in non-OECD than in OECD countries, where physical and human capital accumulation and technological progress play a greater role in promoting economic growth. Distinguishing between the experience of countries according to their level of economic development, they also show that tourism unidirectionally causes growth in OECD countries while in non-OECD countries there exist feedback effects and the causality relation is bidirectional. Similar results have been confirmed in different contexts in substantial studies (see for Ahmad, Menegaki and Al-Muharrami, 2020, for a recent survey).

A variety of channels exist through which tourism positively affects economic growth (Brida and Pulina, 2010): tourism is a significant foreign exchange earner favoring capital investment; tourism stimulates investment in infrastructure, human capital and competition; tourism spurs other economic sectors via direct and indirect effects; tourism favors employment and income increases; tourism generates economies of scale and scope. All such channels jointly contribute to the existence of a beneficial link between tourism specialization and economic growth. This result is as intriguing from an academic perspective as from a policy perspective. As in many developing countries the possibility to spur economic development by promoting tourism activities is very appealing for policymakers though it still takes time to establish sizeable economies of scale and scope and to achieve sufficient capital and technological levels. However, using tourism specialization extensively as an economic development process may harm residents since diverting resources to the tourism sector may generate perverse effects with detrimental long run consequences, such as high dependence on foreign capital, inflation, domestic labor disturbances, Dutch disease effects, and a low-education trap.

3.5.2 Tourism and natural assets

Since an important determinant of international tourism is the search for natural amenities unavailable in the home country, an important problem associated with tourism specialization is represented by the pressure that tourism and tourist activities generate on destination natural resources and assets. Thus, to effectively plan and manage tourism development, it is critical to account for how tourism and natural assets affect each other from a dynamic perspective. It is clear why various natural amenities drive tourism and why tourism tends to deplete the quality of such amenities via wear and tear (Davies and Cahill, 2000; Tisdell, 2001). Consequently, a growing number of studies have recently focused on whether tourism specialization may be sustainable in the long run.

Empirically, the sizeable role played by natural assets and environmental quality in affecting tourist flows has been extensively documented. By inferring the impact of natural amenities on tourism from tourists' willingness to pay, several works demonstrate that a deterioration of natural assets has a large negative effect of tourism, and such a result has been confirmed in a variety of countries, over different time periods, and relying on different econometric techniques (Beharry-Borg and Scarpa, 2010; Santana-Jimenez and Hernandez, 2011; Silva and Ferreira, 2013). Also, tourism's detrimental impacts on the destination's natural environment have been widely proved. A considerable number of studies show that tourism and tourist activities substantially contribute to increases in water and soil pollution which negatively affects the quality of the SSS product (Kocasoy, 1995; Vallés, Gallego-Fernández, and Dellafiore, 2011).

From a theoretical point-of-view, instead, departing from the perfect competition assumption as also suggested by the new trade theory, it is possible to characterize how different countries may leverage their natural assets to expand their market share of international tourism demand. By assuming that the international tourism industry is monopolistically competitive, each country may invest either in the preservation of its natural amenities or in the development of tourism facilities to determine the price of its tourism product and attract different types and quantities of tourists. Product differentiation is an essential feature of the international tourism market and explains the strategic behavior of different destinations and its implications on their tourism and economic development over different time frames.

Candela and Cellini (2006) investigated the strategic interactions between a number of oligopolistic destinations in a differential game setting in which the demand faced by a single destination depends not only on the decisions of the destination itself in terms of tourism size and investment but also on the choices made by other destinations. They show that if a destination opts for a larger tourism share it intuitively needs to invest a greater number of resources to preserve natural amenities and to increase product differentiation. In particular, the optimal choices critically depend on the number of competing destinations which non-monotonically affect the equilibrium degree of product differentiation. In a similar setting, Claude and Zaccour (2009) analyzed the impact of destinations' investment decisions in environmental protection on their reputation in the international tourism market, distinguishing between situations in which destinations behave non-cooperatively or cooperatively. They show that cooperation allows for a

shift from mass-tourism generating fast deterioration of natural amenities to a sustainable form of tourism characterized by lower ecological footprints.

Abstracting from the strategic behavior between destinations and assuming that the differentiation in the tourism market is driven by the tourism product's quality, Cerina (2007) discusses how a destination may climb the quality ladder by investing in environmental protection. He demonstrates that it may be possible that tourism development, economic growth and environmental improvements go hand-in-hand, providing a micro foundation for sustainable tourism. Building on a similar framework, Marsiglio (2015) showed that for tourism to be a viable economic development means, sustainable tourism needs to be promoted. Apart from investing in environmental maintenance, it may also be important to limit the size of tourism by critically controlling tourist numbers in order to ensure that they do not exceed the carrying capacity of the destination (Marsiglio, 2017).

Overall, the literature on the dynamic implications of tourism and natural assets stresses the fact that promoting tourism specialization per se may represent a myopic approach to economic development, as unregulated (i.e., not sustainable) tourism activities may generate beneficial economic effects in the short run only. In the long run, their detrimental consequences on natural assets may become predominant and deter a smooth process of economic development. Therefore, policymakers' efforts to address the tourism industry toward a sustainable pathway are essential to ensure the viability of tourism specialization in the long run.

3.6 Future research

Literature has progressed with studies on international tourism in an open economy system. Different theories have been developed to characterize how openness affects the domestic and international tourism market, how it drives tourism demand and supply, and how tourism specialization affects economic growth over different time frames. The analysis has been carried out in theoretical and empirical settings, relying on microeconomic and macroeconomic perspectives, in static and dynamic frameworks, in single and multiple decision-maker contexts, allowing eventually for strategic interactions and cooperation. Most of the works have focused on the mutual implications between tourism, international trade, international competition and economic growth, and some have investigated how such relations affect and are affected by the exploitation and protection of natural assets.

Despite the variety of research questions covered and the approaches employed, more needs to be done. Apart from the tourism facilities and natural amenities, several other factors play a critical role in driving tourism, such as culture, historical heritage, safety, and health conditions, but the literature has almost remained silent on how the peculiarities of these drivers may affect tourism planning and management. A clear example is the ongoing coronavirus pandemic. When choosing which destination to visit, international tourists look at the level of disease prevalence in the different destinations as a proxy of their individual risk of infection. Therefore, single destinations may need to decide how to effectively allocate their scarce resources: is it convenient to invest more in environmental protection and tourism facilities, or in disease

prevention activities? Is the choice to invest in disease prevention going to positively affect tourism only in the short run, or may it generate positive (or negative) effects in the long run as well? Despite extensive discussions of the consequences of current and future pandemics on macroeconomic and international trade outcomes and policies, their implications on tourism planning and management still need to be divulged

Moreover, as the geographical dimension of a tourism destination cannot be precisely defined, tourism activities generate important spatial externalities which have not been accounted for yet. When international tourists visit a new country, they often do not limit their stay and activities in a single location, but travel around the country organizing trips in locations surrounding the primary destination. Therefore, geographical factors such as the spatial proximity to a major tourism attraction may be important to consider toward effectively planning and managing tourism development, and designing tourism marketing campaigns aiming to exploit the variety of characteristics that a region may offer to tourists. Does a non-tourism site close to a major tourism destination need to invest in tourism facilities and services? Is it more convenient for that site to look for alternative uses of its scarce resources? While a spatial dimension has been recently introduced in the analysis of international trade, it has never been brought to the discussion of tourism, but it can be effectively used to answer important policy questions.

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