Cruise Tourism in Dominica: Benefits and Beneficiaries

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Abstract

The impressive growth of cruise tourism in Dominica, inside highly competitive area of the Caribbean basin, gives the island an astonishing flavor of success. By adopting a systemic approach the article demonstrates that three agents concentrate more than 70% of the financial impact of the cruise activity in Dominica: the local travel agencies, souvenir shops and the cruise lines. The low dispersion of the beneficiaries is concomitant with a spatial concentration and a minimal macroeconomic benefit. This case study, devoted to Dominica, suggests a highly concentrated model of cruise tourism in the Caribbean underpinned by organized tours as the main mode of experiencing the stopovers and a source of revenue for cruise lines, whose subcontractor: the local travel agencies are the primary distribution channel of cruise tourism revenue, high level of economic and spatial concentration generating low trickle down macroeconomic effect.

Key Words:
Dominica, Cruise tourism, Benefits, Beneficiaries, Systemic approach, Concentration

Resumen

Dentro de una zona tan competitiva como la del Caribe, el impresionante progreso del turismo de crucero otorga a Dominica un aspecto simbólico de éxito para el desarrollo de dicha actividad. Este artículo adopta un enfoque sistémico y demuestra que tres protagonistas concentran más del 70% de los beneficios financieros de la actividad crucerista: las agencias de viajes, el comercio de *souvenirs* y las compañías cruceristas. La escasa dispersión del número de beneficiarios es concomitante con la concentración espacial de la actividad y con la falta de beneficiarios macroeconómicos del sector crucerista en Dominica. Este análisis dedicado a Dominica sugiere un modelo del sector crucerista fuertemente concentrado que se apoya en los tours organizados como principal recurso para descubrir la isla, y a la vez como fuente de *revenue* para las compañías cruceristas, cuyos contratantes (las agencias locales) son los primeros canales del impacto económico de esta actividad concentrada tanto a nivel geográfico como financiero, generando un escaso impacto macroeconómico.

Palabras clave:
Dominica, Turismo de cruceros, Beneficios, Beneficiarios, Enfoque sistémico, Concentración

Introduction

During the last 20 years, the annual flow of cruise visitors has been multiplied by 3 in Dominica, while it "only" doubled for the entire Caribbean region. This impressive growth of cruise tourism in Dominica, inside highly competitive area of the Caribbean basin, gives the island an astonishing flavor of success. The economic impact of this tremendous tourism growth has not yet been analyzed. Various viewpoints have been adopted to study the relations between the Caribbean region and the cruise activity. Hall (1990) and Wood (2000) studied the cruise industry's globalisation, "using" the Caribbean as the most appropriate area (because it is the primary locus for cruise) to understand the changes within the industry. Logossah (2007) and Wilkinson (1999) examine the issue from a completely different angle. In the context of globalised tourism they focus on the impact of cruise tourism on the region's economy and on the communities living at the destinations. Very few studies had been specifically devoted to the economic impact of cruise tourism on small island's economies. Seidl *et al.* (2006, 2007) are the only papers assessing the economic impact of cruise tourism and the opportunity for public authorities to devote infrastructures to this type of tourism.

Methodology

The traditional approach of tourism economic impact adopts a country perspective and tries to compute how tourism's export revenue generates GDP, with a static accounting methodology (OMT, 1999) or a dynamic econometrical method (Balaguer y Cantavella-Jordá, 2002; Dritsakis, 2004; Nowak y Sahli, 2007; Lee y Chang, 2008). The paper provides some results using these methodologies. But it also gives an analysis of the beneficiaries of the cruise activity in Dominica, using a systemic approach; hence the problem statement of the article: what are the benefits and who are the beneficiaries of cruise tourism in Dominica. Inspired by the works of Candela and Figini (2008, 2010) the paper considers tourism as a complex system, where three types of "elementary particles" interact: individuals (tourists and residents), private firms and public sector, and the territory. In the specific case of cruise tourism, the systemic approach widens the economic analysis as it is not limited to the country. It allows considering the interactions between the cruise companies, the local private sector and the government, and how the overall cruise revenues is distributed between them. Intrinsically linked to the issues of overall benefits and beneficiaries of tourism, the systemic approach relates to the study of concentration and dispersion (see Meyer, 2004 for the importance of the dispersion of tourism revenue) inside the tourism sector, a common theme of geographical, economic and ecological paradigms.

The Dominica's national accounts (2011) and two surveys published by the Florida Caribbean Cruise Association (FCCA, 2005, 2009, based in 2009 on sample survey of 1769 interviews) provide the statistical materials underpinning the analysis.

The aims of this positive analysis of the benefits and beneficiaries of cruise tourism are twofold. The measurement and comparison of the overall, spatial and partial impacts of tourism represent the first axis. The second axis aims to identify the main beneficiaries of cruise tourism in Dominica. The case study of benefits and beneficiaries in Dominica also intends to provide a more general perspective on the way cruise tourism generally affects a destination and is the opportunity to gauge the capacity of cruise tourism to be an engine of economic growth. This second reading perspective is at the heart of the tourism economics of the Caribbean. Over the past 20 years, growth in cruise arrivals (+ 4.8% per year on average) was twice that of tourist arrivals (+ 2.2% on average per year). In 2012, cruise passenger arrivals in the Caribbean are higher than that of tourists (19.7 million cruise passengers to 18.6 million tourists). For Caribbean governments, the public investment decisions become more complex with the increasing weight of the cruise arrivals. They must trade off the necessary public infrastructure for a mature activity: stay over tourism, and a growing activity: cruise tourism, in their respective potential for growth, tax, debt and jobs.

The benefits of cruise ship tourism in Dominica

The following two sub-sections show the influence of the cruise industry in Dominica. It looks primarily at the impact inside the tourism sector, and the more broadly at the macroeconomic level. The ratios used in what follows were calculated using the Dominica National Accounts Statistics (2011), over the last 15 years. Statistical reports of the Caribbean Tourism Organization and the database World Development Indicators the World Bank, and surveys of the FCCA (2005, 2009) had been also used.

A proven sectoral impact

In Dominica cruise tourism is "physically" preeminent, since it is the largest provider of visitors to the island. In 2012, with 266,000 visitors, it accounted for 77.3% of the total tourist figures, a ratio of 1 to 3.4, compared to stay-over tourism. During the 2009 peak, cruise excursionist represented 87% of total visitor arrivals –more than 7 times the flow of stay-over tourists. At sector level, the economic impact of cruise tourism is softer but significant, whether assessed by the supply or the demand side (the supply side approach isolates branches potentially "characteristic of tourism" according to the conceptual approach to the WTO (2009). The demand side gathers the amount of spending by tourist visitors). Between 2002 and 2012, the cruise business reported an average of 45% of the constant total Added Value of characteristic tourism industries and 32% of their current productions. In 2011, U.S. $ 15.7 Millions of revenue from the cruise tourism accounted for 16% of "Travel" position of the Balance of Payments of the island, compared with 36.6% in 2009. Although a long series of revenue generated by the cruise tourism does not exist, its importance in the general dynamics of tourism in Dominica is attested by two econometric tests: Granger causality and Johansen co-integration (Bourbonnais, 2002) for the methods of the tests performed with the E-Views software and available on request. These tests reject the hypothesis of causality and existence of long-term relationships between the tourist arrivals and the total Tourism Recipe (what distinguishes the effect of cruise arrivals). Between 1985 and 2009, the trend of cruise arrivals generated by the Hodrick-Prescott filter, Granger causes the overall tourism revenue, with a probability of 99.5%. Meanwhile, overall tourism revenue and the trend of cruise flows are linked by a movement of long-term equilibrium to almost 100%.

These indicators show the significant static and dynamic role of cruise activity in the Dominican tourism economy. The following sub-section broadens the scope of the analysis, by assessing its impact on the island economy as a whole.

Limited macroeconomic impact but a possible indirect tool for economic growth

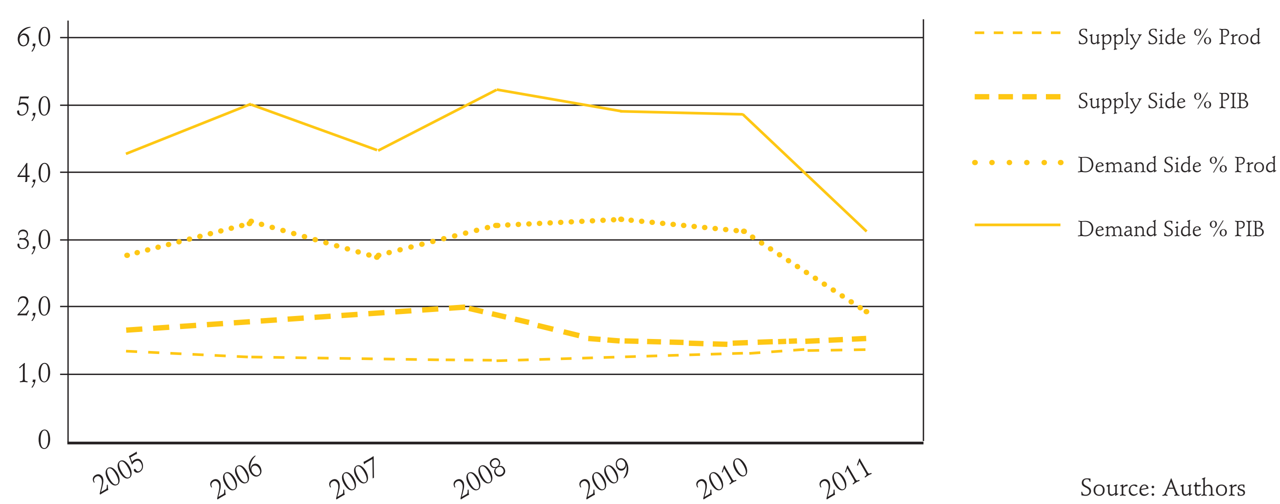
Measured by its daily ratio to the local population, the direct physical impact of cruise tourism is low. The average daily flow of cruise ship visitors represented 1.1% of the Dominican population in 2012 (2.1% in 2009). The proportion is higher during the high season (months from November to April of the following year, which focus on average 78% of arrivals from 2004 to 2011), where it can reach up to 4.2%. Cruise tourism has a higher impact on the city of Roseau and her 16,500 inhabitants, as the island's capital and most populous city and almost sole port of call for Dominica. During high season, the daily ratio of cruise ship visitors can amount to as much as 18% of the city population, with an annual average of 8.5%. The physical presence of cruise visitors parallels its economic weight. Between 2005 and 2009, on average, “characteristic activities” of cruise tourism defined as recommended by WTO, totaled 1.3% of the current total production and 1.7% of the island’s GDP (constant). On the demand side, the weight of cruise tourism is proportionally higher, but it remains marginal. Tourism revenues generated by cruise tourism represent less than 5% of the Dominican economy: 2.8% of the overall production and 4.6% of the current GDP on average. Figure 1 shows the impact indicators of cruise tourism.

Cruise tourism is also exportation. From this point of view, its contribution to the Dominican economy is more significant. Between 2005 and 2011 cruise tourism receipts:

- Represented 45.5% of goods exported of and 30% of the travel position of the balance of payments,
- Financed 9.7% of imports of goods,
- Contributed to 19.2% to the reduction of the current account deficit. Matched 109% of the total external debt service of Dominica.

Moreover the dynamic influence of cruise tourism on the growth of the Dominican economy is econometrically attested. Cruise tourism arrival causes the total GDP and

Figure 1 Indicators of cruise tourism’s impact in Dominica



Source: Authors

per capita GDP with 98% of confidence. In addition, a long-term equilibrium relation links cruise arrivals trend and overall GDP and per capita. However economic analysis advises to nuance the multiplier effect of a proportionally low shock of demand (Archer, 1977, 1982). Representing 5.5 % of total final consumption, the cruise tourism receipts can hardly be qualified as a major engine of growth for Dominica (real growth reaches 2.2% per year on average between 2002 and 2011). The above ratios suggest another macroeconomic utility for cruise tourism in Dominica: it provides foreign exchange earnings to ensure the payment of the foreign debt service of Dominica. Hence its potential impact on growth is indirect, through the international borrowing capacity it provides to the Dominican economy.

The economic benefits of cruise tourism are twofold. The development of tourism in Dominica is intrinsically linked to cruise tourism in terms of arrivals and revenue. Notwithstanding the dynamic link that binds cruise tourism to GDP, cruise tourism appears as an indirect potential tool for economic growth of the island, through international borrowing capacity that it provides.

The beneficiaries of cruise ship tourism in Dominica

As mentioned in the introduction, the study of beneficiaries of tourism covers two aspects that the two following sub-sections explore in the specific case of cruise tourism in Dominica. The first sub-section describes cruise visitors spatial diffusion. The second shows how cruise incomes are distributed between the various stakeholders shaping this activity in the case of Dominica. The results are based on a methodological approach detailed in Appendix 1 and 2.

A high concentration of the spatial distribution for frequenting and spending

The spatial distribution of the cruise visitors on the Dominican territory is intrinsically linked to the excursion products offered to the passengers and to the organization of the reception area; which is reserved for them when they walk off the boat. Two maps summarize the spread of cruise visitors to the territory of Dominica and in the city of Roseau, and show its very high level of spatial concentration.

According to data provided by the FCCA (2009), 92% of the overall passengers disembark at the Dominican port of call. They spend an average of 3.9 hours on Dominican territory and 67.1% of the visitors experienced the island through an “organized tour” (booked before the arrival of the ship or through the prior contact with a local travel agency). 30% of those who go ashore from the ship choose to explore the city or tour the island on their own, negotiating by themselves transportation and tour guides with private taxi drivers they meet directly in the city (“free tours”). Table 1 breaks the cruise visitors according to the way they choose to experience the island.

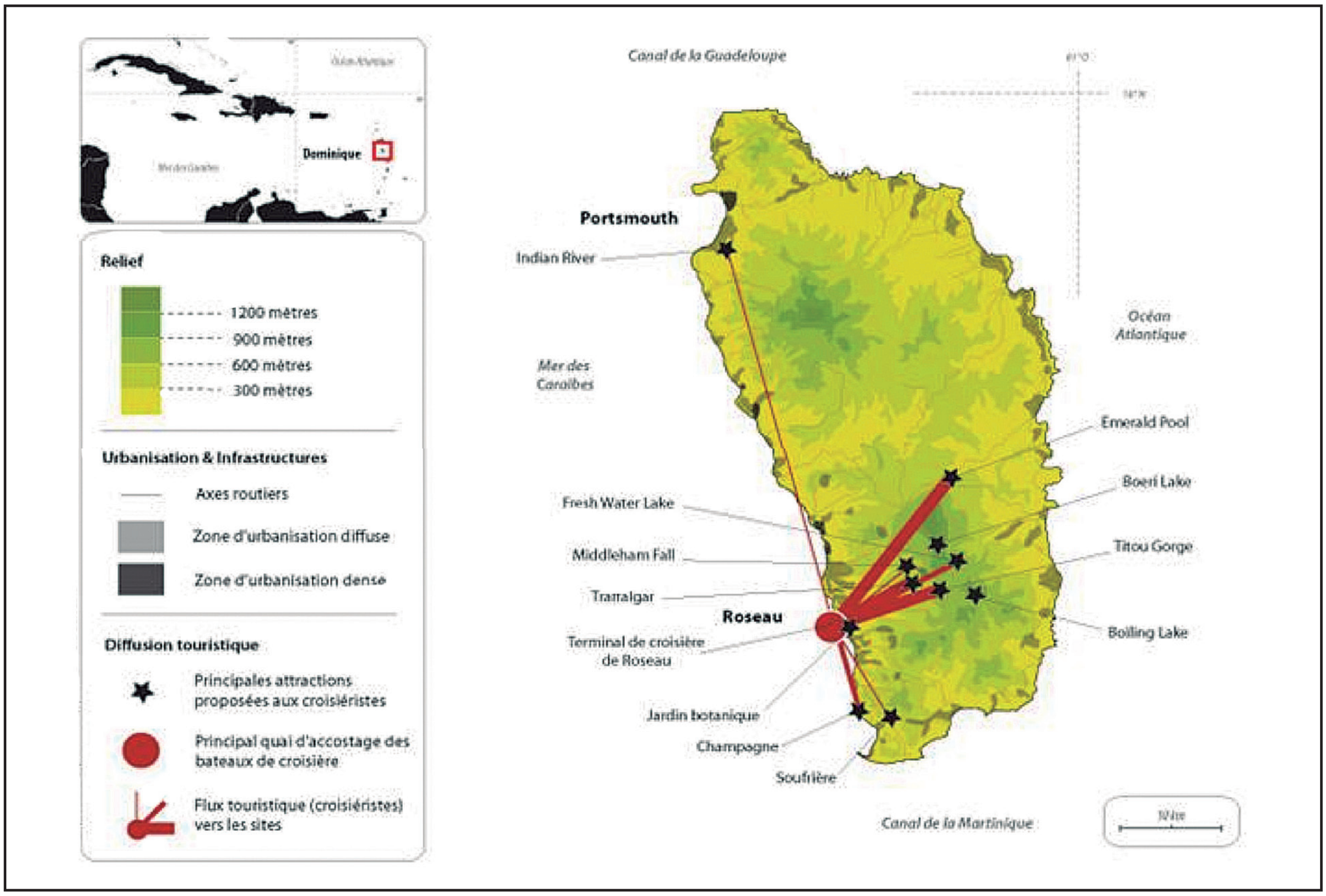
Both the free tours and the organized tours are spread over mainly between the following 6 “ecotourism sites”: Emerald Pool, Titou Gorge, Trafalgar Falls, Fresh Water Lake, Champagne (for diving) and Middleham Falls. These “ecosites”, developed and maintained by the Government of Dominica account for 95% of all tours and are mainly located in a triangle stretching north from Roseau (the farthest site is Emerald Pool, located 20 km from Roseau). Their average distance from the harbor is 14 Km. Most tours consist of very short so called 'treks' (average 10 minutes walk, not far from the bus-parking to adapt to a wide age group of clientele) in the tropical rainforest. The 'trek' is usually enhanced by a bath in hot/cold springs or waterfalls and/or stops on scenic viewpoints over the forest. Map 1 presents the spatial distribution of cruise ship visitors over the island. The eco-tours ensure Dominica’s status as “Nature Island” in the nature niche market. These tours provide solid grounding for the island’s economic specialization on its unique natural resources, because Dominica is not endowed with white sand beaches as do the other Caribbean ports of call. It possesses only one white sand beach. These nature excursions provide the island with original and almost unique positioning in the Eastern Caribbean, which partly explains its success.

Table 1 Distribution of cruise visitors by mode of visit

	% cruise passengers
Going ashore off the boat during the stopover	92
Taking an organized tour	62
Free tour or visit the Town	30

Source: Authors

Map 1 The spread of cruise visitors over Dominica



Source: Authors

The diffusion of cruise excursionists appears to be spatially limited to a circle with a circumference of 35 Km. Including the six closest eco-sites, this surface can be estimated at less than 54 Km^2, compared with Dominica's overall land mass of 754 km^2. The need to bring the cruise visitors quickly after the tour, before noon, for lunch, requires that attractions be near the spot of landing: Roseau. The aforementioned necessity explains at least partially, the weak spatial spread of cruise tourism over the territory.

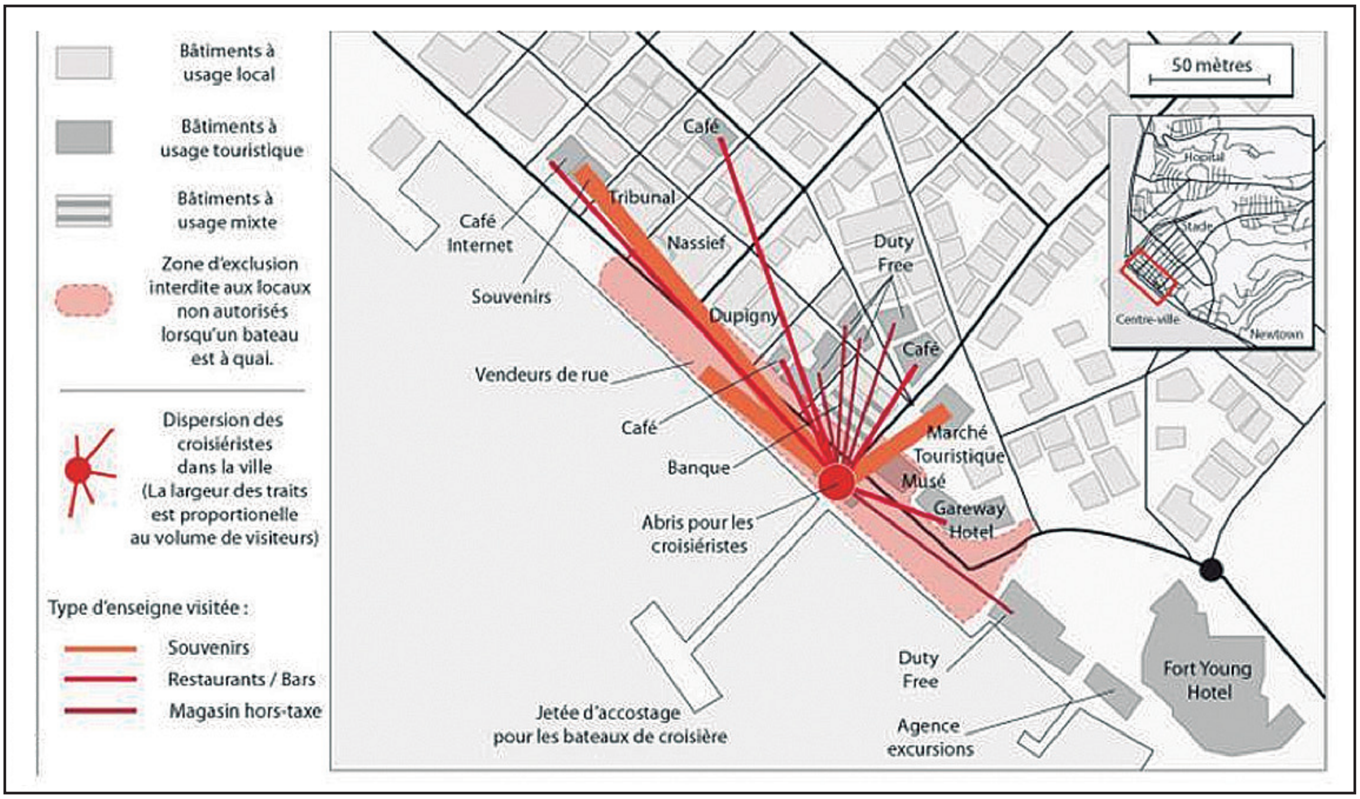
While getting off the ship or just after the tour, some of the cruise excursionists either visit or, simply go for a stroll in a portion of the city for an average period of one hour. Diffusion in the city was assessed by sales statistics from the study of the FCCA (see Appendix 2). The dataset shows a very low diffusion of cruise ship tourists in the city. These visitors actually scatter into a very limited area, equivalent to a rectangle of about 250 meters long and 50 meters wide. Inside this confined zone, visitors walk and make purchases, 61% of which fall under the category "local crafts and souvenirs" in the FCCA survey. Maps 2 and 3 (see next page) show the spread of visitors and expenses in Roseau. These maps highlight the distribution of visitors and their spending between the different outlets. The local travel agencies providing the tours are all located in this part of Roseau. Thus, this small portion of the city coastline (5% of the city overall area) captures almost all of the cruise visitors spending, and therefore almost all of the island's cruise tourism revenue.

The difference between the spatial distributions of the visitors and their spending is due to the price of the goods they purchase. Hence the weight of the "Duty Free" in the south of Roseau is accentuated on the map of spending because it covers a jewelry shop.

The weak diffusion of cruise ship visitors in the city of Roseau is facilitated by the settings of the landing area, where visitors disembark (pink on maps 1 and 2). Figure 2 (see page 13) sketches reception area articulated in three zones, located on both side of the Eugenia Charles Avenue:

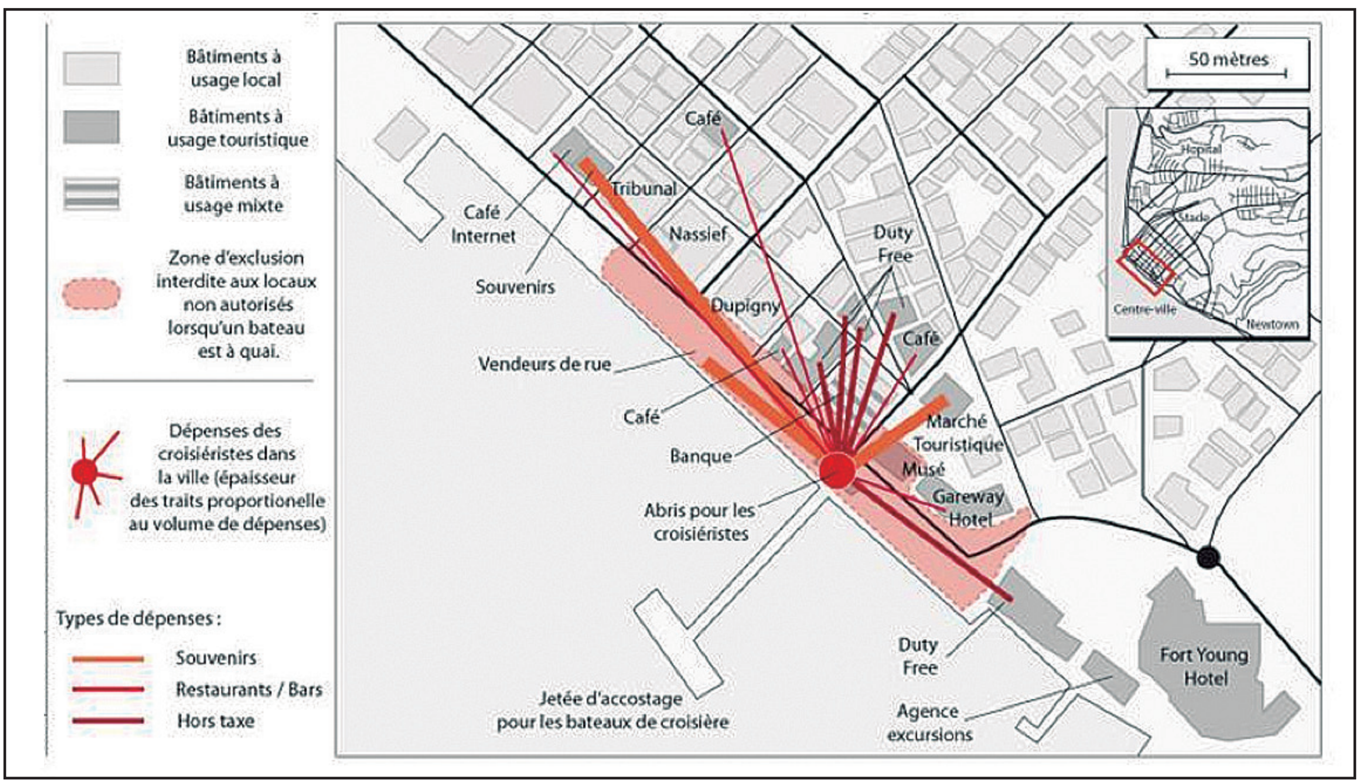
1. The reception area for organized tours, where passengers who booked an organized tour are welcomed by agents of the ship and agents of the local travel agency for departure to their tour;

Map 2 Distribution of the cruise visitors in the city of Roseau



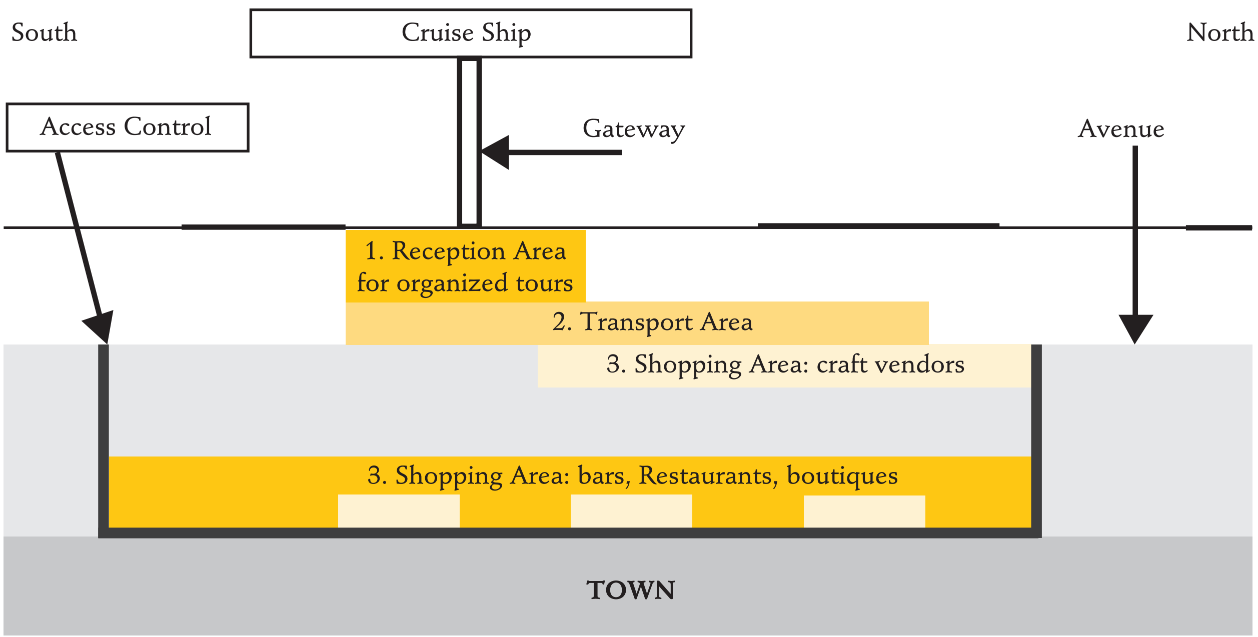
Source: Authors

Map 3 Distribution of the cruise visitor's spending in the city of Roseau



Source: Authors

Figure 2: The reception area of cruise visitors in Dominica



Source: Authors

2. The transportation area, where a line of local agencies minibuses are parked, waiting for the booked groups of cruise ship visitors. Licensed by government, accredited private taxis for the free tours are parked outside of this area;

3. The first shopping area hosts on both sides of the avenue, craft vendors (mostly sea side) and the shops and bars on the city side.

The ship gateway gives direct access to this area entirely reserved to welcome the ship visitors. During the entire duration of the call, the access to this section of the avenue (the city largest and most frequented avenue) is cordoned off by the police force. Only accredited carriers, sellers and local agencies agents are allowed inside. Figure 2 highlight the limits of this area by a black bold line. At the southern edge of the reception area, unlicensed taxis also offer free tours, at generally lower rates.

The reception area offers cruise passengers a secure shopping area, free from the sometimes aggressive private taxis and non-accredited sellers. As illustrated on map 1 and 2, this reception area constitutes a core around which the cruise visitors disperse slightly while going for a stroll or purchasing goods.

The positioning of the island around a small niche of eco-excursions and the settings of the reception area both contribute to a high spatial concentration of cruise tourism activity in Dominica.

Few beneficiaries and one main diffusion channel

This second sub-section complements the study of beneficiaries of cruise tourism. It presents the distribution of cruise tourism's financial benefits between the three stakeholders that shape this activity in Dominica: foreign cruise ship companies, local travel agencies and the state. This approach extends the usual accounting of economic benefits to a major operator of the cruise: the cruise ship company. The port of call is a source of revenue for the cruise ship company. As such, these companies play a role in shaping the product of the island. From this perspective, the systemic approach prompts us to look outside the local territorial accounting of economic benefits.

A brief description of how the visitors experience the cruise stopover, facilitate the understanding of the linkages between the 3 mentioned stakeholders. The organization of the stopover experience for the cruise ship passengers follows a common path from one company to the other and from one island to another. The process begins on the eve of arrival with the presentation of the future call and its sites of interest via the information systems on-board (TV...) or during group presentations. The process then goes on with the opening of the on-board tours outlet, where the cruise company sells various tours, arranged with one or more local travel agencies providing the onshore services: transportation, tour guiding, etc. The on-board tours outlet is open until early the next morning, before arrival to the port of call.

In the Caribbean region, the excursions are the main path through which the ship visitors experience the islands: as a regional average, 57% of the 93.4% of passengers going ashore ship take an organized tour, and 77.5% of them buy the tour directly on-board according to by the FCCA (2009). For Dominica the figures are respectively 92.4%, 67.1% and 69.5%.

Thus, the discovery of the Dominican stop over is shaped by:

- The cruise companies, which select tours which they believe suit their customers. As such, they complement the services they supply to passengers (Transport, hotels, restaurants, bars, leisure services on board) by selling shore excursions, at a price including their fee (between 15 and 25% of the total price, the balance returning to the local travel agency). Petit Charles and Marques (2012) clarify the effects of this setup on the spatial distribution of cruise in the Caribbean region. The port of call is a source of revenue for the cruise companies. As such, they plays an important part in the process of shaping the product of the island;

- The local travel agencies are suppliers to the cruise lines: they help to select the shore excursions, which they deliver through subcontracting transport services and tour-guides. Consequently the local travel agencies are themselves subcontractor of the cruise lines;

- The State who in the case of Dominica own nearly all the eco-excursions sites, developing and maintaining them while collecting entrance fees.

Via this setup the destination is totally dependent on the asymmetric couple composed of the cruise firms and the local travel agencies, rendering imperfect and obsolete the territorial analysis of cruise economic impact.

In 2011, the cruise industry in Dominica generated total revenue of USD 23.3 million, of which Table 2 shows the hierarchical breakdown between the different beneficiaries. The local travel agencies are the primary beneficiaries of this activity, realizing a turnover of 7.6 million USD, or 32.6% of the total revenue. The receipts of Dominica souvenir shops are almost the same as those of the cruise lines. Taxes (Port and passengers taxes and VAT) and entrance fees on eco-sites provide the state of Dominica with USD 2.9 million or 12.4% of the total revenue generated. It is the fourth direct beneficiary of the cruise activity. These four players concentrate 86.6% of total revenue generated by the cruise industry in Dominica. Figure 3 depicts the financial breakdown and the economic ties between the main beneficiaries. It illustrates the connection that unites companies and local agencies. The privileged links between cruise firm and local agency built originally the cruise business in the destination; afterward completed by other activities. Dominica is no exception and conforms to this pattern. In this perspective, it is not surprising that the couple reaps more than 50% of total revenue [See table 2 : 32.6 % + 20.6 %] ; the share of the cruise companies representing nearly 40% of their common business volume [See table 2 : 4.8 / (4.8 + 6.7) = 38.7 %].

The cruise activity in Dominica acknowledges one "tourism characteristic activity": the local travel agencies. With 70% of the industry output, revenue from the cruise industry is vital to local travel agencies. Such a statement is less true for the Restoration branch where financial the impact of the cruise reached 11% of total production. In light of its budgetary weight, cruise activity appears auxiliary for Dominican Government: direct revenues collected from the cruise business reaches 2.2% of total budget receipts and 18% of the current balance account.

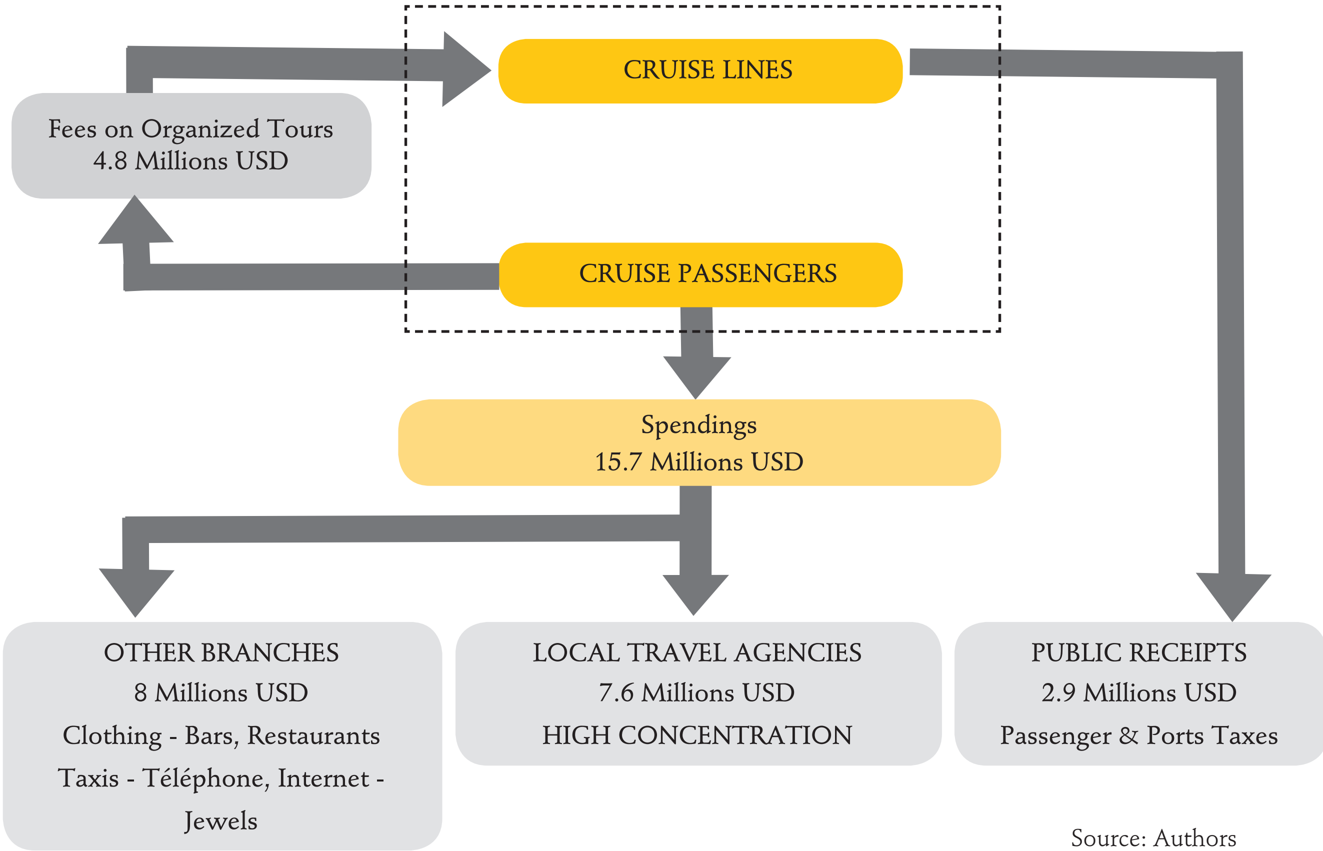
Table 2 and Figure 3 show a partial aspect of the concentration of the cruise activity revenue, the one that is pertaining to the sector distribution. Thus the first three actors (Local Agencies, Foreign Cruise Companies, State) concentrate 74.2% of the overall turnover for cruise tourism in Dominica. Another side of this concentration of cruise tourism benefits is related to the degree of intra-industry concentration, within the meaning of the industrial economy. In this perspective the market structures that articulate the cruise business in Dominica appear to be particularly concentrated. Inside the local travel agency branch, one company supplies 85% of the organized tours. Spatial concentration revealed by maps 2 and 3 is generally associated with a very small number of firms. The field observation brought out no

Table 2 Distribution of the financial impact of cruise tourism in Dominica (2011 in USD millions)

Branches	Receipts	%
Local travel agency	7,6	32,6
Local crafts & souvenirs	4,9	21,0
Cruise lines	4,8	20,6
State - Government	2,9	12,4
Restaurants & bars	1,3	5,6
Clothing	1,0	4,3
Other branches	0,8	3,4
Total	**23,3**	**100**

Source: Authors

Figure 3 Distribution of cruise tourism revenue in Dominica for 2011



Source: Authors

more than 7 firms for catering (cafes, restaurants) and 4 duty free shops inside the area of dispersion indicated by the maps 2 and 3. The more or less sixty handicrafts and souvenirs street vendors identified on the Eugenia Charles Avenue and inside the tourist market give this sector a slightly less concentrated character. Street vendors are stalls managed by women, offering local handicrafts and imported products (trinkets bearing the image of Dominica manufactured outside). Still this activity remains a market where the duty free shops emerge as leaders. If one excludes street vendors, about 25 firms share the cruise visitors spending. All of them are located in the rectangle identified by dispersion maps 2 and 3. Although difficult to quantify but nevertheless working, the concentration takes a less visible form: inter-sector linkages, partnerships, cross-shareholdings, partition markets, ownership of buildings between firms from the area of dispersion. This is the meaning of the dotted line between the two blocks agents of Figure 3.

Analyzing cruise tourism in Dominica through the revenues it generates allows identifying three main beneficiaries: local travel agencies, Duty free shops and cruise lines companies that together reap almost 70% of the overall revenues. The local travel agencies are the primary distribution channel of cruise tourism revenue to the island; mainly because organized excursions are the major way cruise visitors experience Dominica. The double high level of concentration (sector and intra sector) and the high rate of Value Added achieved by the travel agencies (71% of production) necessarily lessen the multiplier effects of cruise tourism receipts.

Conclusion

In Dominica, the economic static and dynamic impact of cruise tourism, at sector level, has been proven. However at the macroeconomic level, the assumption of short-term multiplier effects should be rejected in favor of a possible impact on the trajectory of long-term growth through international borrowing capacity it provides to the island. The spatial impact of cruise tourism in Dominica is low and its financial impact is limited to a very small diffusion perimeter which is a small fraction of Roseau. This geographic concentration reflects a sector and intra-sector economic concentration, which reduces the number of firms that benefit from the cruise business. Concentration or alternatively low dispersion is the rule for cruise tourism activity in Dominica, where a parallel between low economic multiplying effects and concentration of beneficiaries can be drawn. Moreover and as mentioned by Brida and Zapata (2010), geographic concentration of arrivals within the borders of a restricted area and during a restricted period of time might become a threat for the visited ecosystem. Dominica six "ecosites" might of course suffer from the high concentration of this cruise activity.

The features of cruise tourism in Dominica suggest a model of cruise tourism in the Caribbean underpinned by four pillars: organized tours as the main mode of experiencing the stopovers and a source of revenue for cruise lines (1), whose subcontractor: the local travel agencies (2) are the primary distribution channel of cruise tourism revenue (3), high level of economic and spatial concentration generating low trickle down macroeconomic effect (4).

Similar case studies in the Caribbean and in other regions, following the same approach, will help us to quantify the mechanics of this cruise activity four pillars model, where the destinations are only considered as part of an itinerary, and as such will clarify public investment choices.

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Appendix 1: Investigation tools and methods

The results of Section 2 are based on the following methods.

Interviews

Semi-directed interviews, addressing the general state of tourism, and the activity specifications and issues. Interviews were conducted with:

- The Head of the administration in charge of tourism in Dominica (Dominica Discover Authority - DDA);
- Taxis (10 Interviews).

Surveys

Semi-directive interviews conducted with the respective directors of four local travel agencies (on a total of five travel agents operating in the cruise activity). These one-hour interviews were based on an open questionnaire structured by the following themes:

- The current situation of cruise tourism, its perspectives and the perceived roots of its current issues ;
- Perception of the importance of the cruise for the Dominican economy;
- Distribution of cruise clients among the various sites visited on organized tours;
- Proposed excursions and positioning;
- Relative market share between local travel agencies;
- Pricing of the excursions.

The interviews, the surveys and the collection of statistical data were conducted by Bruno Marques and Romain Cruse during a ten days study field trip conducted in February, 2013 in Roseau, Dominica.

A total of 20 semi direct interviews were conducted distributed as follows: Central Government 2, National Account bureau: 1, Port authorities: 1, Direct Tax bureau: 1, Taxis: 10, Travel agent: 4.

Collection of statistical and economic data

From government agencies.

Appendix 2: Estimation Methodology

Spatial diffusion of cruise tourism

Mapping cruise visitors dispersion and spending.

a. Mapping cruise visitors dispersion in Dominica (Map1): The map was made using government "ecosites" statistics, supplemented by interviews.

b. Mapping cruise visitors dispersion in Roseau (Map2): The map was made using Table 69 of the 2009 report on The contribution of tourism to the economy of cruise destinations (FCCA, 2009). This table provides the breakdown of visits to various points of purchase by the cruise. The Mapping of these data required 3 steps:

i. Locate the outlets on the city map.

ii. Converting the raw data on of visits distribution into percentages between the numerous outlets, after excluding tours.

iii. Translating these percentages into visuals on the cartography (lines of proportional size on the map), according to outlets location. Cruise numbers are evenly split between locations when the outlets of the same type are located in different places, under the assumption of equal probability of attraction.

Table 3 (see next page) summarizes the last two steps.

c. Mapping the cruise visitors spending in the capital, Roseau (Map 3) The cartography is the result of the following three steps :

i. Locate the outlets on the city map.

ii. Distribution of cruise tourist spending by outlet. This was obtained by the product of the overall passenger flow that left the ship, proportions of visits per store and average spending in these outlets. The last two elements of this product are taken from Table 62 of the report commissioned by the FCCA (2009).

iii. Translating this product into a proportional spatial representation, according to the location of the outlets.

Table 3 Distribution of visitors according to items purchased (The sum is greater than 100% because a cruise can visit several outlets)

	% of visits	% breakdown
Shore Excursions	67	
Local crafts & souvenirs	58	36
F&B at Restaurants & Bars	30	18
Clothing	26	16
Other Purchases	17	10
Taxis/Ground Transportation	13	8
Retail Purchases of Liquor	8	5
Watches & Jewelry	6	4
Perfumes & Cosmetics	3	2
Telephone & Internet	2	1
Electronics	0	0
Entertainment/Night Clubs	0	0

Source: Authors

Table 4 Distribution of cruise visitors spending by type of outlet

	%
Local crafts & souvenirs	61,0
F&B at Restaurants & Bars	16,3
Clothing	12,3
Other Purchases	5,2
Taxis/Ground Transportation	3,1
Retail Purchases of Liquor	1,2
Watches & Jewelry	0,7
Perfumes & Cosmetics	0,2
Telephone & Internet	0,1

Source: Authors

Table 4 summarizes the last two steps.

Distribution of revenues: the beneficiaries

A three steps process allows for the estimation and distribution of overall revenue:

a. Sectoral revenue. The revenue of the various branches is estimated from Table 62 of the FCCA report (2009) by multiplying the average spending by the number of cruise buyers.

b. The cruise companies revenue is estimated via two stages:

i. Total revenue of organized tours: product of the travel agencies revenues (from the previous step) by the inverse ratio between the average price for organized tours and individual travel agencies revenues.

ii. Cruise companies revenue = b.i. – a.

This evaluation method is crossed with data from Petit-Charles et Marques (2012).

State revenue

a. Port fees and taxes: Product of tax fees by the number of cruise visitors and the number of calls. This method is crossed with data provided by FFCA (2009);

b. “eco-sites” entrance fees: Product of an average price of 5 EC$ by the estimated number of sites visitors according to FCCA (2009) data.

Biographical Notes

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