The Impact of Distance on International Tourism Flows

Abstract

This study examines the impact of distance on outbound travel demand by comparing departures from 92 source markets to over 4700 discrete destination pairs. Travel to land neighbours dominates outbound travel, accounting for 53% of all departures. Share of departures for travel greater than 5000 km was typically three percent or lower. The study also identified different travel flows depending on the origin region, with share of outbound travel a function of the number and size of receiving countries, as well as the presence of an Effective Tourism Exclusion Zone, a zone where little or no tourism activity occurs.

Keywords: tourism flows; distance decay; international tourism

Introduction

The *First Law of Geography*, that states ‘‘everything is related to everything else, but near things are more related than distant things’’ (Tobler 1970:236). Waters (2017) says it satisfies the three criteria needed to be considered as a ‘law’, including universality (application to all members of the class), necessity (the relationship is guided by some underlying principles) and synthesis (combines two or more concepts). This ‘law’ translates into the concept of distance decay, where demand peaks close to the source and then declines as distance increases. Its universality has been demonstrated in a wide array of studies conducted in the 1970s through the 1990s, when it was in vogue, examining the distribution of ideas, residential location, technology, population, retail, crime, national park use and the like (Beaman 1974, Eldridge and Jones 1991, Rengert, Piquero & Jones 1999, Rossi, Byrne, Pickering 2015, Truong and Hensher 1985). Recently, it has

even been found to apply to social network use (Laniado, Volkovich, Scellato, Mascolo, Kaltenbrunner 2018).

Its universality means that it should also apply to the analysis of tourism flows. Here outbound demand should peak relatively close to the source market and then decline as distance from the source increases. As discussed below, some small case studies have tested this idea and determined its general applicability. Only one previous study applied it to global tourism flows, using 2002 UN World Tourism Organization (UNWTO) data (McKercher, Chan and Lam 2008). This study was selective in the number of markets chosen. It is also now dated as much has changed since 2002, including the impact of the global financial crisis and ongoing economic turmoil, political tensions and the emergence of Asian economies as the drivers of tourism demand.

The current paper tests whether the distance decay concept is still evident in international tourism flows through an analysis of outbound and inbound data generated by the UN World Tourism Organization for 2016, the most recent year when full data are available. It adopts the method used by by McKercher, Chan and Lam (2008), but expands the scope of analysis to include 92 source markets and over 4700 origin-destination pairs. In doing so, it tests the veracity of the first law of geography as it applies to tourism. The paper begins with a review of the literature on distance decay, then discusses the methodological challenges involved in using official data sources gathered by different means from different economies, before discussing the findings. Implications for Destination Management Organisations are then discussed.

Distance decay

The impact of distance on tourism demand was first assessed by Greer and Wall (1979). Since then, a number of studies have validated its applicability to tourism. Factors such as family income, vacation time availability, travel costs, choice of transport mode and travel party size, are just some elements that can limit how far one can or wants to travel

(Crouch 1994; Hooper 2015). Tourists, for the most part are rational consumers who look to use their limited time budgets in the most efficient manner. A number of studies suggest people on limited time budgets seek to minimize their travel time in order to maximize the time spent at the destination (Chaves Stoll & Sellar 1989; Hooper 2015; McKean, Johnson & Walsh 1995, Shoval and Raveh 2004), which in practical terms means limiting how far one goes from home. Costs increase with distance and the size of the travel party, further dampening demand. As Peng, Song, & Crouch (2014) note, even with the advent of low cost carriers, costs still increase with distance. In addition, many people are unwilling to travel to culturally distant places or feel the effort required to gain a visa, exchange money and learn a few phrases in the local language are not worth the potential reward of visiting exotic places and instead choose to travel closer to home (Timothy 1995; Yang, Liu & Li 2018). Joo, Woosman, Shafer & Scott (2017) add greater emotional solidarity between tourists and residents in nearby destinations is also appealing for some, leading to increased repeat travel

As such, distance acts as a filter, advantaging some segments and acting as a deterrent to longer distance travel for others (McKercher 2008). It is worth noting though, that distance, in and of itself, is not a deterministic factor. No one wakes up and says, "I only want to travel up to x km, but x+1km is too far and x-1km is not far enough." Instead, it serves as a proxy that reflects a bundle of tangible and intangible attributes (Sirakaya and Woodside 2005), contextual influences (Decrop and Snelders 2005), as well as physical geographic considerations (McKercher and Lew 2003).

Three types of decay curves have been observed (McKercher and Lew 2003). The classic curve shows demand peaks relatively close to the source market and then declines exponentially with a long tail of low demand. The plateauing curve shows a similar demand peak, but demand stays high over for an extended period before declining. This type of curve is a function of a finite number of destination opportunities, coupled with low capacity. The standard curve with secondary peaks some distance from the source market is the third type observed. The presence and size of an Effective Tourism Exclusion Zone (ETEZ) (McKercher and Lew 2003), a band where little or no tourism

activity occurs, moderates the shape of the curve. ETEZs may result from physical geography barriers, such as oceans, mountain ranges, desserts, etc., political considerations, including fear of travelling to politically unstable regions or unfriendly countries and lack of diplomatic recognition, as well as destination attributes, where destinations offer little that is of interest to the source market. An ETEZ close to the origin point will shift the overall demand curve outward. One located some distance from the origin may result in a higher demand peak close to the source market and secondary peaks beyond the outer wedge of the zone, while and ETEZ located far from source markets has no real impact on flows.

While anyone who travels, can travel short distances, not everyone can or is willing to travel travel longer distances. Wong, Fong and Law (2016) observed gender, age, education and income are the major factors that influence the distance a tourist travels. As a result, the long haul pleasure tourist market tends to be comprised disproportionately of one of two segments: older, better educated and higher income couples travelling without children, or; time rich backpackers. It has also been noted that business tourists constitute a proportionately larger share of the long haul market than the short haul market (HKTB 2018). By contrast, the profile of the short haul pleasure market is much broader and includes the above mentioned groups, along with more families, people with limited incomes and/or vacation allocations, those who are cautious about entering culturally strange places and tourists looking for a more hedonistic experience.

The enduring impact of distance on demand over time from a single source market was verified by Lee, Denizci-Guillet, Law & Leung (2012) who re-analyzed survey data of outbound travel by Hong Kong residents taken over a 10 year period. Wong et al (2016) and Croes, Ridderstaat & Rivera (2018) explain such variations are related to changes in the general economic situation and/or the business cycle. When the economy is robust, people will travel further, while when it is fragile, distance travelled shrinks. In a similar manner, Liu, Li & Parkpian (2018) found that increased wealth of emerging markets was associated with the propensity for residents to travel longer distances, while Lorde, Li, & Airey (2016) suggest the stability of the overall pattern is attributed to habit persistence.

McKercher, Chan and Lam (2008) conducted the only global study of tourism flows using 2002 UNWTO data. They found that 56% of all international travel occurred among countries that shared a land border and that 93% of all departures were to destinations within 2000km of the source market country. The study also revealed that aggregate global tourism demand declined by about 50% with every 1000 km traveled, while mean demand for any single destination fell at at an even faster rate. With few exceptions, destinations located more than 4000 km from source markets attracted few visitors.

Method

Data for this study were gathered primarily from UNWTO arrival and departure data for 2016 (the most current data available), supplemented by information provided by a small number of Caribbean and Pacific island nations where UNWTO data was incomplete. The data base was constructed in Spring, 2018. The process began with the identification of about 110 candidate source markets that reported departure figures. From there, arrival data from 190 destinations were matched to the source markets. Departure shares were then calculated by dividing arrivals by departures. To qualify for final selection, reliable arrival and departure data had to represent at least 66.7% of total departures from the source market, while the grand share of total departures had to be realistic. A number of markets were excluded where insufficient arrival data were available, while others were excluded because of a great mismatch between departure and arrival figures. These markets included: Zimbabwe, Swaziland, Botswana, Seychelles, Peru, Oman, New Caledonia, Morocco, India, Egypt, former Yugoslavian Republic of Macedonia, US Virgin Islands, Norway, Trinidad and Tobago.

A final set of 92 source markets was identified, with a preliminary total of over 8,000 origin-destination share pairs calculated. These source markets reported 1.075 billion departures, while the destinations recorded 1.173 billion arrivals or about 95% of all

arrivals reported by the UNWTO for the year. Further cleaning of the data set was undertaken to exclude destinations that attracted an insignificant share of arrivals. For example, when departure share was calculated to two significant decimal places, 1,800 destinations attracted 0.00% of tourists from source markets, while another 1,000 attracted a share of 0.01%. A decision was made to exclude origin-destination pairs with departure shares less than 0.04%, resulting in the elimination of 3,800 cases. Collectively, these cases accounted for less than 0.5% of reported departures. The final useable data set was 4714 cases. The geographic distribution of source markets is diverse with most regions well represented. The exceptions are Africa, where only six of 54 countries are included, and the Caribbean where only two of the 28 nations are included. By contrast, comprehensive coverage of European, Asian, former Soviet Union, North, Central and South American countries was noted. Table 1 identifies each of the countries or territories included in the study. This table shows the total departures, the number of destinations that attracted a minimum of 0.04% of departures, the total cumulative share of outbound travel documented, along with the location of the most proximate and most distant destinations included.

Insert Table 1 about here

Distances were calculated in one of two ways. Land neighbours were identified at countries that shared a land border with each other, even if these borders were quite remote from major population centers (as is the case in South American and many large Asian countries). Otherwise, distances were calculated at 1000km intervals between gateway cities of each origin-destination pair using various online tools. Two gateways, one on each coast, were used to calculate distance to and from Australia, Canada, and the United States. Cases were categorized into 13 distance groups, including sharing a land border, in 1000 km increments, up to 9,999 km, between 10,000 km and 11,999 km and finally 12,000 km or more.

Departure shares for individual origin-destination pairs were calculated by dividing the number of arrivals to each destination by total departures from a specific source market.

Aggregate shares were then calculated by summing the total shares within each distance cohort, again for individual markets (see Figures 1 and 2). Collective shares by region (see Figure 3) were also calculated by aggregating the sums for each source market in a region.

While the data sources are reliable, some caveats must be recognized. To begin, the unit of analysis is at a country or territory level, meaning it is impossible to tell which city the tourist originated from or where he or she went in the destination. It is for this reason that gateways have been used to determine distance. The data do not discriminate by mode of transport, and as such, cannot reflect travel time. Likewise, they do not reflect trip purpose, meaning that all forms of travel, including business, pleasure and visiting friends and relatives are considered. Finally, arrivals' figures identify the number of people who cross a national border or formal territorial boundary, and not necessarily individual tourists. Double counting is common. As an example, an Australian travelling through Europe would be counted as a discrete arrival every time he or she crosses a border and stayed overnight in a hotel, meaning the same person could be counted multiple times if the trip took them back and forth to the same country. Likewise, some total share figures exceed 100% as noted in the case of Singaporean travel to Malaysia. Here, Malaysia alone accounts for some 144% of 'outbound' travel from Singapore, for many Singaporeans will be double counted as they travel through the country on their way to Thailand, Brunei or Indonesia and then again on the return portion of their journey.

Building a reliable data base presents the main challenge and limitation of this study, for data are collected in different ways by each country or territory. Developing reliable origin-destination pairs, therefore, is dependent on the compatibility of data from two regions. Not all source markets record outbound travel. Markets that publish outbound data do so in one of three formats: all departures (same day excursionists and overnight tourists); same day excursionists only, and; overnight tourist departures only. Ideally, the data set would include overnight departures only, for they represent tourists as defined by the UNWTO. However, in some instances both overnight and same day departures are

counted. Moreover, different destinations record arrivals in a variety of ways, including arrivals by nationality or place of residence, overnight, same day and all arrivals and arrivals at borders or hotels, especially where borders have largely disappeared. Again, ideally, data would show overnight arrivals at borders, but this type of information is becoming increasingly difficult to determine accurately, especially in Europe where borders have largely disappeared. Instead, alternate measures such as overnight arrivals in hotels and other commercial accommodation places are used, even if they under-report visiting friends and relatives travel. Finally, not all economies publish complete arrival figures and instead either document arrivals from major source markets, or present aggregate arrivals from origin regions.

Results

Figure 1 shows the outbound share of departures from the 92 source markets and the cumulative volume of arrivals, while Table 2 shows the summary data. The impact of distance on demand is self evident. Land neighbors attracted 53% of all departures in 2016, even though they represent only 282 (or 6%) of the origin-destination pairs. Almost 80% (78.6%) of all arrivals are to destinations with gateways cities less than 2000 km from a source market's gateway. The dominance of land neighbors must also be placed within the context that 16 of the source markets studied were either island nations or in the case of South Korea, a country where travel to immediate land neighbours was prohibited. Controlling for these source markets, the actual share of arrivals to land neighbours rises to 56.3%.

Moreover, as Table 2 indicates, the total volume of arrivals declines by a factor of almost five between land neighbors and the next nearest set of destinations before rising modestly. It then drops by a factor of almost two for arrivals between 1000 and 1999 km and 2000 to 2999 km and by a factor or more than two for arrivals to destinations located between 2000-2099 km and 3000 to 3999 km. Arrivals figures fluctuate in a narrow band for destinations located between 3000 and 10000 km, with the notable exception of a sharp decline between 4000 and 4999 km, which corresponds to many source markets'

ETEZ. They then fall again sharply after the 10,000 km distance threshold is crossed.

However, these aggregate numbers present a rather misleading impression of tourism flows, for a review of the median share of departures attracted to each distance cluster plus a comparison of destinations that attracted less than one percent of departures with those that attracted at least 5% of departures tells an even more dramatic story. Overall, median share per destination drops by a factor of 8 between land neighbors and nearby destinations, then halves again for destinations located between 1000 and 2999 km away. It halves once more to an insignificant median share of 0.2% for destinations located between 3000km and 12, 000 km. More than half of land neighbours attract at least 5% of departures from source markets, while this figure drops to fewer than one in 12 for destinations located between 1,000 and 5000 km from gateway cities. By contrast, only about one in seven land neighbours attract few than one percent of departures, with most being smaller countries located in eastern Europe, the former Soviet Union or bordering less developed Asian nations. This figure climbs to more than half for destinations within 1000 km and consistently to 80% or more of all destinations analyzed located more than 3000 km from gateway cities.

Insert Figure 1 and Table 2 about here

Figure 2 compares the findings of the earlier McKercher, Chan and Lam (2008) study using 2002 UNWTO data with this study to examine if and how tourist flows have changed. The dotted line showing the share difference between the two periods. Much has changed since the earlier study was conducted. In 2002, some 702 million international arrivals were recorded (UNWTO 2003a). Outbound travel was still heavily concentrated in developed economies in the Americas, Europe, Oceania and Southeast Asia, while China was just beginning to emerge as an important source market, generating only about 17 million outbound trips. Demand from traditional markets was thought to be dampened by weakness in their economies, lingering effects of the 911 terrorist attack, uncertainty about the war in Iraq and broader concerns about the potential for future terrorist activities (UNWTO 2003b). Tourist movements were also thought to

be constrained, with tourists staying closer to home and travelling for shorter periods of time (UNWTO 2003b). Fast forward to 2016, and and total arrivals are almost double the figure from 15 years earlier (UNWTO 2017a). Growth was robust, driven by a positive economic outlook in developed economies and the continued expansion of outbound tourism from China, Korea and India (UNWTO 2017b). Demand has also shifted from traditional Western markets to the Asia/Pacific region fueled predominantly by their strong economic performance and also by enhanced visa liberalization policies (UNWTO/WTTC 2014). Moreover, the growth of long haul low cost carriers and increased market liberalization has reduced the costs of long haul travel dramatically (Eurocontrol 2017).

While the demand curves are broadly similar, some differences are noted between the two study periods, suggesting tourists were travelling further afield now. Whereas in 2002, destinations located within 1000km of source markets accounted for 80% of departures, by 2016, this figure had fallen to less than 65%, with almost all of the decline noted in travel to countries within 1000 km of the source market. By contrast, destinations located between 1,000 and 4,999 km from source markets drew a larger share of arrivals (27.4% vs 22.7%). This trend does not continue for long haul travel, though, where the cumulative share of arrivals in 2016 was somewhat lower than that noted in 2002 (16.9% vs, 19.4%)

Insert Figure 2 about here

The rate of decay varies significantly by source market region, as shown in Figure 3. In general, a majority of arrivals from markets located in the Americas, Asia, Africa and former Soviet Republics are to neighboring economies, with up to 75% of arrivals from Asia occurring in countries that either border the source market or are located within 1,000km of it. By contrast the decay curve is much more elongated among European outbound markets, where the smallest aggregate share of land neighbour arrivals was recorded. Instead, almost half of all arrivals are to countries located up to 2000km from

the source market. This anomaly can be attributed to the size of most European countries, where it is possible to transit through neighbouring countries easily and still not travel long distances. According to Quora.com (2018), the average country size in Europe of 208,000 sq. km, compared to 570,000 sq. km in Africa, 929,000 sq. km in Asia and over one million sq. km in North and South America.

Insert Figure 3 about here

The impact of the Effective Tourism Exclusion Zone (ETEZ) is self evident in the case of outbound travel from island nations, for the demand curve is shifted, with the peak occurring between 2,000 and 2,999 km from the gateway city. Secondary peaks are observed between 8,000 and 8,999 km and at distances in excess of 12,000 km. Outbound travel from island nations in this study is skewed somewhat by the anomalous demand curves from Japan, New Zealand and Australia. Japanese outbound shows two distinct decay curves, one focused on short haul travel in Asia and the other on long haul travel. Likewise New Zealand outbound also has two curves. One corresponding to travel in the South Pacific and the other peaking with long haul travel to Europe. Three distinct patterns are observed in outbound from Australia, corresponding to the South Pacific (peaking in New Zealand), Asia (with a peak in Thailand) and Europe, with a peak in the UK.

Discussion

This study examined the impact of distance on international tourism flows through an analysis of more than 4700 origin-destination pairs. Distance continues to exert a significant impact on demand, in spite of changes in origins of source markets, increased outbound tourism flows and improved economic conditions. Some differences were noted though between the findings of the 2002 study where for example, a higher propensity of medium haul travel was noted, while the volume of demand noted at immediate land neighbors destinations located within 1000 km of gateway cities fell. This finding confirms at a global empirical level the observations by Wong et al (2016) and Croes et al (2016) that improvements in economic conditions can modify the demand

pattern somewhat. However, it must be noted, that the overall pattern remains robust, and so while improved economic conditions, coupled with reduction in travel costs associated with low cost carriers and increased market liberalization may reduce some barriers, the impact on overall flows is quite minor.

In particular, the high demand peak for land neighbours and proximate markets was much higher among Asian nations and former Soviet republics than elsewhere. Asia represents the growth engine for international tourism (UNWTO 2018), but in many ways the Asian market is still learning to travel. Previous studies comparing emerging and mature Asian markets (McKercher & du Cros 2008) indicates that residents from emerging markets prefer to travel closer to home and show a higher propensity to engage in package tourism, while residents of mature markets travel independent and are more willing to travel longer distances. This pattern was reinforced here. However, as they learn to travel and as the volume of outbound travel increases, the volume of people travelling longer distances will increase.

The findings confirm the applicability of Tobler's *First Law of Geography* within a tourism context, albeit with some minor modifications. As a 'law' demand did peak near to the source market, and a decay curve was noted, but in many instances was modified by the presence of an Effective Tourism Exclusion Zone. Indeed, at a regional level, former Soviet republics, Asian and African source markets were the only ones that displayed a classic distance decay curve, while those from the Middle East, the Americas and island nations tended to have a smaller secondary peak located beyond the outer edge of the ETEZ. European countries displayed something akin to a plateauing curve, which as mentioned is a function of the small size of many countries, meaning the transit distance between discrete countries is relatively small. In addition, the advent of low cost carriers has also made north-south travel inexpensive, serving to further elongate the peak before demand declines.

The findings also highlight a number of realities and challenges facing National Tourism Organisations (NTOs). To begin, the study confirms that proximate markets are and will

likely continue to be the largest source of arrivals in most destinations. Indeed, most destinations will continue to be reliant on such markets. This observation is not problematic for mature destinations, mature outbound markets or origin-destination pairs that have had a long standing stable relationship, for a degree of stasis has been observed (Lee et al 2012). It is unlikely that visitor numbers will fluctuate widely over the long term, although individual crises may have a short term affect (viz. the 2003 SARS epidemic). Moreover, it is also likely that a mature tourism sector has already been developed to cater for this market.

However, it could prove problematic for for rapidly emerging Asian markets where demand is growing incredibly fast. Nearby destinations may be at risk of being overwhelmed initially by large numbers of tourists that exceed the destination's ability to cater for them. Interventionist actions may be required in such cases to reduce or limit tourism flows. Options are limited, but one option that does exist is to implement stronger visa requirements as an artificial means to dampen demand. Neumaeyer's (2006) and Assaf & Josiassen's (2012), for example, reveal strong visa restrictions have a negative impact of the flow of travelers. Such actions may be needed until the tourist infrastructure and superstructure is developed further.

Politically, though, such actions are challenging as visa restrictions may mean a loss of needed foreign currency and can dampen demand. Instead, the trend is to ease visa requirements. But at what cost? The risk of over tourism occurring from large and growing proximate markets is ever present, regardless of actions NTOs may take to demarket destinations. Regional Asian destinations in particular will have to cope with large number of tourists from emerging source markets, including China, Korea, imminently India and possibly the Philippines and Vietnam as their economies grow.

Alternately, long haul markets may see a number of benefits in easing visa restrictions as a way of encouraging more long haul travel and of trying to ease the reliance on a small number of proximate markets. Clearly, liberalizing visa policies can result in significant increases in visitor numbers (Balli, Balli, & Cebecci 2013), with Lawson & Roychoudry

(2013) suggesting the elimination of visas can result in the tripling of arrivals. It may also be a strategy adopted to diversity short haul markets.

Distance decay theory suggests the the marketing cost per tourist attracted to a destination is much lower for destinations that share land border with source markets than for more distant destinations. This observations means that destinations will have to invest more heavily in distant markets should they wish to diversify their market base, and thus, retain a level of resilience should arrivals from proximate markets decline for any reason. However, the politics of tourism arise here where public sector bodies are being asked to become ever more accountable for their expenditure. Politicians who are ignorant of the realities of distance decay may question why NTOs invest in distant markets when they can get a greater return for lower costs by investing in proximate markets.

Conclusion

The frictional effect of distance continues to exert a profound decaying effect on travel from virtually all source markets. While distance in itself is not a deterministic variable, this study illustrates its continued impact as a proxy for a range of factors that can lead to an increase in desire tot ravel to nearby locations, and a concomitant reduction in demand for long haul destinations.

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Table 1: Profile of Source Markets

Origin	Total Departures	Number of destinations *	Total share of outbound volume reported (%)	Nearest destination	Furthest destination
Algeria	3,638,000	24	72.59	Land neighbor	10,000 km to 12,000 km
Argentina	10,297,000	45	113.94	Land neighbor	>12,000 km
Armenia	1,187,000	21	188.20	Land neighbor	9,000 km to 9,999 km
Australia	9,928,000	96	148.29	1,000km to 1,999km	>12,000 km
Austria	11,534,000	79	119.74	Land neighbor	>12,000 km
Azerbaijan	4,096,000	15	106.38	Land neighbor	9,000 km to 9,999 km
Bangladesh	1,416,000	36	146.00	Land neighbor	>12,000 km
Belarus	6,939,000	27	91.63	Land neighbor	8,000 km to 8,999 km
Belgium	10,835,000	92	135.24	Land neighbor	>12,000 km
Bolivia	1,048,000	32	128.27	Land neighbor	>12,000 km
Brazil	8,528,000	78	104.30	Land neighbor	>12,000 km
Bulgaria	5,392,000	55	129.30	Land neighbor	10,000 km to 12,000 km
Cambodia	1,434,000	19	82.91	Land neighbor	>12,000 km
Canada	31,278,000	96	106.68	Land neighbor	>12,000 km
Chad	94,000	29	90.46	Land neighbor	>12,000 km
Chile	3,553,000	51	109.95	Land neighbor	>12,000 km
China	122,000,000	54	87.07	Land neighbor	>12,000 km
Colombia	3,860,000	45	75.78	Land neighbor	>12,000 km
Cook Islands	14,000	9	98.32	2,000 km to 2,999 km	>12,000 km
Costa Rica	1,036,000	40	79.81	Land neighbor	>12,000 km
Croatia	1,615,000	71	83.00	Land neighbor	>12,000 km
Cyprus	1,268,000	49	78.38	<1,000 km	>12,000 km
Czech Republic	6,027,000	71	117.22	Land neighbor	>12,000 km
Denmark	8,991,000	82	95.67	Land neighbor	>12,000 km
Dominican Republic	500,000	39	94.84	< 1,000 km	>12,000 km
Ecuador	1,551,000	37	74.73	Land neighbor	>12,000 km
El Salvador	1,411,000	22	99.43	Land neighbor	>12,000 km
Estonia	1,250,000	57	214.64	Land neighbor	>12,000 km
Fiji	132,000	24	76.80	< 1,000 km	>12,000 km
Finland	9,130,000	66	68.38	Land neighbor	>12,000 km
France	26,648,000	121	170.30	Land neighbor	>12,000 km
Georgia	3,135,000	89	86.99	Land neighbor	10,000 km to 12,000 km
Germany	90,966,000	87	101.18	Land neighbor	>12,000 km
Greece	6,292,000	60	69.36	Land neighbor	>12,000 km
Guatemala	1,058,000	29	117.10	Land neighbor	>12,000 km
Honduras	692,000	29	150.22	Land neighbor	>12,000 km

Hong Kong, China	91,758,000	16	102.45	Land neighbor	
Hungary	7,091,000	59	89.99	Land neighbor	>12,000 km
Iceland	536,000	57	86.71	1,000km to 1,999km	>12,000 km
Indonesia	8,176,000	122	122.99	Land neighbor	>12,000 km
Ireland	7,094,000	71	103.15	Land neighbor	>12,000 km
Israel	6,781,000	75	67.56	Land neighbor	>12,000 km
Italy	30,849,000	100	97.81	Land neighbor	>12,000 km
Japan	17,116,000	80	131.31	1,000km to 1,999km	>12,000 km
Jordan	1,633,000	40	128.53	Land neighbor	>12,000 km
Kazakhstan	9,756,000	23	78.92	Land neighbor	10,000 km to 12,000 km
Korea	22,383,000	68	113.59	<1,000 km	>12,000 km
Kyrgyzstan	1,720,000	17	156.27	Land neighbor	
Laos	3,059,000	15	67.60	Land neighbor	>12,000 km
Latvia	1,242,000	57	110.18	Land neighbor	>12,000 km
Lithuania	1,953,000	59	212.50	Land neighbor	>12,000 km
Luxembourg	1,393,000	57	98.66	Land neighbor	>12,000 km
Macao, China	26,640,000	6	81.90	Land neighbor	10,000 km to 12,000 km
Malaysia	11,100,000	44	102.82	Land neighbor	>12,000 km
Malta	497,000	57	74.03	<1,000 km	>12,000 km
Mauritius	260,000	35	67.20	<1,000 km	>12,000 km
Mexico	20,222,000	42	106.38	Land neighbor	>12,000 km
Moldova	5,811,822	14	89.74	Land neighbor	2,000 km to 2,999 km
Netherlands	17,938,000	102	162.17	Land neighbor	>12,000 km
New Zealand	2,611,000	81	133.02	1,000km to 1,999km	>12,000 km
Nicaragua	981,000	14	71.78	Land neighbor	>12,000 km
Panama	770,000	37	75.70	Land neighbor	>12,000 km
Paraguay	1,503,000	22	81.02	Land neighbor	>12,000 km
Philippines	9,114,000	55	72.49	1,000km to 1,999km	>12,000 km
Poland	10,900,000	77	136.73	Land neighbor	>12,000 km
Portugal	1,893,000	95	275.96	Land neighbor	>12,000 km
Romania	16,128,000	47	110.60	Land neighbor	10,000 km to 12,000 km
Russian Federation	31,659,000	75	79.82	Land neighbor	>12,000 km
Samoa	54,000	20	81.71	<1,000 km	>12,000 km
Saudi Arabia	21,118,000	35	74.58	Land neighbor	>12,000 km
Singapore	9,174,000	38	223.31	Land neighbor	>12,000 km
Slovakia	3,095,000	62	161.07	Land neighbor	>12,000 km
Slovenia	2,853,000	48	80.90	Land neighbor	>12,000 km
South Africa	5,414,000	65	116.90	Land neighbor	>12,000 km
Spain	15,405,000	99	149.41	Land neighbor	>12,000 km
Sri Lanka	1,448,000	38	68.08	<1,000 km	>12,000 km
Sweden	15,917,000	79	79.16	Land neighbor	>12,000 km
Switzerland	13,601,000	94	154.91	Land neighbor	>12,000 km
Taiwan	14,589,000	39	112.00	<1,000 km	>12,000 km
Thailand	8,204,000	41	130.27	Land neighbor	>12,000 km

Tunisia	1,830,000	29	69.09	Land neighbor	9,000 km to 9,999 km
Turkey	8,751,000	75	104.41	Land neighbor	>12,000 km
Uganda	568,000	68	68.19	Land neighbor	>12,000 km
Ukraine	24,668,000	44	111.36	Land neighbor	10,000 km to 12,000 km
United Arab Emirates	3,500,000	50	84.99	Land neighbor	>12,000 km
United Kingdom	69,375,000	99	100.94	Land neighbor	>12,000 km
United States of America	73,453,000	116	133.44	Land neighbor	>12,000 km
Uruguay	1,715,000	34	75.86	Land neighbor	>12,000 km
Uzbekistan	5,310,000	16	81.38	Land neighbor	10,000 km to 12,000 km
Vanuatu	25,000	20	87.28	< 1,000 km	>12,000 km
Venezuela	1,539,000	56	175.62	Land neighbor	>12,000 km
Vietnam	4,800,000	34	129.30	Land neighbor	>12,000 km
All	**1,075,746,822**	**4714**	**109.02**		

* Arrivals that are at least 0.04% of the origin's outbound volume

Table 2: Summary of 2016 Data by Distance

Distance	Number of source markets per distance category	Number of origin-destination pairs per distance category	Total volume of arrivals	Arrivals as share of departures (2016)	Share range (%)	Mean share of departures per individual destination	Median share of departures per individual destination	% of destinations attracting <1.0% of departures	% of destinations attracting > 5% of departures	*Total share of departures 2002)*
land neighbor	76	282	573,275,277	53.3	0.04 – 144.68	16.6	7.9	15.2	58.9	*56.1*
< 1,000 km	70	371	120,534,507	11.2	0.04 – 51.42	3.0	0.9	52.3	14.8	*24*
1,000 to 1,999 km	83	760	151,528,526	14.1	0.04 – 65.99	1.6	0.4	69.6	7.6	*13*
2,000 to 2,999 km	90	562	88,335,450	8.2	0.04 – 69.93	1.9	0.4	70.1	7.8	*5.4*
3,000 to 3,999 km	84	351	34,005,581	3.2	0.04 – 77.03	1.5	0.2	80.9	5.7	*2.7*
4,000 to 4,999 km	74	202	19,860,908	1.9	0.04 – 26.65	1.3	0.2	80.7	7.4	*1.6*
5,000 to 5,999 km	71	206	35,460,539	3.3	0.04 – 13.18	1.0	0.2	79.1	5.3	*4.4*
6,000 to 6,999 km	62	227	28,033,766	2.6	0.04 – 10.51	0.6	0.2	81.9	1.3	*2.9*
7,000 to 7,999 km	72	319	25,941,676	2.4	0.04 – 19.86	0.6	0.2	86.8	2.2	*2.5*
8,000 to 8,999 km	74	350	29,340,346	2.7	0.04 – 20.90	0.5	0.2	89.4	1.4	*2.7*
9,000 to 9,999 km	77	342	29,956,199	2.8	0.04 – 8.91	0.5	0.2	87.1	1.2	*2.2*
10,000 to 11,999 km	78	321	19,642,537	1.8	0.04 – 11.18	0.5	0.2	90.0	1.2	*2.8*
12,000 km and more	77	421	16,839,419	1.6	0.04 – 13.56	0.4	0.1	91.7	0.7	*1.9*
Total	92	4714	1,172,754,731	109.1	0.04 – 144.68	2.1	.3	74.6	8.4	*122.2*

Figure 1: Arrival Volume and Departure Share by Distance 2016

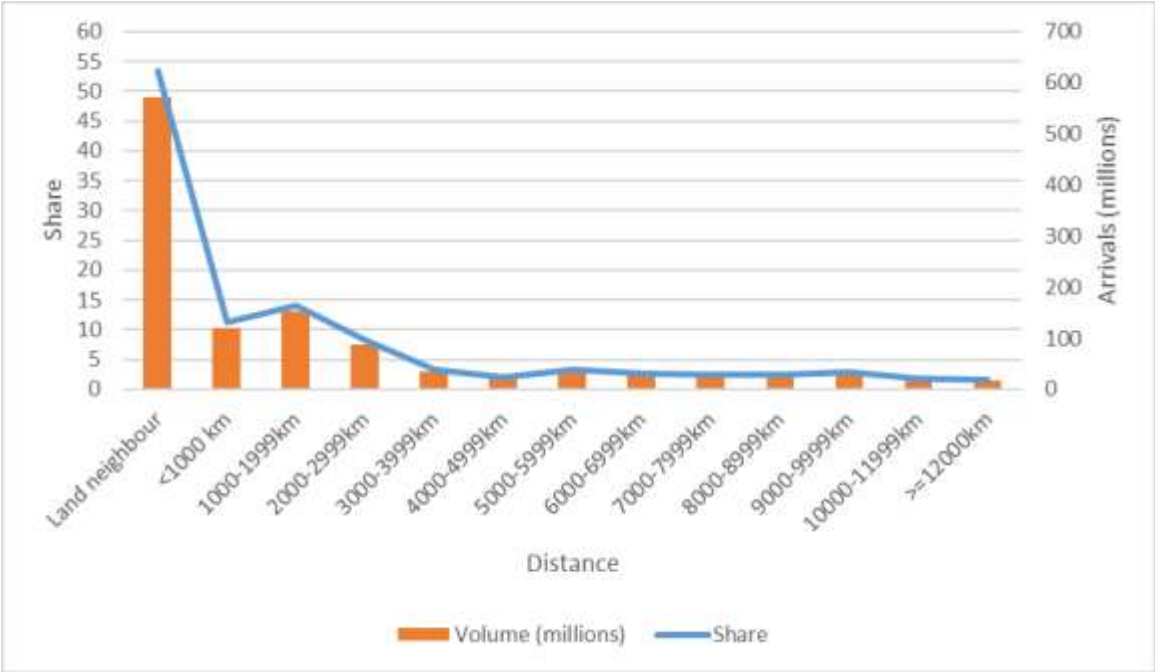


Figure 2: Comparing Share of Arrivals 2002 and 2016 data

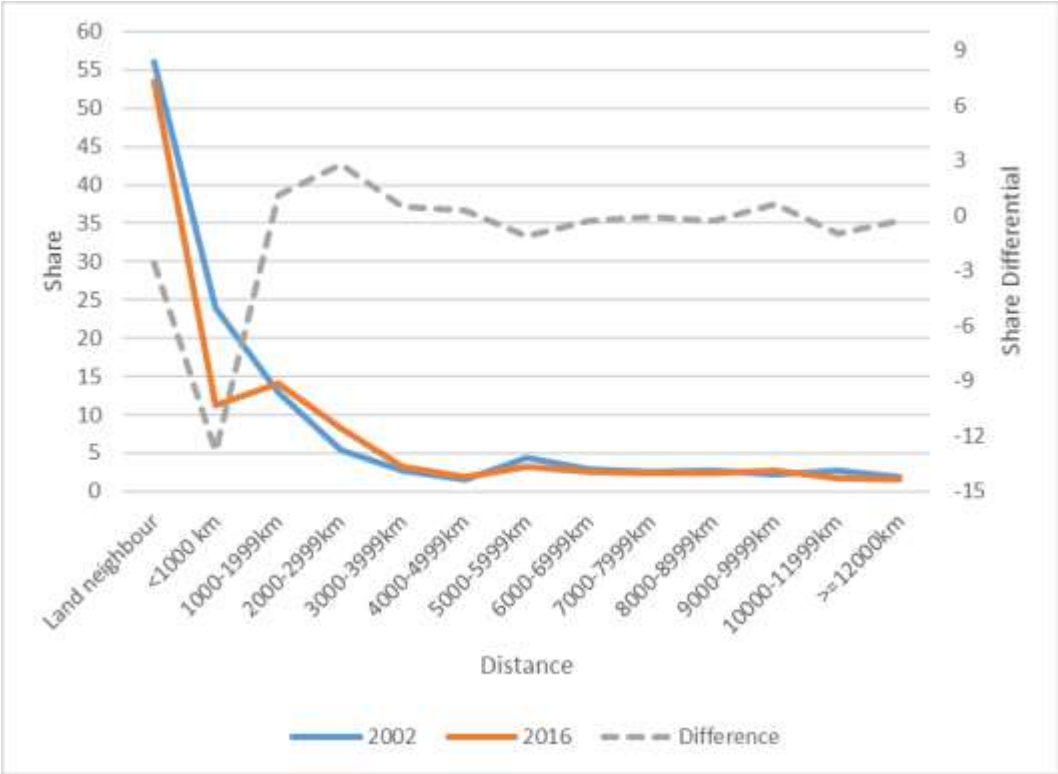
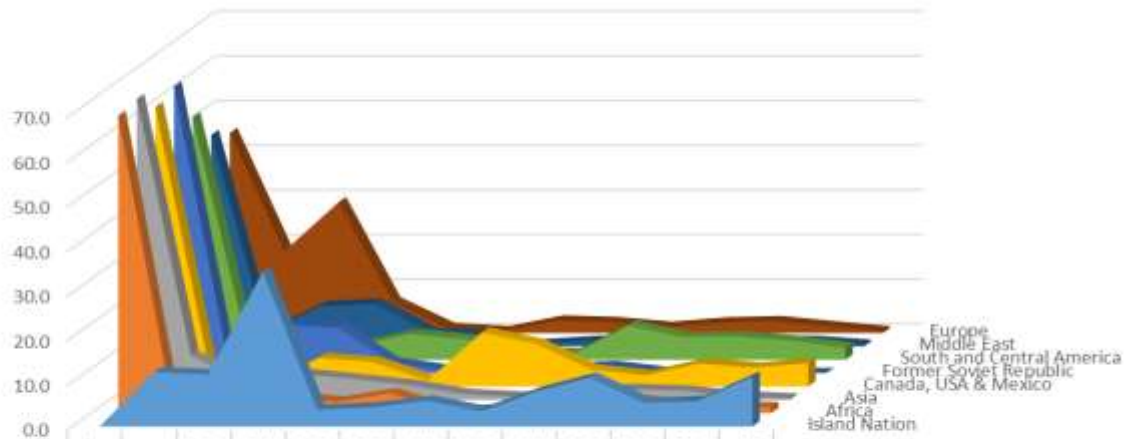


Figure 3: Outbound Share by Region



	share border	< 1000 km	1,000 to 1,999 km	2,000 to 2,999 km	3,000 to 3,999 km	4,000 to 4,999 km	5,000 to 5,999 km	6,000 to 6,999	7,000 to 7,000 km	8,000 to 8,999 km	9,000 to 9,999 km	10,000 to 12,000 km	>12,000 km
Island Nation		12.2	11.6	34.6	3.8	4.3	5.8	3.4	7.8	11.0	5.3	5.7	11.2
Africa	66.6	1.4	2.4	3.9	2.5	4.5	0.5	0.9	1.2	3.5	2.4	1.6	1.3
Asia	67.4	9.8	3.6	5.8	4.6	3.3	1.3	0.7	2.0	2.4	2.1	0.8	0.3
Canada, USA & Mexico	62.6	3.5	0.4	6.4	5.5	1.3	12.1	9.5	3.8	2.5	5.2	4.3	5.3
Former Soviet Republic	64.2	2.4	10.8	10.2	2.4	0.6	0.7	1.1	1.6	0.2	0.3	0.1	0.0
South and Central America	54.4	3.6	3.1	3.3	5.9	4.6	1.8	1.4	7.7	5.2	5.2	4.3	2.7
Middle East	47.4	3.2	9.0	9.6	3.1	2.5	0.5	1.3	1.0	0.7	1.4	1.3	0.4
Europe	44.8	18.3	29.3	6.9	1.2	0.4	2.8	2.5	1.4	2.4	2.7	1.5	0.4