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THE AMERICAN INVASION OF EUROPE:
THE LONG TERM RISE IN OVERSEAS TRAVEL, 1820-2000

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ABSTRACT

Tourism today is an activity of substantial economic importance worldwide, and has been for some time. Tourism is also of substantial economic importance in the United States, sufficient to warrant the Bureau of Economic Analysis's establishing special accounts on travel and tourism. In this paper we investigate the long term rise in overseas travel by Americans. Over the course of the nineteenth and twentieth centuries the number of Americans going abroad rose from less than 2,000 travelers to over 26 million. The industry went from one confined to the elite of American society to what some have described as mass tourism. We document this rise by compiling a long term series on overseas travel, and describe the changes in the composition of the travelers, their destinations, and their mode of travel. We use an Error Correction Model to explain how the increase came about.

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In early 19th century America, the term tourist seemed to refer primarily to someone who was going to Europe.¹ Thomas Jefferson, who traveled through the South of France in 1787, may not have been labeled as such, but he was nevertheless one of the earliest and more famous American tourists.² He was not alone, but given the costs of travel and average incomes, as well as the difficulties of crossing the Atlantic, foreign travel could not have been of much importance to Americans at the time.³ Without doubt foreign travel was an experience restricted to wealthy Americans, and even they must have been few in number. Although we do not know how many other Americans were traveling in Europe when Jefferson was there, it could not have been much more than 1,000. That meager start, however, was the beachhead for the invasion that was to come as international travel by Americans rose enormously to where now well over 25 million travel overseas annually.⁴ Expenditures on travel abroad and passenger fares paid to foreign flag carriers now amount to 30 percent of all service imports in the U.S. International Accounts.⁵

¹ It was also used to refer to those who visited the natural scenic wonders in America, but it does not seem to have been applied to those who were doing a variety of other things which we now think of as tourism. See Cocks, *Doing the Town*, p. 10. Dona Brown, (*Inventing New England*, p.18) considers travelers such as Alexis de Tocqueville and Harriet Martineau as tourists in the mode of those who followed the grand tour that had been established in Europe.

² Jefferson's trip is described in Roy and Alma Moore, *Thomas Jefferson's Journey to the South of France*.

³ Although small, the numbers were large enough to have called forth a traveler's handbook in 1757 and by 1838 the first guidebook to Europe for Americans. Levenstein, *Seductive Journey*, pp. 4 and 33. For a description of the difficulties one might encounter on the journey, see Levenstein, *Seductive Journey*, pp. 15-21. Conditions improved in 1818 when new packet ships provided greater comfort, and perhaps esp., fresh food. See also Twain, *The Innocents Abroad*, for a discussion of the difficulties of the crossing even later in the century.

⁴ The sources are described in the notes to Table 1. The number traveling to all foreign destinations (i.e. overseas, as well as to Canada and Mexico) exceeds 60 million a year.

⁵ This is down somewhat from the 40 percent shares that prevailed in the 1980s and 1990s. Bureau of Economic Analysis, "U.S. International Transactions Accounts Data," www.bea.gov, March 14, 2006, Table 1. Such expenditures amount to 5 percent of all goods and service imports.

Despite the fact that international tourism has long been a growing part of the U.S. economy, and has experienced numerous fluctuations and several substantial upsurges to new levels of travel, not much has been written about its economic history. How, and even when, did what Daniel Boorstin has called the “great tourist invasion of Europe” come about?⁶ Although a few writers have tried to characterize the rise in travel, their descriptions were almost exclusively narrative with colorful opinions and very little quantitative evidence. In his interpretive essay, Boorstin wrote that soon after American Express sent out its first tour in 1919, “the great backwash had begun,” with American tourists invading Europe in great numbers.⁷ Writing about the same time, Foster Rhea Dulles also put the upsurge in American travel in the post-World War I period, but did not describe it in such pejorative terms.⁸ In his view, throngs of Americans began traveling to Europe between the two world wars for a carefree vacation, not for culture and education that had motivated earlier travelers. William Stowe pushes the boom farther back in time writing of a tourist boom in the 19th century in which “the tide of early nineteenth century became a torrent and the American tourist in Europe became a commonplace.”⁹ More recently, Lynne Withey supports this view, arguing that package tours made travel more accessible to middle income Americans in the late 19th century, decades before American Express entered the business.¹⁰ In contrast, those in the travel business have seen it differently. Glenn Cramer, President of Trans International Airlines, in testimony before the Senate aviation committee

⁶ Boorstin, *The Image*, p. 90. The title of our paper is a rephrasing of his colorful text.

⁷ Boorstin, *The Image*: p. 90.

⁸ Dulles, *Americans Abroad*. Although he does not present statistics in a systematic, formal way, he does blend them judiciously, if sparingly, with anecdotes, memoirs, and reasoned judgment about the tourist trade. He labeled travel in the early 18th century as “A First Invasion.” (Ibid, p. 26).

⁹ Stowe, *Going Abroad* p. 8.

¹⁰ Withey, *Grand Tours and Cook’s Tours*, chap. 6.

claimed in 1968 that “only six out of every 100 Americans had ever been abroad,” the reason being that the costs had limited such travel to “the affluent, the privileged few.”¹¹

With the exception of the last claim, few if any statistics were provided to document the size and timing of the tourist tide. This is our attempt to fill in the gap. The data are as yet too sparse to permit thorough analysis and explanation of the industry’s history, so here we must be content with describing the major developments and speculating on the forces explaining the industry’s growth over the 180 year period 1820 to 2000, as well as over the two major subperiods: the pre-World War I period (1820 to 1914) and the post-World War I period (1920 to 2000) which was marked by another world war and the Great Depression. In summary, overseas travel by Americans rose at an average annual rate of around 5.0 percent per year from 1820 to 2000, a rate that exceeded the growth of population or GDP by a noticeable amount.¹² Despite their slower growth, those two variables helped to propel international tourism upward to a large extent. The history of overseas travel, however, is not only that of a robust, quantitative upsurge. Over time there were notable changes in the composition of the tourists and in the nature of travel, as well as improvements in transportation, especially the advent of air transportation.¹³

¹¹ “Charter Airlines Push for Tours,” *New York Times*, June 13, 1968

¹² The number of overseas travelers rose faster than real exports which grew around 4.3 percent per year over this same period. Nominal exports rose at 5.4 percent per year between 1820 and 1999, while export prices rose around 1.1 percent. Carter, et al, *Historical Statistics of the United States*, Vol. 5, Series Ee366 for nominal exports of US merchandise, and Series Ee434-443 for export prices.

¹³ There were also substantial fluctuations and several noticeable upsurges in the numbers of travelers, especially before World War II. These variations are summarized below, and examined more fully in Gandhi and Weiss, “Fluctuations in Overseas Travel by Americans, 1820 to 2000.” Mimeo, University of Kansas, 2007.

The Data

The statistics that describe the historical record of overseas travel come from official government reports. Despite that official status, they do not provide a precise and consistent count of the number of Americans traveling abroad in any year, and the uncertainties are greater for the nineteenth century. The long term series shown in Figure 1 and Table 1 is made up of statistics that are titled “Ocean-bound Tourists” for the period before 1900, “Arrivals of U.S. Citizens” for the period 1901-1918, and “Overseas Travelers” for the period 1919 to 2000. Although each series was intended to measure the same thing, there are differences. Each series was an attempt to measure the number of Americans who had been overseas at any time that year in order to estimate the amount of money spent abroad for purposes of calculating the Balance of Payments. For the nineteenth century, the estimated number of “ocean bound tourists” equals the reported numbers of American citizens arriving in the United States by sea that year inflated by three percent to account for those who remained abroad.¹⁴ For the period 1900-70, figures are available on “Arrivals of U. S. Citizens,” a series that is similar in concept and coverage to that for the nineteenth century in that it “excludes travel over international land borders.”¹⁵ With adjustment to account for those who may have remained abroad, these data provide an extension of the ocean-bound tourist series well into the twentieth century.¹⁶ For the period since 1919, the U.S. Bureau of Economic Analysis (formerly the Office of Business Economics) has compiled a

¹⁴ North, “Balance of Payments,” p. 618; Simon, “Balance of Payments,” p. 664. These authors used arrival data because departure data were not collected until 1908.

¹⁵ *Historical Statistics of the United States*, Series C: 297 for 1908 to 1970, and U.S. Department of Commerce, “Oversea Travel and Travel Expenditures” for 1900 to 1908. The latter was reprinted in part in *Survey of International Travel*, 1956, Appendix, pp. 44-45, Tables XII and XIII. Although these series were to count American citizens, it appears from the returns for the mid-1880s that resident aliens were included as well.

¹⁶ We inflated these arrival data by 3 percent in order to be consistent with the estimates for the nineteenth century.

series on “overseas travelers.”¹⁷ This series is comparable to the ocean-bound tourist series in that it excludes travel to Canada and Mexico. It is, however, based on departures rather than arrivals, takes into account the travel of resident aliens as well as citizens, and excludes cruise travel.¹⁸ Nevertheless, as can be seen in Figures 2 and 3, the various series move in close correspondence in the periods in which they overlap.¹⁹

Moreover, the statistics do not distinguish tourists from those traveling for other reasons. Today, while the Bureau of Economic Analysis measures tourism demand, it does not use the term tourist to describe those who demand the service. Although tourist is the term used in more common parlance to describe someone engaged in tourism, the BEA and other official government agencies use the term “visitor” because it better describes the travel activities included in the Travel and Tourism Satellite Accounts than does the term tourist, “which connotes a person who travels for leisure only.”²⁰ According to the BEA, “travel and tourism [is] the economic activity generated inside the United States by ‘visitors’ of all types – for business and pleasure, by residents and nonresidents alike -- and outside the United States by

¹⁷ See *Historical Statistics of the United States*, series H:921 and *Statistical Abstract of the United States*, various issues, for 1955 to 2000.

¹⁸ Cruise travel appears to have been relatively unimportant before 1930. The Immigration and Naturalization Service of the Department of Labor began collecting statistics on cruise travel in 1932, in which year it was estimated that 68,973 citizens and 2,942 alien residents took cruises. Maffry, “Overseas Travel and Travel Expenditures,” p.40. Estimates of cruise arrivals made by The United States Shipping Board estimated that the number of residents returning from cruises was approximately 4,000 to 5,000 per year in the period 1919-25, 9,000 in 1926, 11,000 in 1927, 15,000 in 1928, 18,000 in 1929, 29,000 in 1930 and 62,000 in 1931. *Ibid*, p. 94.

¹⁹ Figures for departures of U.S. citizens are available for the period 1908 to 1970. See *Historical Statistics of the United States*, Series C:300. We have included the departure series in Figures 2 and 3 for comparison with that for arrivals and overseas travelers. As can be seen there is a very close correspondence between the series in both levels and movements.

²⁰ Okubo and Planting, “U.S. Travel and Tourism Satellite Accounts for 1992,” fn 4.

U.S. residents.”²¹ A visitor is simply someone who “either travels outside of his or her usual environment for a period of less than one year or who stays overnight in a hotel or motel.”²²

Clearly, people travel for many different reasons such as leisure, business, government service, education, and for many varied personal activities. The latter could include travel for reasons related to one’s health or for family matters, which could include the simple act of visiting family or a more serious task such as an immigrant returning to his or her native country to retrieve family members. There are reasons why one would want to delineate these different types of travelers. If one were interested in the demand for leisure activities or in the development of policies to attract tourists, then a narrow measure of travelers that excluded those traveling for business, personal reasons, and so on, would be preferred. If, on the other hand, one were interested in the balance of payments, or in understanding the provision of the supply of tourist-related services, such as hotels and restaurants, then a broader measure would be appropriate.

It is, however, difficult to know the motivation behind some travel or what people actually did on their travels. Trips are often multipurpose. While it might seem straightforward to distinguish business from leisure travel, in practice it is not always clear what the visitor actually did.²³ The boundary between travel for leisure and that for personal or family reasons is even more vague.

²¹ This definition and the measurement of tourism follow guidelines developed by the World Tourism Organization and the Organization for Economic Cooperation and Development. Okubo and Planting, “U.S. Travel and Tourism Satellite Accounts for 1992,” p. 8.

²² Ibid, p. 11.

²³ The IRS in effect has sanctioned this ambiguity. The IRS guidelines to determine whether a trip abroad was business or not, and to allocate travel expenses to business or non-business activities, rest on the percentage of the trip that was business, measured by the share of the total travel days that can be counted as business days. The rules, however, leave great leeway for

If the proportion of visitors who were strictly tourists did not change over time, there would be little need to be concerned about motivation. That was not the case, however, as the composition did change over time. But, while the composition may have fluctuated from time to time, perhaps even year to year, the evidence indicates that non-business travel was quite large at least by the mid-nineteenth century and increased in relative importance over time.²⁴ Thus the trend in overseas travel for all visitors, understates the rise in the number of non-business travelers.

In the mid-nineteenth century, those traveling abroad for tourism and for the dual purpose of business and tourism comprised the bulk of the passengers. Raymond Cohn's analysis of passengers arriving on sailing ships between 1836 and 1853 puts the share of those traveling for tourism and business-tourism combined around 63 percent, while those traveling for only business comprised 25 percent.²⁵ A newspaper columnist writing in 1866 confirms the importance of tourism. "Scientific and literary researches call a few away from home, but the majority of those who have recently made up the bulk of English steamer passengers are pure pleasure seekers."²⁶ Passport data provide evidence for much of the twentieth century. Although

engaging in leisure activities on a day that counts as business. So long as one's presence is required at a particular place for business reasons, a day can be counted as a business day "even if you spend most of the day on nonbusiness activities." See "Travel, Entertainment, Gift and Car Expenses" Department of the Treasury, Internal Revenue Service, Publication 463, 2006, p. 7.

²⁴ Among non-business travelers in U.S. history were many immigrants who made return trips to Europe, repeatedly in some cases, to visit family and retrieve family members. Such travel could lead to substantial variation over time in the reasons for travel, and may help explain some of the upsurges in travel, especially after 1880. See Drew Keeling, "Repeat Migration between Europe and the United States, 1870-1914" (July 7, 2006). *Institute of European Studies*. Paper 050411. <http://repositories.cdlib.org/ies/050411>.

²⁵ Those traveling for other reasons, namely for government business and retrieving one's family, made up the rest. The latter group would qualify as visitors under current definitions. Cohn, "Transatlantic U.S. Passenger Travel," Table 5.

²⁶ "Americans Abroad," *New York Times*, April 29, 1866.

the figures must be used with caution, they suggest that business travel declined in relative importance from the mid-twentieth century on. Conversely, tourism would have been growing faster than shown in Figure 1.²⁷

In 1948 when the government began to compile passport data by characteristic of travel, only 19 percent of travelers reported business as the reason they were applying for a passport.²⁸ Only 14 percent specified they were traveling for pleasure, but more than half (55 percent) listed personal reasons, and while this may have included some business travel, it would appear most were traveling for pleasure.²⁹ The percentage reporting “personal reasons” declined through the mid-fifties and as it did so, the shift appears to have been entirely into the pleasure category. Those traveling for business declined almost continuously from that high share of 19 percent in 1948 to as low as 1.5 percent in 1969.³⁰ And, it seems likely that the business share in 1948 was unusually high, perhaps reflecting special circumstances surrounding the immediate post-World War II years. In a special study on overseas travel covering the period 1929 through 1938, the reasons for travel resemble closely the lower business shares found for the years after 1954.³¹

²⁷ The figures refer to passports issued, not travelers; and a single passport may cover more than one trip and even more than one person. Moreover, the travelers’ plans may have deviated from that listed in the passport application.

²⁸ *Historical Statistics*, Series H: 899-908. The detailed returns on characteristics of travel for that year covered only 9 months, but the percentages were close to those for 1949, the first full year of coverage. In that latter year, 55 percent again said personal reasons, whereas 25 percent listed pleasure and only 10 percent listed business.

²⁹ Another 8 percent listed educational reasons and 5 percent specified religion and health, both of which may be taken as forms of tourism. Pilgrims were among the earliest of tourists in Europe, and visitors to health spas were the initial tourists in the United States. .

³⁰ Beginning in 1956, the number of those whose passport was issued for the purpose of traveling on governmental business was reported, and equaled about 20 percent of those traveling for nongovernmental reasons, or 15 percent of the total number of passports issued. That share remained at roughly that same level for a decade and then declined slowly reaching 7 percent in 1970.

³¹ Maffry, “Overseas Travel and Travel Expenditures,” pp. 47-48, Table 24.

That study indicates that travel for business was listed in only 7 to 11 percent of the passport applications. Over 80 percent of the applications in every year between 1929 and 1938 stated either 'pleasure' or 'family reasons' as the purpose of travel.

Despite the shortcomings and ambiguities of the definition of tourist and of the evidence measuring their number, we shall proceed as though these series describe the numbers of persons engaged in tourism as defined in the official Travel and Tourism Satellite Accounts. And while these visitors traveled for many different reasons, we shall refer to them for the most part as tourists. After all, that is how they were labeled by those who produced the estimates for the nineteenth century, and, the bulk of those traveling and applying for passports appear to have been doing just that.

Who Went and Where Did They Go

The early travelers were predominantly male, and remained so for quite some time. Although we do not have a continuous series on the sex composition of travelers, three separate series make clear that women became an increasingly larger part of the market over time (see Figure 4). Before the Civil War, women made up 10 to 20 percent of the overseas travelers, while afterwards their share ranged between 30 to 40 percent, up until World War I. Between the World Wars, their share fluctuated substantially, and exceeded 40 percent by the end of the period. It was only after the Second World War that women came to account for 50 percent or more of Americans traveling overseas.

This rise in overseas travel by women merits further examination and explanation, but a rough outline can be suggested here. Prior to the Civil War only wives of a few wealthy men went abroad. After that War there must have been some increase in the number of wives

accompanying their husbands, but a few adventuresome, single women may have joined them. The increase after World War I may reflect in part the effort made by shipping companies to attract women passengers. The *Aquitania* was advertised as “A Ladies Ship,” and an on-board newsletter provided tips for single women travelers. Some ships, perhaps the *Aquitania* among them, employed stewardesses to tend to single female passengers.³² After World War II, airlines made a similar effort.³³ But the efficacy of these efforts has not been examined, and it may be that the rise in women was due more to rising incomes and reduced fares, as appears to be the case for the rise in overseas travel in general. Moreover, women’s experiences during the wars, especially World War II, may have made them more interested in travel.³⁴

Americans traveling abroad in the eighteenth and early nineteenth centuries had to have been the elite of society who joined British visitors on the Grand Tour of the Continent.³⁵ By the middle of the eighteenth century thousands of English, predominantly men and especially the sons of the well-to-do, were making the tour.³⁶ Although the British toured France, Switzerland, the Netherlands and Germany, many were to a large extent traveling through those places in order to get to Italy.³⁷ Americans probably did likewise. Even Thomas Jefferson whose travels were primarily in France, perhaps in large part because he was stationed there as Minister to France, made an incursion into Italy. Whether the early American tourists made it to Italy or not,

³² Coons and Varias, *Tourist Third Cabin*, p. 112.

³³ See for example the TWA brochure “Show Me.”

³⁴ Litoff, “Enforced Tourists.”

³⁵ Some successful Quaker merchants from Philadelphia sent their sons on the Grand Tour in the 19th century, even though they may have been fearful that the experience would alter their attitudes towards Quaker ideals. Tolles, *Meeting House and Counting House*, p. 139.

³⁶ Withey, *Grand Tours and Cook’s Tours*, chap. 1. The British aristocracy had begun traveling to the continent as early as the sixteenth century.

³⁷ Withey, *Grand Tours*, p. 7

there is no question that their primary destination was Europe. Although wars disrupted travel to Europe for short periods of time, the Old World continued its hold on American tourists until World War II, and even today still attracts around half of the overseas travelers.

Although we do not have statistics that pertain to destinations for the earliest part of the nineteenth century, beginning in 1856 we do have data on the number of U.S. citizens arriving at various ports.³⁸ Assuming that those who arrived at the East coast ports of New York, Philadelphia and Boston were returning from Europe, then 90 percent or more of U.S. citizens traveling abroad in the mid-nineteenth century had gone to Europe.³⁹ See Figure 5A. New York dominated the arrivals with its share of all returning U.S. citizens running between 75 and 90 percent between 1856 and 1868.

There were only a handful of other ports identified for the nineteenth century. These included Baltimore, New Orleans and Key West, Florida, each of which may have received some citizens returning from Europe, but for the most part must have served the West Indies, other Caribbean destinations, as well as Central and South America. In any case, the numbers arriving at Baltimore were not large, running around 100 to 200 through 1866, rising thereafter, but not exceeding 1,000 until 1887. The figures for Key West were even smaller throughout the period, only 54 people in the first year and running around one percent of all arrivals for the entire period. The number of those arriving at New Orleans was quite a bit larger than that for either Baltimore or Key West in almost every year. In 1858, the first year for which figures were

³⁸ *Statistical Abstract of the United States*, 1890, Table 153 and 1909, Table 50. Bear in mind that these statistics do not include those arriving by land from Canada and Mexico, and arrivals from British North American Possessions and Mexico were not included in the port arrivals after July 1, 1885.

³⁹ The figure for Boston included the port of Charlestown, and we have included as well the figures reported for Portland and Falmouth, Maine.

reported for New Orleans, arrivals of U.S. citizens totaled 2,029 or 9 percent of all those arriving. The figure remained at that level and relative importance for a few years, but then dipped considerably and ran around one to two percent in most years. In each year up through 1868 there was another 10 percent or less who arrived at “all other ports” in the country, so it would seem that 80 percent or more of American travelers were going to Europe.⁴⁰

The importance of Europe began to change somewhat after the Civil War, and more precisely after 1868, the first year in which substantial numbers of Americans arrived at two West coast ports: San Francisco and Puget Sound.⁴¹ In that year the two ports reported 1,270 arrivals or roughly 3 percent of the total, with the share rising to around 15 percent in most years up to 1884. From 1884 to 1889 the number and share of arrivals swelled even further with the return of large numbers of Chinese.⁴² Beyond the increase in arrivals to these two West coast ports, suggesting an increase in travel to Asia, there was an increase in the number of passengers arriving at a set of unspecified ports between 1869 and 1888, and especially in the period 1871 to 1874. In those three years these ‘all other ports’ accounted for 30 percent, 30 percent and 17 percent of all arrivals.

Despite those temporary bursts in the number of Americans returning to ports outside the northeast, ports in the latter region remained dominant up through the opening decade of the

⁴⁰ *Ibid*

⁴¹ There were no reports of arrivals at these two ports before 1868 except for one returning citizen reported at San Francisco in 1859. *Ibid.*

⁴² The return of large numbers of Chinese was specified for 1886 through 1889, but not for 1884 and 1885. Given the large jump in the numbers of arrivals at these West Coast ports from 8,398 in 1883 to 19,987 in 1884 and 25,902 in 1885, there must have been a large number of Chinese returning in those years as well. *Ibid.* It is possible that these Chinese were not U.S. Citizens, but resident aliens. Although published reports list the category as ‘U.S. citizens returning,’ in the original documents it is titled “Country to which they belong.’ See August Maffry, “Overseas Travel,” p.4..

twentieth century. In 1909 eighty five percent of arriving U.S. citizens landed at East coast ports, reflecting no doubt that Europe was still the major tourist destination. That share declined in subsequent years, but remained around two-thirds on the eve of World War I. The share of course declined during the War and in the immediate post war period, but by 1921 was back to two-thirds of the total.

From 1919 onward the data on the destinations of overseas travelers that underlie the international balance of payments are available, as well as data on arrivals and departures by area of embarkation, and passport data showing the intended area of travel. These figures are compared in Figure 5B, all of which, except the passport data, show approximately the same picture as regards the importance of Europe as a travel destination. Europe's share of American travelers ran around 65 percent once normalcy returned after World War I until 1934. Thereafter the share began to decline, sharply so during World War II. Travelers returned to Europe slowly after the War because the continent was in no position to accommodate large numbers of them immediately after the War, but Europe's share has never returned to its pre-War levels. Since World War II, Europe's share has hovered between 45 and 55 percent in most years.⁴³

In the Cold War era, it has been argued that travel to Asia, Africa and Latin America increased in importance as the Kennedy Administration promoted the Peace Corps, and the idea that these volunteers would go “where no American has ever lived or even traveled.”⁴⁴ If so, this is barely evident in the data (Figure 5C). The share going to Asia, Africa and Oceania (labeled as ‘Other’ in Figure 5C) did increase after World War II, but did so slowly until the

⁴³ Passport data tell a different story, showing Europe as the destination listed by around 80 percent of those who applied for passports after the War.

⁴⁴ Endy, *Cold War Holidays*, p. 148.

1980s, and most of the increase, including a sharp jump in 1985, came at the expense of Central America and the Caribbean, not Europe.⁴⁵

How Did They Get There

For most of the period, tourists traveled to and from their destinations by sea.⁴⁶ The evidence we have goes back in time only to 1931, in which year 98.5 percent traveled by sea. See Table 2. Prior to that the share must have been that high, and for most of the period it had to have been 100 percent.⁴⁷ Lindbergh, after all, had not completed his non-stop transatlantic flight until 1927. The first regular international commercial passenger flights began in 1920 with service between Key West, Fl and Havana, Cuba, but transatlantic passenger service did not start until 1939.⁴⁸

World War II marked a turning point in the mode of travel used by travelers.⁴⁹ In 1940 and earlier, the percentage of travelers arriving by sea was 90 percent or greater. During World War II, and the years immediately preceding it, travel fell off considerably, and a larger percentage of the much reduced number of travelers went by air. This no doubt reflected the

⁴⁵ The share of Americans traveling to Africa, Asia, the Middle East and Oceania jumped from 16 percent in 1984 to 23 percent in 1985, while the share going to the Caribbean and Central America dropped from 30 to 22 percent. See Table 6.

⁴⁶ The evidence we have is on arrivals, so we are assuming they departed by the same mode.

⁴⁷ According to Asif Siddiqi, "The Beginnings of Commercial Transatlantic Services" there were "hundreds of transatlantic crossings with passengers made by zeppelins during the late 1920s and 1930s." However, the most famous of these, the Hindenburg, carried only 36 passengers. Since overseas travelers were well passed 100,000, the few thousand that traveled via zeppelin could not have characterized the transportation methods

⁴⁸ The first transatlantic commercial flights was that of the Graf Zeppelin in 1928. Transpacific passenger service began in 1936 with flights between San Francisco and Manila. Civil Aeronautics Board, "Milestones and Landmarks in U.S. Air Transport: 1903-72," *Handbook of Airline Statistics*, 1971, pp. 470-501.

⁴⁹ Pan Am's first passenger flight was June 28, 1939 so there was some commercial activity before WWII but wartime measures disrupted this.

dangers of sailing the Atlantic during war time, and probably the need for ships to be employed in war-related activities. In 1946, when travel resumed at a more normal level, the share that went by sea rose from the war time lows. Nevertheless, sea travel was a thing of the past. The share reached its post war peak of 51 percent in 1950 and declined steadily thereafter, reaching 8.6 percent in 1970.⁵⁰

The airlines did not see their rise to dominance as a sure thing at the time. In December of 1945, Pan American Airways cut the one-way fare from New York to London from \$572 to \$275, putting them “on a par with first-class steamer rates.”⁵¹ And, airlines offered lower fares for the off-season as early as 1949.⁵² The 1950s witnessed three developments that sealed the fate of transatlantic travel by sea. The first was the introduction of tourist-class airline tickets in 1952. Before then, the International Air Transport Association, an organization of airlines that regulated international air travel, had refused to allow Pan Am to offer tourist class tickets. In 1952, Pan Am threatened to offer the fare anyway and the association succumbed. Tourist-class travel was initiated on May 1 with a lot of fanfare and one-way fares to Europe below \$300.⁵³ A second fare cut took place in 1958 when economy class tickets, priced 20 percent below tourist class, were introduced. That same year passenger jet planes made their debut.⁵⁴ As a result, the

⁵⁰ Presumably the share continued to fall thereafter.

⁵¹ “Declaration of War,” *Time*, Dec. 3 1945.

⁵² “Rate War,” *Time*, Oct. 4, 1948 and “Aviation: Lowest Fares,” *New York Times*, Dec. 18, 1949.

⁵³ Civil Aeronautics Board, “Milestones and Landmarks in U.S. Air Transport: 1903-72,” *Handbook of Airline Statistics*, 1971, p. 485. The one-way fare from New York to London was \$270, and roundtrip was \$486. “New York-London Fare History, 1945 to 1970,” *Pan American Airways Collection*, University of Miami, September 1, 1970, and *New York Times*, Feb. 24, 1952.

⁵⁴ Civil Aeronautics Board, “Milestones and Landmarks in U.S. Air Transport: 1903-72,” *Handbook of Airline Statistics*, 1971, p. 490.

share of passengers departing the United States by air rose from 60 percent in 1952 to 71 percent in 1957 and to 76 percent by the end of the decade.

The Long Term Trend

The rise in travel to all overseas destinations has been quite rapid for a very long time. Over the long term from 1820 to 2000, the number of Americans traveling overseas rose at an average annual rate of 5.0 percent per year. See Table 1. To be sure, there were ups and downs in this flow, but the sustained nature of this upward movement of people from a very modest beginning is impressive.

In the late eighteenth century and the early decades of the nineteenth century, the number of overseas travelers was likely less than 2,000 in any year, and perhaps closer to 1,000. From 1820 to the mid 1830s, the earliest years for which we have some reliable aggregate statistics, the number of Americans going abroad ran between 1,000 and 3,000.⁵⁵ And, judging by the number of Americans who were arriving in France before 1820, about that same number of Americans was likely going abroad in the opening decades of the century.⁵⁶ The number of Americans going abroad roughly doubled in the late 1830s, receded somewhat during the 1840s, and then spiked upward again after 1849. The annual average number of travelers going overseas in the

⁵⁵ Americans were so few that they were often mistaken for being British, who at the time were often seen as being loud and ill-mannered. In the late 19th century when Americans became more prominent participants on the Grand Tour of Europe, they too had come to be seen as loud, boorish and rich. Lynne Withey, *Grand Tours and Cook's Tours*, pp. 93-95, 191.

⁵⁶ The number arriving in France may have run around 1,000 per year between 1806 and 1811, was checked severely by the War of 1812, but rose afterwards. In some years, such as 1817, there was only a trickle of about 100 tourists. See Levenstein, *Seductive Journey*, pp. 23-27, who believes that most arrivals were tourists. The figures were collected originally by the Ministere de l'Interieur, Police Generale. See also Gerbod, "Les Touristes etrangers a Paris," p. 245, and de Sauvigny, *La France et les Francais vus*, 17-19.

decade before the Civil War was 5 to 6 times the average for the 1830s and 1840s, and ten times the size that had gone over in the 1820s and earlier. The volume of tourism did not rise during the Civil War period, but neither did it give much ground, and soon thereafter rose again. In the early 1880s the numbers rose sharply once again, surpassing the 100,000 mark for the first time in 1885. Except for a slump in 1894, Americans continued to go abroad in what some would think were fairly large numbers through the end of the century. Over the course of the eighty years from 1820 to 1900 the number of overseas travelers rose at an annual rate of 5.3 percent per year; somewhat faster before the Civil War (6.7 percent per year) than after (4.3 percent).

The rate of increase in travel picked up slightly in the opening years of the twentieth century and by the start of World War I nearly a quarter of a million Americans were traveling abroad. The War cut into those numbers, but at the same time introduced larger numbers of Americans to the attractions of Europe, many of whom returned in subsequent years. The 1920s saw a continued increase in the number going abroad, and perhaps a rise in the number of women.⁵⁷ The Depression had its expected consequences, with the number of Americans traveling abroad cut in half, but the decline was short-lived. There was a resurgence after 1933, with the 1938 volume approaching the levels of 1929, but the events leading up to World War II cut short the recovery. The War itself reduced travel even further, so that by the last years of the War the number going abroad had fallen to levels that had been reached in the 1880s and 1890s. As in the case of World War I, recovery was quick to come. By 1948 the volume had just about returned to the 1929 level, and by the early 1950s any effect of the War was no longer evident.

In the years after World War II the industry took off. From 1950 through 1970 the number of Americans going abroad rose by 700 %, or at an annual rate of 10.8 percent per year.

⁵⁷ Levenstein, *Seductive Journey*, p. 245.

The industry recorded double digit percentage increases in all but a handful of years, and the climb continued after 1970, albeit at a somewhat slower rate of 5.6 percent per year. Even with that slowdown, the number of Americans traveling abroad rose at a remarkable 7.6 percent per year in the period after 1950.

Explaining the Long Term Rise

Any number of factors might have contributed to the rise in travel over the entire period of 1820 to 2000 or over the two major subperiods: 1820 to World War I and the period since World War I. Some of these factors are measurable, some not. Among those less easily measured would be the improvements in the quality of ship travel, the shift from sail to steam shipping, the introduction of passenger air travel and increased speed of such travel, improvements in the supply and quality of hotels and restaurants abroad, the publication of guide books, the growth and evolution of the package tour industry, improvements in the ability to acquire necessary foreign currencies, government subsidies, changing perceptions of and preferences for foreign travel, as well as the myriad changes that were taking place in travel and tourism within the United States (that is to say substitute goods and services). While all of these may have had some bearing on the increase in travel, to a very large extent the increase can be explained by a few, measurable variables.

Chief among the variables that fostered the upward trend in the number of American tourists going overseas is population growth. Imagine if you will that as time passed there were no changes in tastes and preferences, income per capita, relative prices, or the distribution of income. Under these assumptions, the demand for travel would have changed at the same rate as population grew. Growth of tourism would have been faster at some times, and slower at others,

but over the entire period 1820 to 2000, the demand for tourism would have risen at 1.9 percent per year due to population growth. For the period before World War I, population growth would have meant a 2.6 percent growth in demand for overseas travel, accounting for approximately one-half (46%) the growth in the number of tourists. Since World War I, population growth would have accounted for only 23 percent of the increase up through 1999, although its importance was greater before World War II. Since 1950 population growth was responsible for only 16 percent of the increased number of tourists.

The remainder of the growth in overseas travel reflects an increase in the share of the population going abroad. As can be seen in Figures 6A and 6B, although the percentage of the population traveling overseas had not risen above one percent at any time before World War II, the percentage had nevertheless increased substantially over time. From a barely noticeable 0.01 and 0.02 percent in the 1820s and 1830s, the figure rose more than ten-fold by World War I. The share fell during World War I, rose noticeably during the 1920s, but then fell during the Great Depression and World War II, with the percentages at the end of that war being roughly the same as those at the time of World War I. After World War II, the percentage rose more steadily and noticeably, with the figure at the end of the century being 30 times that at the end of the War.

What explains the rise in the percentage of Americans traveling overseas? Were the causes in the nineteenth century, or up to World War II, different from those that explain the rise after World War II? Is the explanation different in the era of sea travel than in the years when airplanes were the major mode of travel?

Some of the increase was, of course, due to rising incomes. Economic theory would certainly lead us to think so, and the Department of Commerce suggests this occurred at least at some times. The Department of Commerce reported that “the trend of expenditures for foreign

travel was found to be closely related to the behavior of national income,” in the period 1921 to 1938.⁵⁸ Their purpose, however, was not to estimate the effect of changes in income on travel expenditures, but rather to show that World War II had disturbed that relationship. In an earlier publication the Department of Commerce looked at the slightly longer period 1919 to 1938, and concluded as well that outlays for foreign travel (including transportation charges) “were keenly responsive to changes in economic activity.”⁵⁹ We would be surprised if they had found some other result, especially because both periods experienced substantial fluctuations in income -- recovery from World War I, a recession in 1921, the boom up to 1929, the Great Depression and another economic downturn in 1937 -- which likely exaggerated the effect of income on travel.⁶⁰

The extent to which growth in income boosted the demand for travel depends of course on the income elasticity of demand. Assuming an income elasticity of unity, growth in demand for tourism would be equal to the growth in real GDP per capita. No doubt the income elasticity of demand for overseas travel was and is higher than unity, and while it may have fluctuated from time to time, it also likely increased over time.⁶¹ Even with an assumption of unitary

⁵⁸ U.S. Department of Commerce “International Transactions of the United States During the War, 1940-45,” pp. 63-66.

⁵⁹ Lary and Associates, “The United States in the World Economy,” p. 75-76. They did not report any formal statistical tests in either case, only charts depicting the relationship. The chart shown for the longer period does not show quite as close a relationship as appears to have been the case for the slightly shorter period.

⁶⁰ Somewhat surprisingly, those data indicated that even though the downturn in national income at the start of the Great Depression resulted in a decline in travel expenditures, it did not immediately bring about a decrease in the number of overseas travelers. Those who went overseas simply spent less on average, or at least were estimated to have done so by the Department of Commerce.

⁶¹ Gray, “The Demand for International Travel” pp. 83-92 estimated the income elasticity of the U.S. for travel imports was 2.24 for the period 1950 to 1963. It is likely the expenditures on travel are more elastic than the numbers of travelers, and his estimates include travel imports

elasticity, however, income growth would match the importance of population growth over the long term, and exceed it in importance since World War I. While the growth of population and income can explain a substantial portion of the increase over the longer term and in the major sub-periods, there were other forces at work, such as those enumerated above, only some of which are measurable. Others cannot be easily quantified. Appreciation of the dollar and reductions in passenger fares were two such influences that are amenable to measurement.

There were changes in exchange rates that should have boosted the volume of travel, although their greater impact may have been on shaping the direction of travel. Over the entire period 1820 to 1999, the dollar appreciated against the British Pound at an annual rate of 0.6 percent per year, but almost all of this took place after World War II. (See Figure 7) The Sterling/Dollar rate did not change at all for much of the period before World War I, and its value in 1914 was about the same as in 1820, so would not have affected the expansion in overseas travel before World War I. In the period since 1950, however, the story is different. The dollar appreciated at 1.11 percent per year, so even if the elasticity of demand with respect to exchange rate changes were low, there would have been some favorable influence on travel.

Since World War I, changes in other exchange rates, especially the French franc, could have influenced travel. The chief impact of a depreciation in the franc might have been to alter

from Canada, for which the income elasticity might be higher than for travel imports from Europe. Williamson, "Consumer Behavior in the Nineteenth Century," p. 117 Table 4, estimated a total expenditure elasticity of per capita income on Sundries, which were heavily weighted by professional expenses, recreation, charity and consumer durables, around 2.0 for Massachusetts consumers in 1875.

the tourists' destinations in favor France, or increase the amount of time they spent in France vis-a-vis other European countries.⁶² It may, however, also have spurred additional travel.

Passenger fares too would seem to have been an important determinant of overseas travel. Indeed, since tourism is a luxury item, it is likely to have a rather high price elasticity of demand. Fares alone, whether airfares or ocean passenger fares, may not, however, be a good estimate of the costs of travel. Before World War II, when ocean transportation was the chief means of travel abroad, the ocean liners were improved over time in a variety of ways, and such improvements were not necessarily reflected in the fares. According to the definitive study of ocean steamship management, "While the economies resulting from increased size of vessels and efficiency of marine engineering were accompanied by lower freight rates, similar economies in passenger steamers were largely offset by the additional costs occasioned by increased speed, comfort, luxury and betterments of passenger service."⁶³ Moreover, according to that same study, passenger fares simply did not change that much: "Ocean fares have fluctuated less, and have, on the whole, been maintained at a higher level than freights."⁶⁴ Passenger travel was apparently less subject to competition than was freight traffic, in part because fares were subject to passenger agreements established by the shipping lines, with at least 12 such agreements governing traffic in the North Atlantic.⁶⁵ And, perhaps of greater significance, there was no competition from tramp vessels which might have weakened the cartel arrangements. Likewise, air travel changed in dramatic ways after World War II - not the least of which was the shift from

⁶² The depreciation of the franc after World War I has been cited as a reason for an upsurge in tourism to France, and for making Americans unpopular there when they flaunted their new purchasing power. Levenstein, *Seductive Journey*, p. 265-71.

⁶³ Johnson and Huebner, *Principles of Ocean Transportation*, p. 337

⁶⁴ *Ibid*, pp. 335-37

⁶⁵ *Ibid*. Chap. XIX and pp. 335-37.

propeller to jet propulsion - and the effect on passenger travel is not fully captured by the changes in the air fares.

Nevertheless, there seems little question that some reductions in fares, especially the decline in ocean fares between 1869 and 1890 and the drop in real air fares between 1946 and 1972, had an impact on travel. The effect of reduced fares, however, is hard to judge because of the difficulties involved in the construction of a consistent long term series on passenger fares. The problems stem from the large number of ports of embarkation and disembarkation and the existence of a number of shipping lines and airlines. With ocean travel there was also variation in size and quality of ships within each line, as well as several different classes of travel available on most ships, and variation in accommodations within class. There may be less variation in air travel, but there have been differences in leg room, quality of meals and on-board entertainment among other things. Moreover, fares for ocean passage or airline travel are hard to come by. Despite these problems we have attempted to compile time series on both ocean fares and air fares.

It appears that before World War I, fares to destinations on the Continent were higher than those to Liverpool, England and Queenstown, Ireland, to which the fares were the same. There was also some variation between the one-way fare to Europe and the one-way return fare.⁶⁶ This variation, though not always present, was most prevalent in the lowest class of travel, i.e. "steerage," whereas the first- and second-class fares for the return trip, generally, appear to be the same or less.⁶⁷

⁶⁶ A very few roundtrip fares were found; those found were slightly less expensive than the sum of the two one-way fares.

⁶⁷ In most incidences where the steerage fare was reported for both directions of travel, the fare was higher on the return trip to the U.S., in one case \$15 more than the \$25-fare to Europe.

Furthermore, data for the middle to late 19th century, taken from advertisements in the *New York Times* and *Harper's Hand-book for Travellers in Europe and the East*, appear to be rather sticky for months at a time. This might be due to cartel arrangements, which appears to have been the case for freight rates, but it might indicate high menu costs associated with changing the advertisements and therefore not the true price at the time of travel. Indeed, in later years, some shipping lines stopped publishing prices and instead, instructed potential passengers to inquire at given addresses for information about fares. Fares collected from advertisements, then, may be biased upwards to the extent that shipping lines with lower fares chose not to advertise prices in order to preserve flexibility in pricing. In many cases, the more commonly known lines continued to maintain prices, perhaps, in order to reduce consumer uncertainty.

These problems combined with the time-consuming effort of retrieving fares for each year make the endeavor of constructing a price series rather complex, and any such series would have to be taken with some margin for error. Nevertheless, we have compiled data on fares for most of the second half of the 19th century up until the beginning of World War I.⁶⁸ Our series, shown in Figure 8, includes only first-class fares.⁶⁹ Although tourists embarked and disembarked at a number of different ports, our series is based on fares from just one port in the

Fares were taken from various issues of *The New York Times*. These observations, however, are based on a very limited sample and serve only to illustrate the problems in generating a times series for these fares.

⁶⁸ These data seem to indicate that fares did not converge towards a single price, and thus we cannot simply use the fare for one shipping line as a proxy for the series of fares that was influencing consumer behavior. Thus we have constructed a series that takes into account fares for several different shipping lines. Similarly, fares for one route and one class are not ideal proxies for all routes and fares, but we think the differences in these cases are less troublesome

⁶⁹ These first class fares may bias downward any estimated impact on the growth in the number of travelers because the middle class may have begun traveling in larger numbers late in the 19th century and were likely more influenced by fares in second class or even third class. On the other hand, although second and third class fares differed from first class, to a large extent they appear to have moved in similar fashion to first class fares over time.

U.S. (New York), and two in Europe, Liverpool and Glasgow. According to Drew Keeling “[s]eventy percent of U.S. immigrants between 1850 and 1914 arrived via the port of New York,” indicating the significance of the port for international travel.⁷⁰ And, as can be seen in Appendix Table 2, New York was the single most important port of arrival for U.S. citizens. We used Liverpool and Glasgow as the destination ports because, as we have already mentioned, a high percentage of travelers were going to Europe over this period, most of them likely made Great Britain their first stop, and these two ports were the most commonly observed in advertisements.⁷¹

Fares included in our series come from many different shipping lines. In each year, we collected several fares from advertisements for several lines. In cases where an ad displayed more than one first class fare -- which would reflect different locations of the cabin and differences in other amenities -- these were averaged to create one first-class fare for that line on that date. All of the fares from each line for that year were then averaged.⁷² Keeling notes that passengers were concentrated on the four largest shipping lines; half of all the sea-traveling passengers used only these lines.⁷³ Our series underrepresents these largest lines, with the four making up roughly twenty-five percent of our advertised fares series.⁷⁴ Our series, however, covers a much longer time period, and those big four lines were not always the biggest carriers

⁷⁰ Keeling “The Transport Revolution,” p. 40.

⁷¹ Southampton was used as a destination in two cases.

⁷² In 5 of the years, 1896 and 1899-1902, no precise first-class fare was given but rather a minimum fare. Using the other years as a guide, the range between lowest and highest first-class fare was never greater than \$60. Hence, the fare used in the series was \$30 greater than the minimum advertised.

⁷³ *Ibid*, p. 40. These lines were Cunard, White Star, Norddeutscher Lloyd and the Hamburg-America Packet Company.

⁷⁴ Our estimated fares are lower than those estimated by Keeling, which could reflect the fact that ours includes fares from many lines, whereas his are from Cunard which may have been one of the higher priced lines.

before the 1880s. Clearly, this is a very crude series of passenger fares but the pattern is somewhat as we would expect.⁷⁵ For instance, between 1869 and 1888 there was an increase in arrivals of passengers at unspecified ports (as mentioned above). We would expect to see lower fares out of New York during this period as the number of substitute ports increased. Our series of fares clearly shows this decline over that period.

As can be seen in Figure 8, advertised fares appear to have declined before 1880, and would have helped push up the volume of overseas travel. After 1880, there were some substantial fluctuations, a noticeable decline after 1903 and an equally noticeable increase after 1907. Fares at the end of the period, however, were not much below those that prevailed before the Civil War. Overall, it would appear that declines in transatlantic fares could not have pushed up demand by very much over the long term.⁷⁶

We have also shown in Figure 8 a series of fares compiled by Drew Keeling that are based on passenger revenues of the Cunard Line. These “fares” are typically higher than the advertised fares, noticeably so in the early 20th century. This may be because these fares represent what passengers actually paid for their entire ocean passage, and might include expenditures on extra amenities purchased on board. Thus the actual expenditures exceed the expected expenditures (i.e. advertised fares). Nevertheless, despite the differences, both series show a rise in fares after 1890.

⁷⁵ As crude as this appears to be, it is based on historical precedent, being the same method used by Isserlis to construct his classic series on freight rates. See Mitchell, *British Historical Statistics*.

⁷⁶ In a separate paper “Fluctuations in Overseas Travel by Americans, 1820-2000,” we examine the effects of changes in fares on short term fluctuations in travel.

Air fare data are no more readily available than ocean passenger fares, despite their being of more recent vintage.⁷⁷ And, while there may seem to be fewer complications involved in constructing an airfare series, because there may not be as much variation in quality across seats within each class of service, the matter is still not completely straightforward. Fares varied depending on the season of the year, the duration of the stay overseas, whether group affiliation could be rationalized, and whether one made some amount of ground outlay in advance. That is to say, at one time or another there have been, and in some cases still are, first class fares, tourist fares, normal economy fares, off-season fares, shoulder season fares, advance purchase excursion fares (APEX fares), group inclusive fares (GIT fares) with different minimum and maximum durations of stay, excursion fares with different minimum and maximum durations of stay, youth fares, family fares, military fares, an assortment of charter fares, and weekend surcharges.⁷⁸ From time to time, there have been discount airlines, such as Freddie Laker's Skytrain and Richard Branson's Virgin Atlantic.⁷⁹ Passengers have at times been able to skirt purchasing directly from the airlines or even travel agents, and buy tickets from consolidators and more recently via internet specials offered weekly by airlines, and regularly through some commercial websites such as Expedia and Orbitz.

The existence of numerous points of embarkation and disembarkation has also become more important in the airline era than had been the case with ocean travel. The importance of

⁷⁷ Airfare data exist, but they are not readily available to the public or research scholars. We are in the process of trying to gain access to the available data.

⁷⁸ See for example, "New York-London Fare History, 1945 to 1970," *Pan American Airways Collection*, University of Miami, September 1, 1970, and *New York Times*, "Travel Terms and Air Fares," Mar. 21, 1976.

⁷⁹ Laker Airways began as a charter company in 1966 and Atlantic Skytrain began low-fare regularly scheduled service in 1977. "Cloud Over Laker Air," *New York Times*, Oct. 25, 1981. When Laker went bankrupt in 1982, Richard Branson attempted to fill the gap. "A Record Entrepreneur Plans Cheap Air Fares," *New York Times*, April 10, 1984.

Europe as a destination before World War I has given way to worldwide travel. While the ocean passenger fares from New York to Liverpool might serve as a reasonable proxy for ocean fares generally before World War I, and perhaps even for the interwar period, the same would not seem to be true of New York airfares in the World War II period. In the years immediately following World War II the New York to London fare would be a good index as other fares were based on that one, but over time the importance of that route and fare dwindled.

We have compiled some evidence on airfares for some portions of the post World War II era. Shown in Figure 9 are three series. One shows Pan American World Airways first class fares from New York to London; a second shows Pan American's tourist-economy fares from New York to London; the third shows the New York to London airfare implied by the evidence on 'average passenger revenue per passenger mile.'⁸⁰

Before 1952, there was only one class of service. Tourist class was introduced in 1952 with a fare around 30 percent below first class. Pan American estimated that this generated somewhere between 162,000 and 234,000 additional passengers, and proposed that IATA adopt yet lower economy class fares.⁸¹ In 1958 IATA did so, initiating economy class fares that were 20 percent below tourist class. Subsequently, neither of these fares declined in nominal terms before 1976, and tourist-economy fares at the end of the period were about where they had been right after World War II.⁸² The third series, the fare implicit in the average passenger revenue

⁸⁰ The implied fares were calculated as the product of the average passenger revenue per passenger mile and the round-trip mileage for New York to London of 6,920 miles. Susan Carter, et al, *Historical Statistics of the United States*, Series Df1129.

⁸¹ "Proposal for Reduced-Fare, High-Density Service on the North Atlantic Route," *Pan American Airways Collection*, University of Miami, May 14, 1956.

⁸² Fares had fallen immediately after the War. On Nov. 24, 1945 they were reduced from \$1,069 to \$495, and then increased on Dec. 12 to \$675. "New York-London Fare History."

per passenger mile, presents a different picture, declining from 1946 through 1972, but rising thereafter and ending the period well above the fares at the beginning of the period.

In Figure 10 we have shown the implicit fare series in nominal terms and also deflated by the All Urban CPI (1982-84 =100). The deflated series shows a more a noticeable downward trend through 1973 and a more gradual one after 1975. Airfares rose more slowly than consumer prices in general, so consumers might have been expected to increase their overseas travel by air. A more pertinent price might be that of domestic air fares, because some, perhaps many, consumers would have been choosing between overseas or domestic travel. A comparison of the average passenger revenue per passenger mile for domestic and international is shown in Figure 11. It appears that international travel was becoming relatively less expensive compared to domestic travel until the early 1960s, and thereafter fares remained in roughly comparable positions.

An Error Correction Model of tourism demand

Although a wide variety of forces came into play to foster tourism at different times, changes in the key economic variables -- GDP per capita and exchange rates -- go a long way towards explaining the rise in the fraction of the population that traveled overseas. In what we think is the first attempt to explain this rise, we estimate a series of demand equations including those key variables, as well as evidence on passenger fares. These are the same variables used in previous studies on travel demand, but all those other studies have focused on the post-World War II era, when data are more readily available, and most have studied tourism in other

nations.⁸³ Even with more recent and abundant data, however, there are difficulties not only with the data but also with separating demand and supply effects in a single equation.

Moreover, much of the previous tourism demand research has ignored spurious regression problems by using nonstationary variables in the regression models.⁸⁴ We attempt to avoid these problems here by exploiting the common trend in our two main variables, per capita real GDP and the number of overseas travelers, in an error correction model. We also estimate error correction models with other variables including exchange rates, ocean fares and a dummy variable for periods of war.

On the basis of Augmented Dickey-Fuller (ADF) unit root tests, we conclude that $\ln(\text{per capita real GDP})$, $\ln(\text{travelers})$ and $\ln(\text{exchange rate})$ are all difference stationary. Moreover, $\ln(\text{per capita real GDP})$ and $\ln(\text{travelers})$ are cointegrated, which suggest an error correction specification that will allow us to incorporate not only short-run but also long-run effects.

The cointegrating equation can be thought of as our long-run tourism demand model and can be expressed as:

$$\ln T_t = \alpha_0 + \alpha_1 \ln GDP_t + \alpha_2 \ln EXR_t + \alpha_3 \ln OFARE_t + \alpha_4 \ln AFARE_t + dumWAR_t + u_t \quad (1)$$

⁸³ Gray, "The Demand for International Travel," pp. 83-92. See also Loeb, "International Travel to the United States," pp. 7-20 and Song, Wong and Chon, "Modelling and forecasting the demand for Hong Kong Tourism," pp. 434-451, to name a few.

⁸⁴ The problem of spurious regression with nonstationary variables was first identified by Engle and Granger (1987) who proposed an error correction framework when linear combinations of nonstationary variables were stationary. In the tourism literature, Zhou, Bonham and Gangnes (2004), Kim and Hong (1998) and Lathiras and Siriopoulos (1998) are some examples of studies that used cointegration models.

The corresponding error correction model (ECM), which represents our short-run model, can be written as follows⁸⁵:

$$\begin{aligned} \Delta \ln T_t = & \beta_0 + \beta_1 \Delta \ln T_{t-1} + \beta_2 \Delta \ln GDP_t + \beta_3 \Delta \ln GDP_{t-1} + \beta_4 \Delta \ln EXR_t + \beta_5 \Delta \ln EXR_{t-1} \\ & + \beta_5 \Delta OFARE_t + \beta_6 \Delta OFARE_{t-1} + \beta_7 \Delta AFARE_t + \beta_8 \Delta AFARE_{t-1} + dumWAR_t + \hat{\pi}u_{t-1} + \varepsilon_t \end{aligned} \quad (2)$$

In the above equations, T_t is the number of travelers per 1,000 population in period t . The variable GDP_t is per capita real GDP in period t . EXR_t is the exchange rate between the British pound and U.S. dollar for most models although we also include the French-U.S. exchange rate in one version of the model reported over the subsample 1920-1999. For some periods we are also able to take account of the influence of other variables. For the period 1852-1914 we have available our series on first- class ocean passenger fares ($OFARES_t$) that were described in the text; for the post-WWI period we can also include the effect of changes in the French Franc-dollar exchange rate and in airfares ($AFARE_t$). Finally, we include a dummy variable ($dumWAR_t$) in all of our specifications.

Our newly constructed time series of first-class ocean passenger fares and the implicit air fares, adjusted for inflation, represents the “price of tourism” in the demand equation.⁸⁶

Traveling, of course, includes much more than the expense of transportation, and some studies have separated “on-site costs” and “long-distance travel costs” in order to determine the separate

⁸⁵ We estimate a univariate model rather than a VECM because Granger causality tests suggest, consistent with our intuition, that causality runs from per capita real GDP to number of travelers and not the reverse. The one-period lag was chosen on the basis of AIC tests.

⁸⁶ For airfares, we have used the average passenger revenue per passenger mile in our regression estimates because that series takes into account the complexities of the fares, the many points of embarkation and disembarkation, as well as the changing class structure.

effects.⁸⁷ Other studies have concluded, however, that transportation plays the larger role in determining tourism demand.⁸⁸ Gray, writing in the 1960s, argued that prices of goods in the destination country were “seldom completely known in advance by travelers.”⁸⁹ This would seem to be all the more true for earlier years. Therefore, in the absence of data regarding ‘on-site costs’, we use the price of transportation to serve as a proxy for the price of tourism.

Since the long-run elasticities are based on the results of equation (1), the main parameter of interest in equation (2) is the speed of adjustment, π , which captures the fraction of deviations from the underlying long-run relationship that is corrected within one year. The estimated residual from a first stage OLS regression of equation (1) is \hat{u}_t , which enters the ECM in equation (2) with a one period lag. The speed of adjustment parameter π is the estimated coefficient in the ECM on the lagged residuals from the first stage regression.

We estimate a number of versions of these models depending on the explanatory variables used and the time period over which those variables are available. The results of the long-run models represented by equation (1) are reported in Table 3 and the results of the short-run ECM (represented by equation (2)) are found in Table 4.

Real GDP per capita is used to account for changes in travel demand caused by income growth. Income elasticity estimates are drawn from the first stage estimation of the cointegrating equation (Table 3). We expected these elasticities to be greater than 1.0 because travel would seem to have been a luxury good, and our models suggest this was the case. The two models that span the entire sample from 1820 to 1999, Models I and IIA, provide income elasticity estimates

⁸⁷ In addition to fares, Loeb used relative prices in the destination country vis-à-vis the country of origin. See also Nowell, “Heterogeneous Visitors,” pp. 404-419.

⁸⁸ For instance, Pyo, Uysal and McLellan, “A Linear Expenditure Model,” pp. 443-454.

⁸⁹ Gray, “The Demand for International Travel,” p. 86.

of between 1.5 and 1.8.⁹⁰ In some time periods the estimates were as low as 0.6, but ranged as high as 2.3 in the post-World War II subsample (Model VA). The income elasticity in Model VA is likely so high because the model does not include a variable for the price of air travel. When we introduce airfares, as in Model VB, the income elasticity falls substantially. Indeed, we get the anomalous result of a negative income elasticity in the post-World War II period (Model VB) This seems to be because of the influence of changes in airfares on travel is so large that it overwhelms the income effect.

The dummy variable is for wars that may have had an impact on Americans' ability or desire to travel abroad. Although there were a number of wars in the world over the 1820 to 1999 period, many of which took place in Europe, our dummy variable is restricted to the American Civil War, the two World Wars, and the Korean and Vietnam conflicts. Wars may have affected overseas tourism by reducing destination options and crowding out private use of transportation resources or at least increasing the competition for and costs of these resources. This variable attempts to isolate wars that affected U.S. resource allocation and American tourist decision-making. The dummy variable for war is of the wrong sign in four of the eight subsamples, namely in the 1852-1914 period (Models IIIA and IIIB) and the post-World War II period (Models VA and VB), but all of those coefficients are very small. This is not too surprising a result, because in neither of these time periods was there a continent-wide war underway in Europe. War did have an impact in other time periods. We do find a negative

⁹⁰ As discussed earlier, previous estimates have found elasticities of tourism demand as high as 2.0. Dora Costa, in "Less of a Luxury" has found that the expenditure elasticity for recreation may have declined over time, at least over the 20th century. Our sample periods do not permit us to assess the trend over the 20th century, but when we look at comparable models (Models IIB and IIC) over the two centuries our estimates are consistent with hers, the elasticity falling from 1.8 to 0.59.

tourism response to war in several subsamples - 1820-1914 (Model IIB) and 1920-99 (Models IIC and IV) - as well as over the full time period from 1820 to 1999 (Models I and IIA). All of these coefficients were fairly large so it appears that a continent-wide war in Europe dampened overseas travel, whereas wars outside Europe did not. The Korean and Vietnam wars may have deterred travel to those regions of the world, but did not have much of an impact on travel overall. The impact of the U.S. Civil War does not appear to have had a substantial impact. Although a major domestic event, it does not appear to have significantly reduced travel overseas. In two of the subsamples encompassing the years of the Civil War (Models IIIA and IIIB), the coefficient was positive whereas in the period 1820-1914 the coefficient is negative, as expected.

The exchange rate is used as a determinant of travel demand because we are looking only at the demand for overseas travel. The rate we use is the number of British pounds Sterling per dollar, not only because it is the only exchange rate available for the entire period, but it is also appropriate given the importance of the N.Y. to U.K. travel route. The British pound would be the first new currency encountered by travelers to Europe, especially before World War I, and “it was the overwhelmingly important foreign currency in the American foreign-exchange market” at the time.⁹¹ As discussed earlier, there was little trend in this exchange rate before World War I, so it had little impact on the growth of overseas travel in that period, but its importance should have increased over time. To the extent that American tourists were sensitive to exchange rate movements, the appreciation of the dollar relative to the British Pound after World War II should

⁹¹ Officer, “Exchange Rates,” in Carter, et al, *Historical Statistics of the United States*, Vol. 5, p. 5-449.

have had a positive effect on overseas travel.⁹² The results of our long-run model suggest this to be the case. We find that the elasticity of tourism with respect to movements in the exchange rate was positive over all models except for Model IIB from 1820 to 1914 and that these elasticities are larger in the 1920 to 1999 period than in comparably-defined models for earlier periods. Indeed, the coefficients for the period 1852-1914, although positive, are relatively small. In the post World War II period the coefficient is positive but quite small when air fares are included in the model.

The coefficient on the passenger fares in Models IV and VB has the expected negative sign. Increases in fares result in a decline in overseas travel with airfare exerting a large effect on travel in the post-WWII period reflected in Model VB. This would suggest that the advertised fares represent the 'price' of traveling overseas.

The short-run ECMs provide estimates of the speed of adjustment parameters for the various models, which are reported as the coefficients on $u(t-1)$ in Table 4. The speed of adjustment back toward long-run equilibrium is relatively slow in our model, ranging from just 10 percent up to 44 percent.⁹³ The slowest adjustment speeds are found in two models run over the 1920 to 1999 period (Models IIC and IV), whereas in the post-WWII models (VA and VB) the speed is much faster which suggests that the inclusion of the volatile period from 1914 to 1945 may be distorting the overall long-run relationship and the speed of adjustment parameters.

⁹² Of course, by then changes in other bilateral exchange rates might have had independent effects, but as yet we have not incorporated these into our analysis.

⁹³ A similar model estimated by Kim and Song (1998) for more recent U.S. tourism travel to South Korea from 1961 to 1995 found a speed of adjustment parameter of 40 percent. The difference between their estimate and ours is relatively small and not surprising given that they are examining one country, and we are looking at the world.

This could also explain the slow adjustment speeds in the models estimated over the entire sample from 1820 to 1999 (Models I and IIA).⁹⁴

Conclusions

We have tried to sketch out the contours of overseas travel by Americans as it developed over the long term and provide some rough explanation for the changes that occurred. Two of the most obvious features of this market are its very rapid rise -- on the order of 5 percent per year -- and the duration of its growth, which has persisted for at least 180 years. Another compelling characteristic is that its long term growth can be explained to a very large extent by the growth of population and GDP per capita. To be sure there were numerous ups and downs in the flow of tourists abroad, and several very substantial upsurges, reflecting world events and developments on the supply side of the market. Despite these factors, the growth of income was a consistent and strong force in explaining the growth of overseas travel relative to the population. With real GDP per capita having increased at 1.86 percent per year and the estimated long term elasticity of 1.52 (Model IIA, which includes the exchange rate variable) the growth of income would have explained well over three-fourths of the 3.4 percent annual growth in the number of overseas travelers relative to the population.

As the industry grew, several notable changes occurred. Before 1900, overseas travel was clearly and predominantly done by the elite of American society, and largely by men. Over time there was an increase in the number of women who went abroad, rising from 10 percent of travelers in the early 19th century to over half after World War II, and possibly before. Perhaps an even more fundamental change was the increase in middle income travelers. The industry

⁹⁴ We further explore these short-run dynamics in a separate paper, "Fluctuations in Overseas Travel by Americans, 1820-1900."

rose from one that catered to the elite of American society in the early 19th century to what some have described unfavorably as mass tourism. It is, however, still unclear exactly when middle class Americans traveled overseas in large numbers, although there are many opinions. Daniel Boorstin may have given initial voice to this idea, arguing that foreign travel had begun to change sometime after the middle of the 19th century, shifting from a risky, adventuresome experience engaged in by travelers, to a ‘spectator sport’ for tourists.⁹⁵ In his view, the culmination of the changes in travel occurred in the 1950s and early 1960s, but its force was felt decades earlier when he alleged that the great backwash had begun after World War I. Despite his colorful and beguiling rhetoric, however, the numbers of overseas travelers belie his concerns. The great backwash of the post World War I era amounted to only a quarter of a million people, less than 0.5 percent of the population.⁹⁶ Indeed, even in the 1950s and early 1960s, when Boorstin thought mass tourism had reached its climax, less than one percent of Americans were traveling overseas. There could not have been many middle income Americans among them. If he was a bit premature in his claim, the numbers nevertheless may have become as daunting as Boorstin *et al* would have one believe in the 1980s when more than five percent of the population traveled overseas. And that percentage has continued to rise, now running around 10 percent.

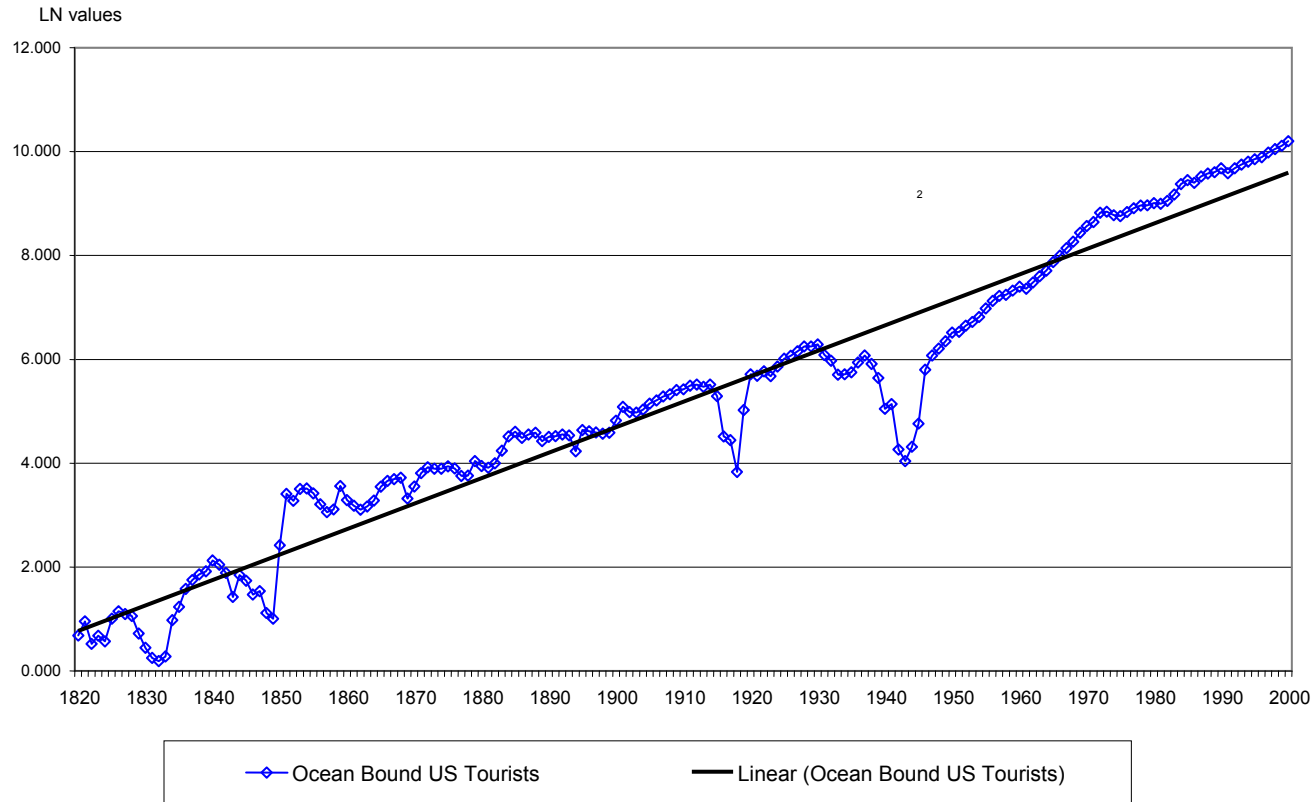
The increasing importance of tourism in the world’s economy, especially since World War II, has encouraged a great deal of tourism research. However, most economic studies focus only on the recent period. We have tried to illuminate a broader picture of overseas tourism and its trends in order to understand the recent period in a larger or longer context. There are many

⁹⁵ Boorstin, *The Image*, p. 84.

⁹⁶ Of course, these numbers would have appeared larger relative to the smaller populations of any single European destination country.

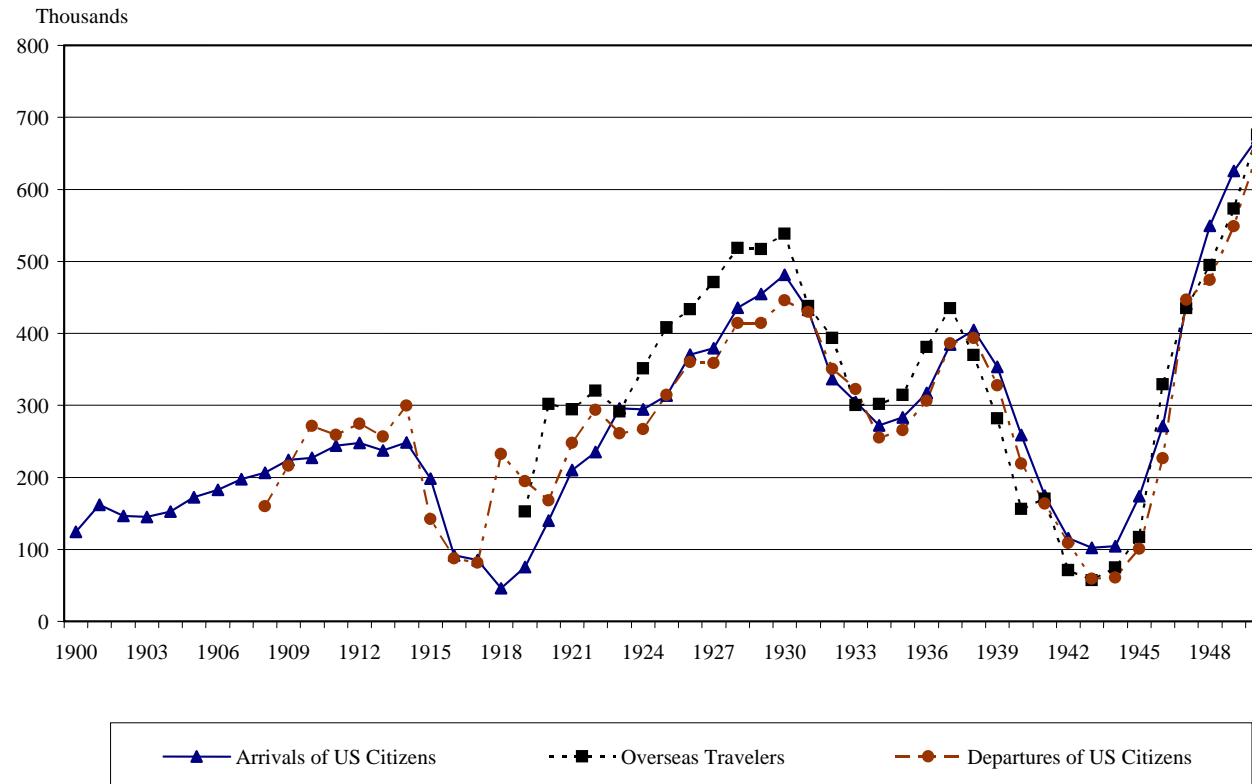
opinions about the industry, but little statistical evidence to provide the necessary support. This paper has been an attempt to fill in that statistical landscape, perhaps easing the way for future travelers.

Figure 1
Numbers of Americans Traveling Overseas, 1820-2000



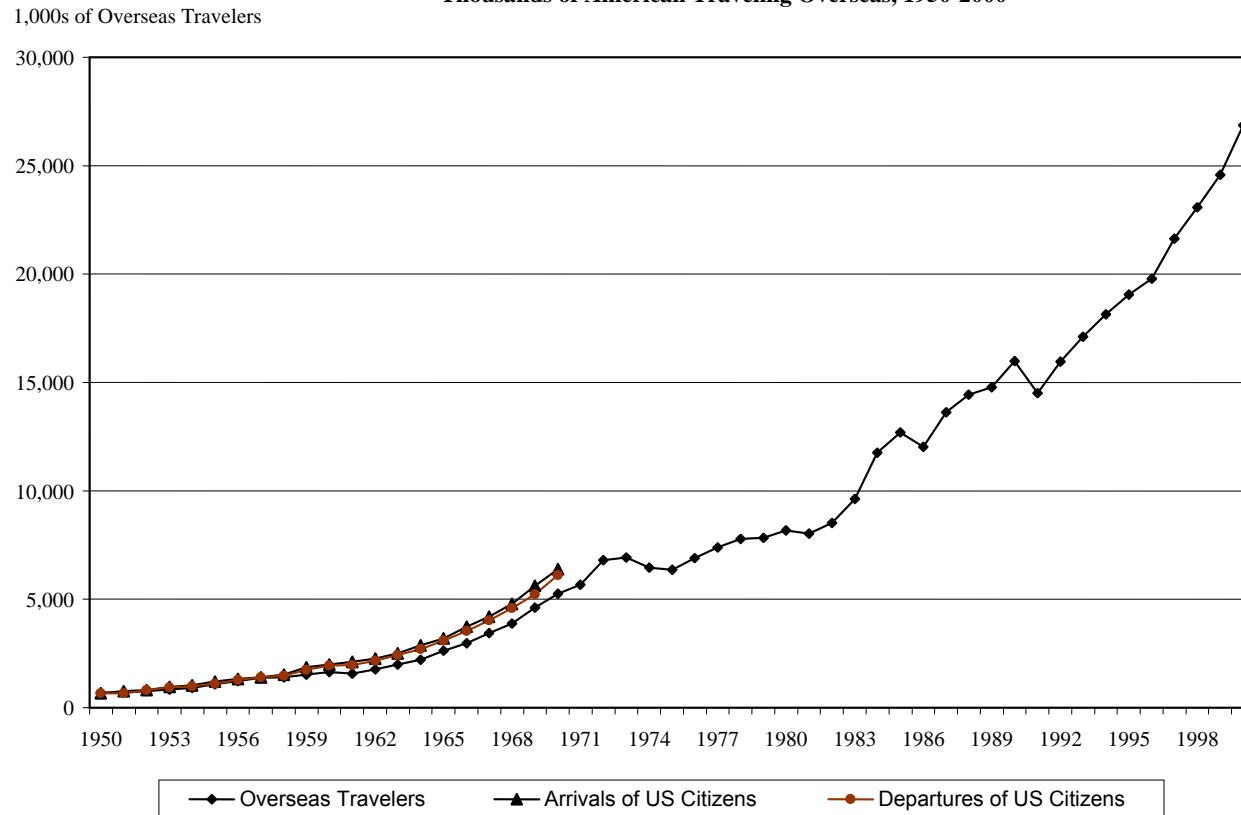
Notes: The series is a combination of three slightly different series covering parts of the time period. See Appendix Table 1 for data and sources.

Figure 2
Numbers of Americans Traveling Overseas, 1900-1950



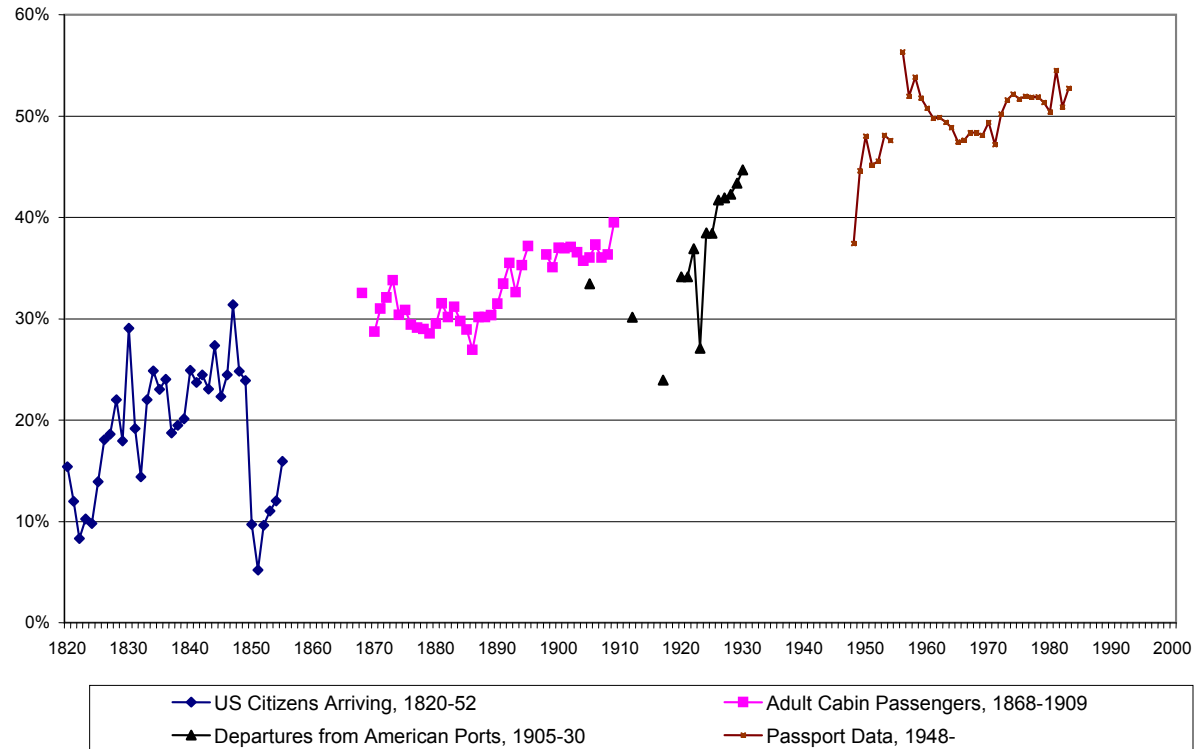
Source: See Appendix Table 1 for data and sources.

Figure 3
Thousands of American Traveling Overseas, 1950-2000



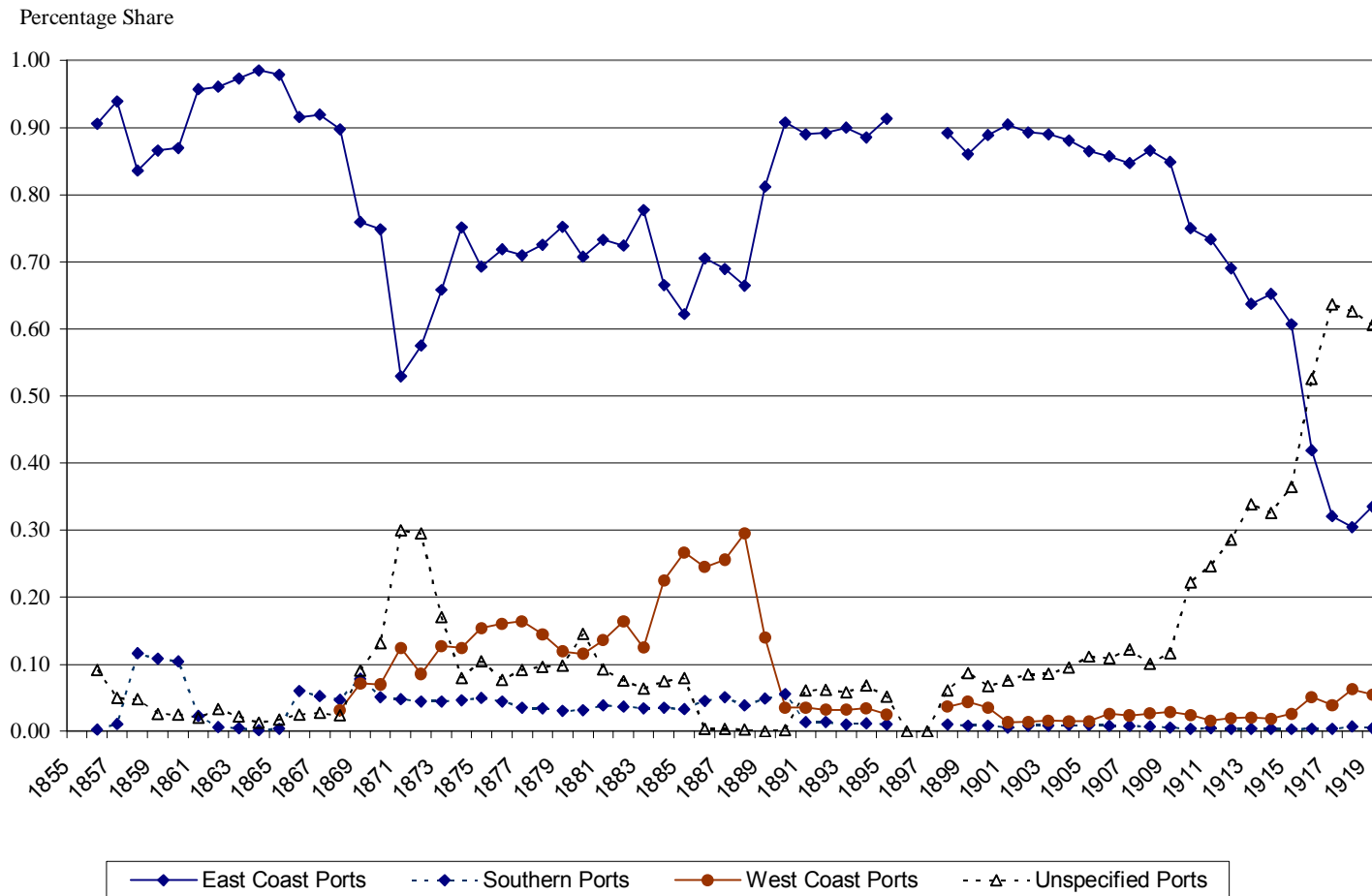
Source: See Appendix Table 1 for data and sources.

Figure 4
Female Share of Overseas Travelers



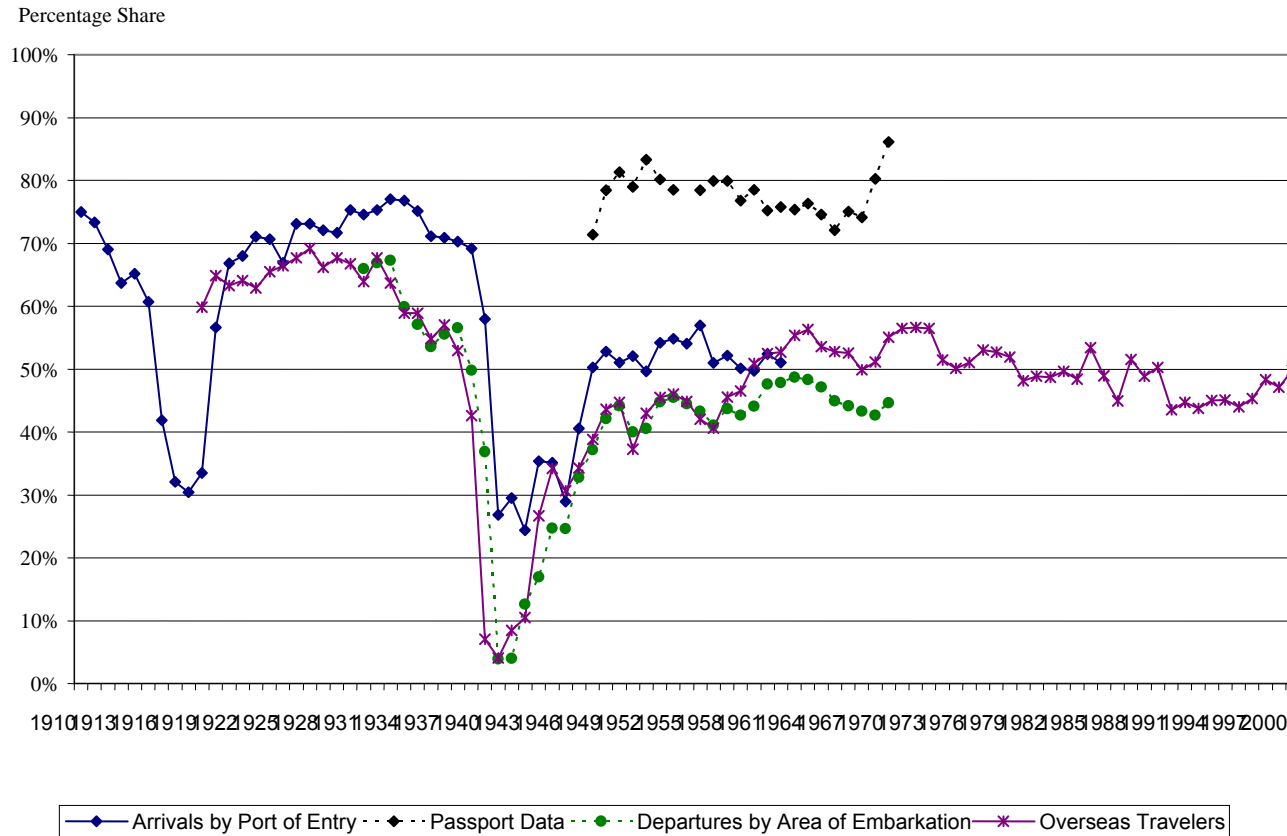
Sources: Walter F. Willcox, 1929, *International Migrations*, Vol. 1: Statistics, Table IX. *Historical Statistics of the United States*, Series H: 917 and 918; *Statistical Abstract of the United States*, 1909, Table 51.

Figure 5A
Distribution of Arriving U.S. Citizens by Port of Entry, 1856-1919



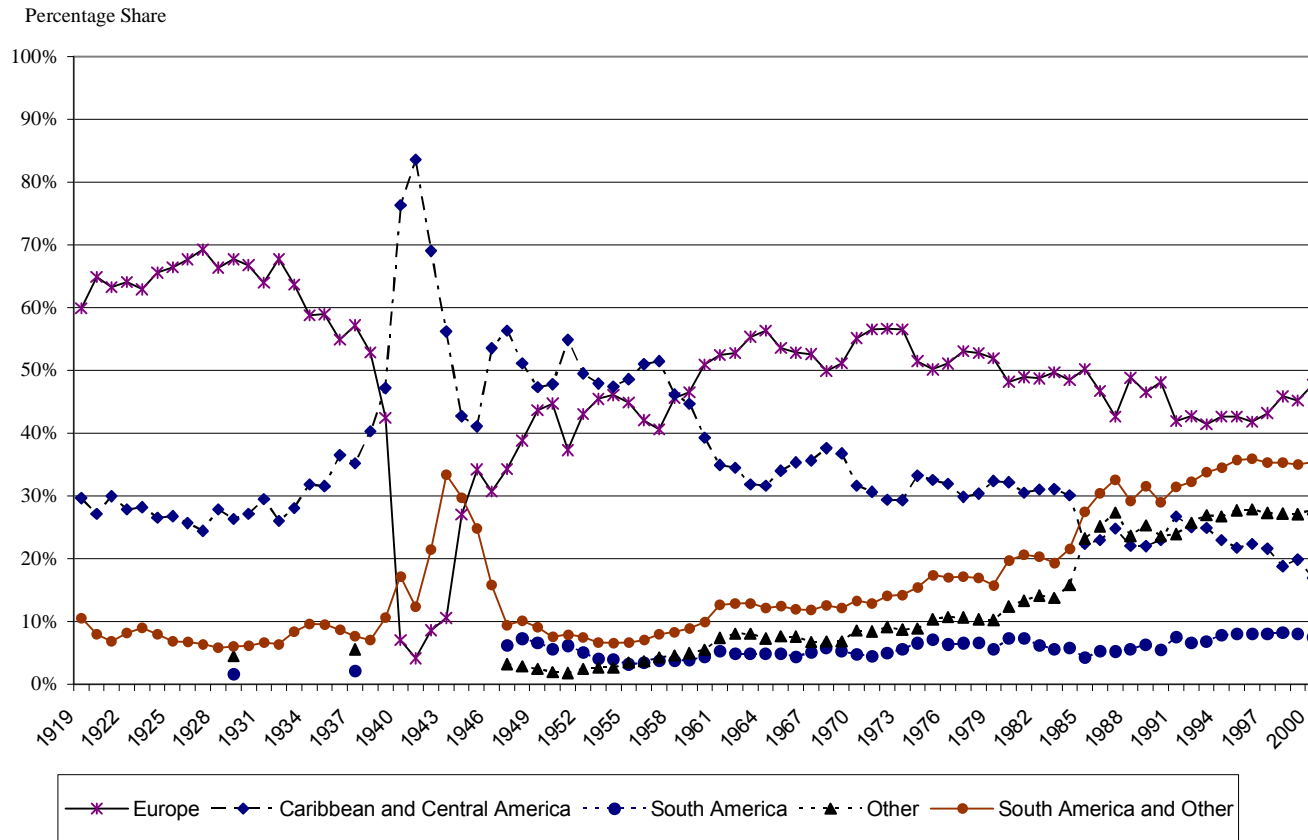
Source: See Appendix Tables 2 for data and sources.

Figure 5B
European Share of Overseas Travel by Americans, 1915-2000



Source: See Appendix Tables 3 for data and sources.

Figure 5C
Distribution of Overseas Travelers by Destination, 1915-2000



Source: See Appendix Tables 3 for data and sources.

Figure 6A
American Overseas Travelers as a Percent of U.S. Population
1820 to 1950

Percent

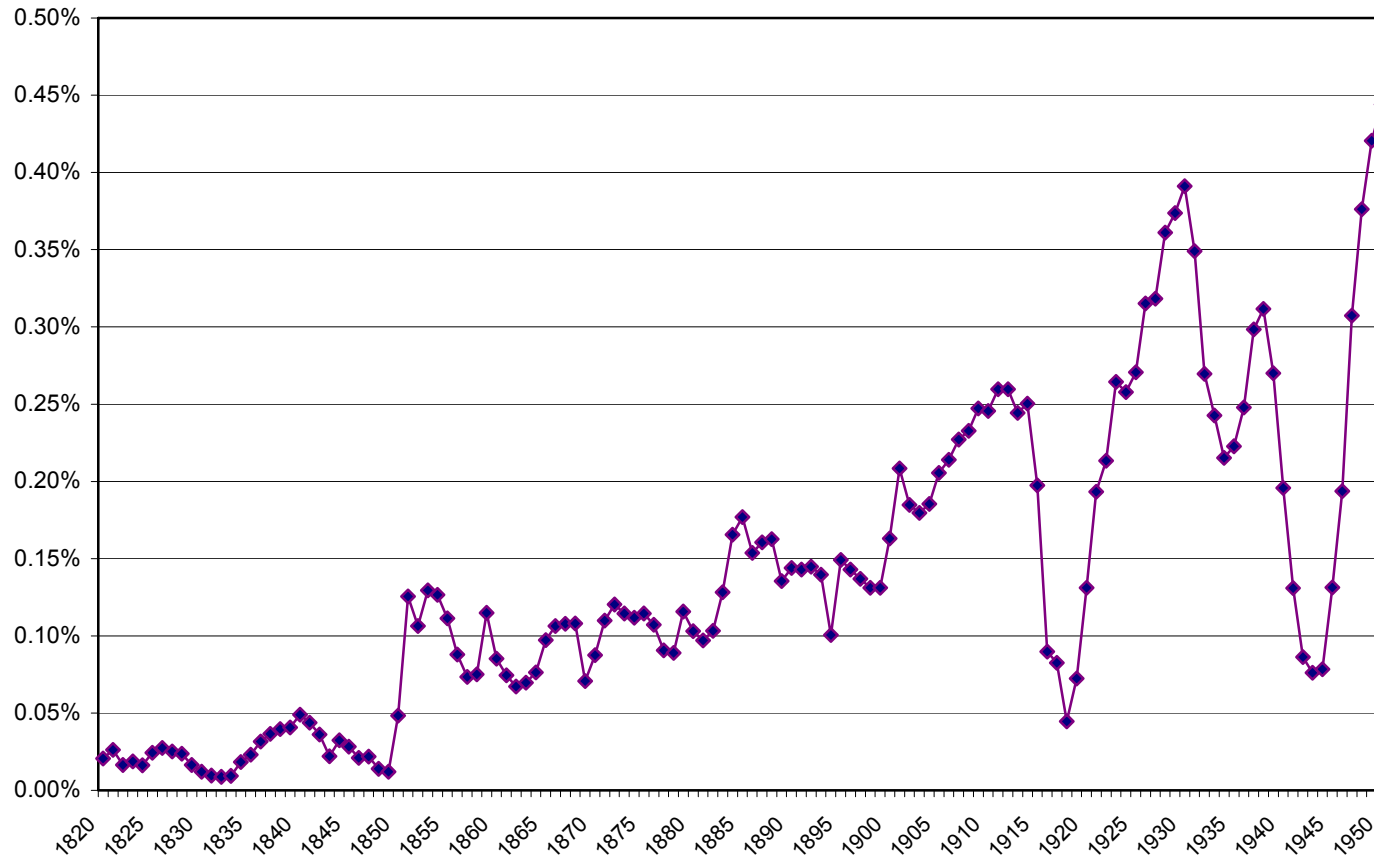


Figure 6B
American Overseas Travelers as Percent of U.S. Population, 1920 to 2000

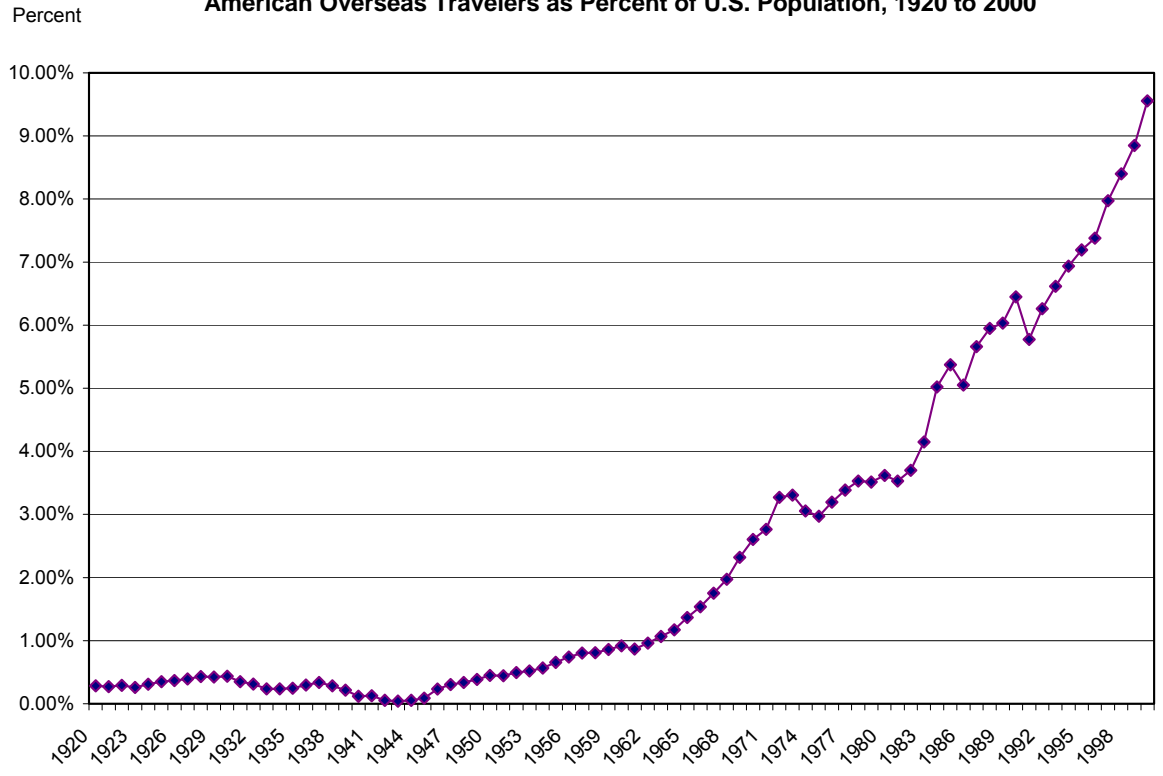
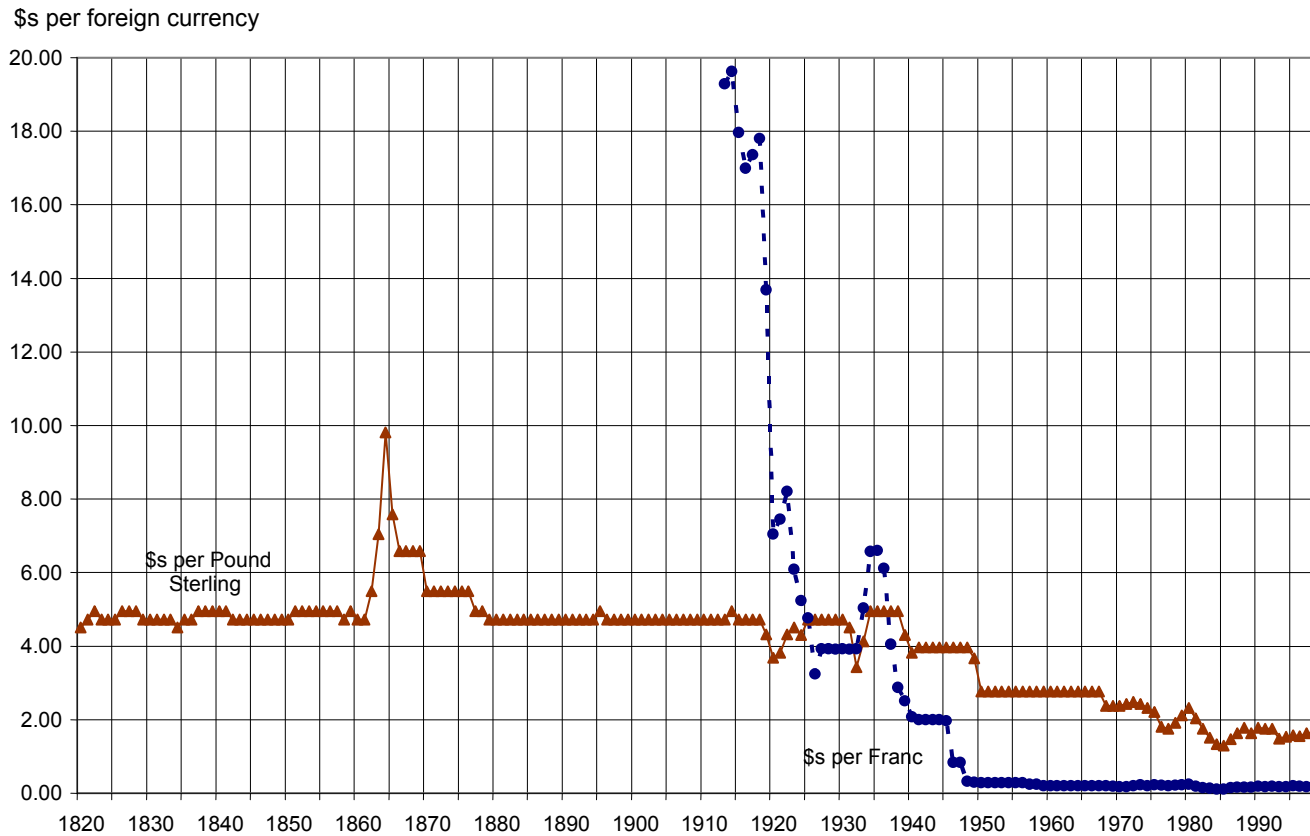
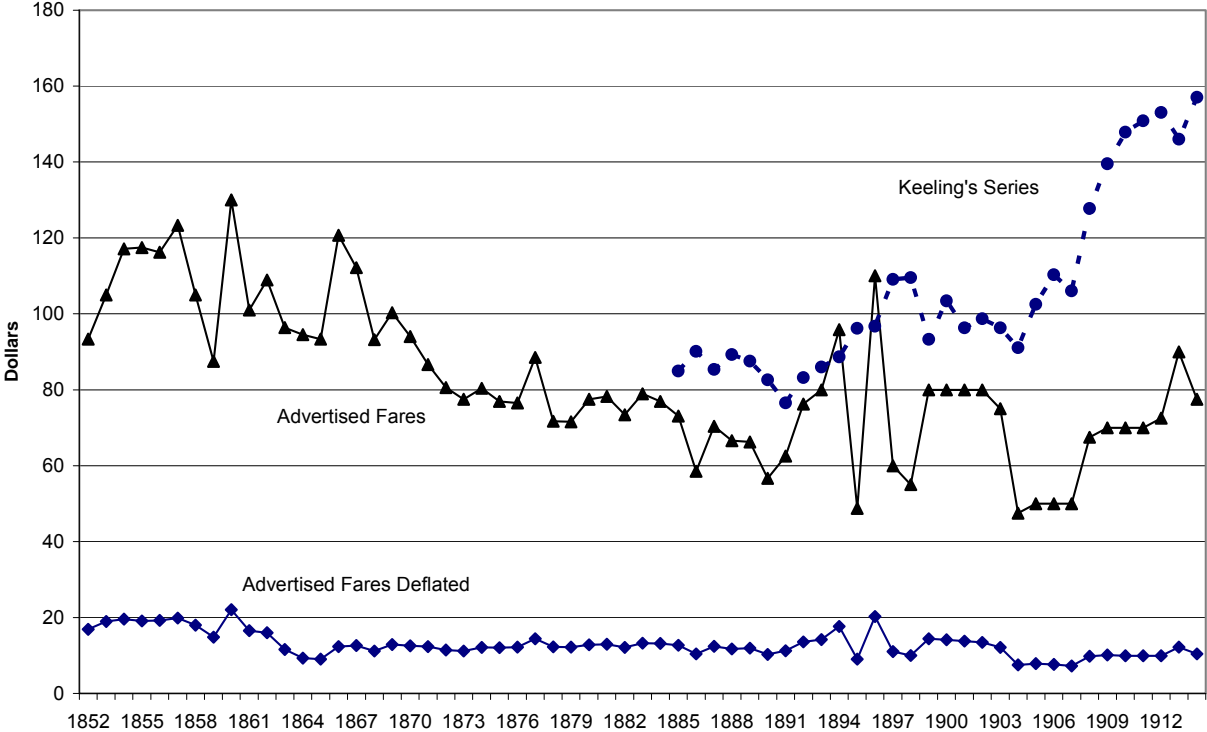


Figure 7
Dollars per Pound Sterling and per French Franc, 1820-1999



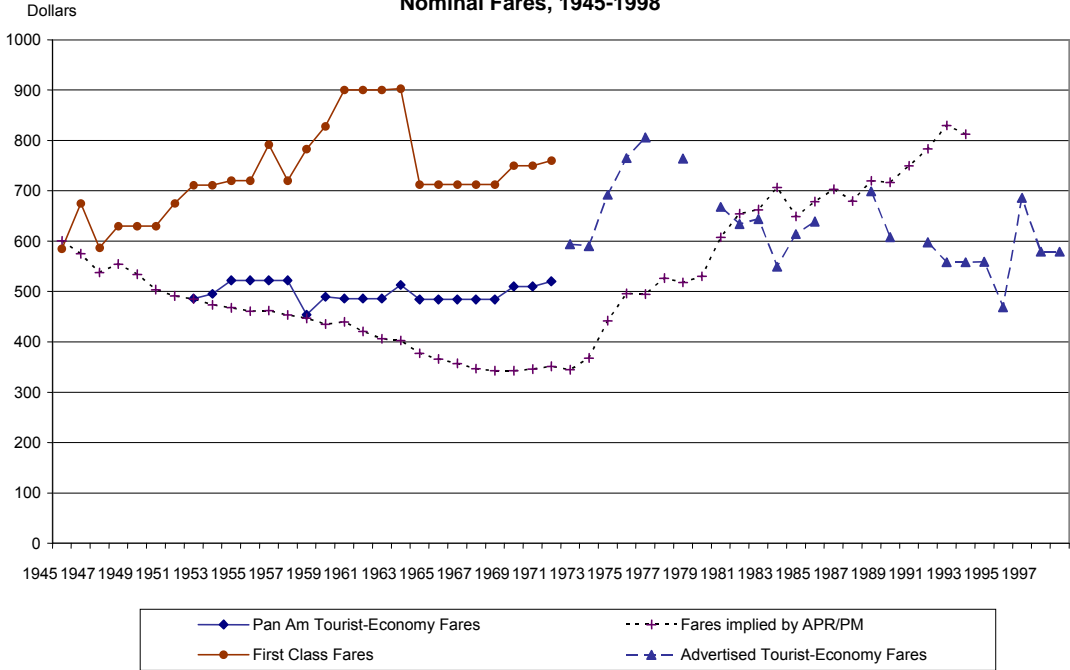
Sources: Data for the pound/dollar exchange rate was obtained from: Lawrence H. Officer, "Exchange rate between the United States dollar and the British pound, 1791-2004." Economic History Services, EH.Net, 2004. URL: <http://www.eh.net/hmit/exchangerates/pound.php>. Data for the French Franc/Dollar exchange rate are those in "consistent currency units" from Susan Carter, et al, *Historical Statistics of the United States*, Cambridge University Press, Vol. 5, Series Ee665.

Figure 8
First Class TransAtlantic Fares, 1852-1914



Data for the Advertised fares: 1852-1914” was computed as outlined in the text. Data for the Keeling’s Series: 1885-1914” were supplied by Drew Keeling. These fares have been updated and extended from those published in “The Transport Revolution and Transatlantic Migration,” *Economic History*, vol. 19, 1999, pp. 39-74.

Figure 9
Comparison of NY-London Air Passenger Fares
And Fares Implied by Average Passenger Revenue per Passenger Mile
Nominal Fares, 1945-1998



The implied fares were calculated as the product of the average passenger revenue per passenger mile and the round-trip mileage for New York to London of 6,920 miles. Susan Carter, et al, Historical Statistics of the United States, Series Df1129.

Figure 10
Passenger Fares Implied by
Average Passenger Revenue per Passenger Mile
Nominal and Deflated

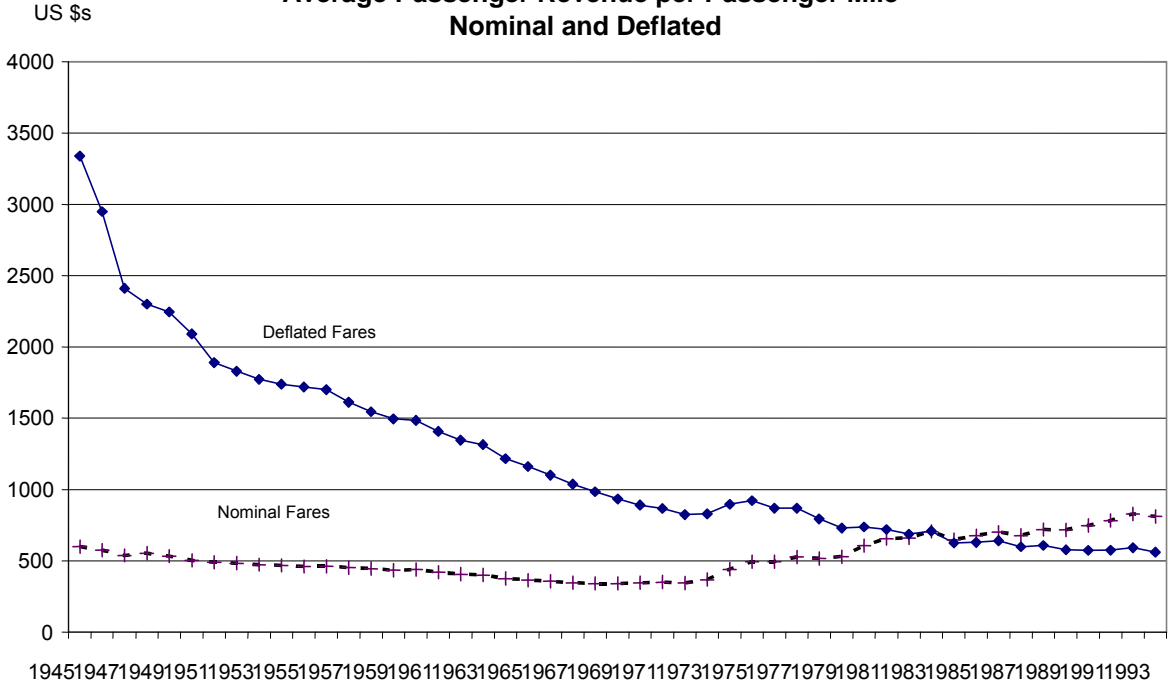


Figure 11
Average Passenger Revenue per Passenger-mile 1938-1993
Domestic and International

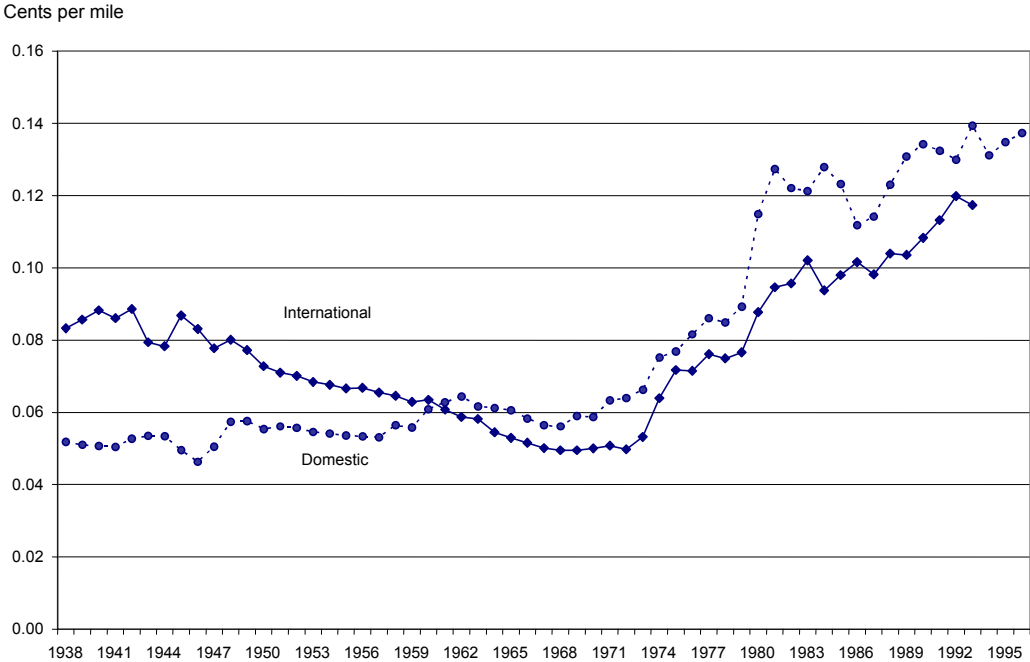


Table 1
Selected Statistics on International Tourism, 1820 to 2000

| | U.S. Overseas Travelers, (1,000s) | US Travelers as % of Pop. | Arrivals of US Citizens as % of Pop. | Total Resident Population (1,000s) | Overseas Foreign Travelers in the U.S. (1,000s) |
|---|--|------------------------------|--|--|--|
| Benchmark Values (3-year averages) | | | | | |
| 1821 | 2.1 | 0.02% | 0.02% | 9,942 | 0 |
| 1830 | 1.6 | 0.01% | 0.01% | 12,929 | 0 |
| 1840 | 7.6 | 0.04% | 0.04% | 17,179 | 1 |
| 1850 | 14.7 | 0.06% | 0.06% | 23,326 | 3 |
| 1860 | 28.7 | 0.09% | 0.09% | 31,517 | 1 |
| 1870 | 35.8 | 0.09% | 0.09% | 39,965 | 4 |
| 1880 | 52.9 | 0.11% | 0.11% | 50,337 | 7 |
| 1890 | 88.8 | 0.14% | 0.14% | 63,064 | 16 |
| 1900 | 128.0 | 0.17% | 0.17% | 76,159 | 19 |
| 1913 | 244.4 | 0.25% | 0.25% | 97,224 | |
| 1920 | 249.3 | 0.23% | 0.13% | 106,504 | 68 |
| 1930 | 497.7 | 0.40% | 0.37% | 122,961 | 76 |
| 1940 | 202.7 | 0.15% | 0.20% | 131,985 | 76 |
| 1950 | 644.3 | 0.43% | 0.46% | 151,070 | 252 |
| 1960 | 1,575.0 | 0.88% | 1.11% | 178,524 | 565 |
| 1970 | 5,183.3 | 2.56% | 2.99% | 201,969 | 2,192 |
| 1980 | 8,012.7 | 3.55% | NA | 225,469 | 8,166 |
| 1990 | 15,100.7 | 6.09% | NA | 248,161 | 15,072 |
| 1999 | 24,833.7 | 8.93% | NA | 277,825 | 24,712 |
| Long Term Average Values | | | | | |
| 1820-49 | 4 | 0.02% | 0.02% | 15,252 | 1 |
| 1850-59 | 27 | 0.10% | 0.10% | 26,974 | 3 |
| 1860-64 | 25 | 0.07% | 0.07% | 33,188 | 1 |
| 1865-82 | 45 | 0.10% | 0.10% | 43,726 | 4 |
| 1883-99 | 92 | 0.14% | 0.14% | 64,402 | 20 |
| 1900-14 | 194 | 0.22% | 0.22% | 87,271 | 20 |
| 1915-19 | 115 | 0.11% | 0.10% | 102,699 | 47 |
| 1920-29 | 391 | 0.34% | 0.27% | 114,564 | 72 |
| 1930-39 | 375 | 0.30% | 0.28% | 126,874 | 78 |
| 1940-49 | 139 | 0.10% | 0.13% | 134,094 | 73 |
| 1950-59 | 1,047 | 0.63% | 0.70% | 163,123 | 345 |
| 1960-69 | 2,672 | 1.39% | 1.74% | 189,514 | 1,112 |
| 1970-79 | 6,738 | 3.16% | 3.17% | 212,691 | 4,043 |
| 1980-89 | 11,368 | 4.81% | NA | 235,277 | 9,487 |
| 1990-99 | 18,985 | 7.18% | NA | 263,135 | 20,178 |

Table 1 (cont.)

| | U.S. Overseas Travelers, | US Travelers as % of Pop. | Arrivals of US Citizens as % of Pop. | Total Resident Population | Overseas Foreign Travelers in the U.S. |
|---------------------------------------|--------------------------------|------------------------------|--|------------------------------|---|
| Average Annual Rates of Growth | | | | | |
| 1820-1860 | 6.7 | 3.6 | 3.6 | 3.0 | 5.8 |
| 1861-1900 | 4.3 | 2.0 | 2.0 | 2.2 | 9.4 |
| 1820-1900 | 5.3 | 2.6 | 2.6 | 2.6 | 6.2 |
| 1900-1914 | 5.1 | 3.1 | 3.1 | 1.9 | |
| 1900-1950 | 3.4 | 2.0 | 2.0 | 1.4 | 5.1 |
| 1950-1970 | 10.8 | 9.2 | 10.3 | 1.5 | 11.7 |
| 1970-2000 | 5.6 | 4.4 | | 1.1 | 8.6 |
| 1950-2000 | 7.6 | 6.3 | | 1.2 | 9.8 |
| 1820-2000 | 5.4 | 3.5 | | 1.9 | 6.9 |

Notes to Table 1:

Sources: *Historical Statistics of the United States*, Series

The average annual rates of increase were calculated between end-point values. The rates derived by fitting a regression equation to the LN values differ somewhat.

Table 2
Mode of Travel Used, 1931-1970

| Year | Percent Arriving | | Percent Departing | |
|------|------------------|--------|-------------------|--------|
| | By Sea | By Air | By Sea | By Air |
| 1931 | 98.5% | 1.4% | 99.0% | 1.0% |
| 1932 | 98.1% | 1.7% | 98.8% | 1.2% |
| 1933 | 97.6% | 2.6% | 98.3% | 1.7% |
| 1934 | 97.0% | 2.7% | 97.6% | 2.7% |
| 1935 | 96.3% | 3.7% | 96.5% | 3.5% |
| 1936 | 96.4% | 3.6% | 96.8% | 3.2% |
| 1937 | 95.9% | 4.1% | 96.1% | 3.9% |
| 1938 | 95.8% | 4.2% | 95.9% | 4.1% |
| 1939 | 94.4% | 5.6% | 94.0% | 5.8% |
| 1940 | 89.8% | 10.2% | 89.2% | 10.8% |
| 1941 | 80.8% | 19.5% | 78.7% | 21.3% |
| 1942 | 65.2% | 34.3% | 60.7% | 39.3% |
| 1943 | 44.7% | 55.3% | 17.2% | 82.8% |
| 1944 | 40.8% | 58.7% | 22.9% | 77.1% |
| 1945 | 34.5% | 65.5% | 25.3% | 74.7% |
| 1946 | 41.2% | 58.8% | 35.1% | 64.9% |
| 1947 | 42.9% | 57.0% | 42.4% | 57.6% |
| 1948 | 47.9% | 52.0% | 47.7% | 52.3% |
| 1949 | 45.6% | 54.5% | 47.2% | 52.8% |
| 1950 | 50.9% | 49.2% | 47.6% | 52.4% |
| 1951 | 42.7% | 57.3% | 39.9% | 60.1% |
| 1952 | 43.5% | 56.5% | 39.9% | 60.0% |
| 1953 | 38.8% | 61.2% | 40.0% | 60.1% |
| 1954 | 37.6% | 62.4% | 40.0% | 60.0% |
| 1955 | 36.0% | 64.1% | 35.0% | 65.0% |
| 1956 | 32.1% | 67.9% | 31.9% | 68.2% |
| 1957 | 29.2% | 70.8% | 29.3% | 70.7% |
| 1958 | 26.2% | 73.8% | 26.7% | 73.3% |
| 1959 | 26.1% | 73.9% | 25.9% | 74.1% |
| 1960 | 24.2% | 75.8% | 24.5% | 75.5% |
| 1961 | 22.3% | 77.6% | 23.4% | 76.6% |
| 1962 | 22.0% | 77.9% | 23.3% | 76.7% |
| 1963 | 21.1% | 78.9% | 21.8% | 78.2% |
| 1964 | 19.6% | 80.4% | 20.1% | 79.9% |
| 1965 | 16.6% | 83.4% | 16.9% | 83.1% |
| 1966 | 13.9% | 86.1% | 13.4% | 86.6% |
| 1967 | 11.4% | 88.6% | 11.5% | 88.5% |
| 1968 | 9.4% | 90.6% | 9.8% | 90.2% |
| 1969 | 8.7% | 91.3% | 9.5% | 90.5% |
| 1970 | 8.6% | 91.4% | 9.2% | 90.8% |

Source: *Historical Statistics of the United States*, 1975, Series C:315-16, 330-31

Table 3
Demand for Overseas Tourism - Long Run Cointegrating Equations
 Dependent Variable: LN(overseas travelers per 1,000 population)

| | Model I: | Model IIA: | Model IIB: | Model IIC: | Model IIIA: | Model IIIB: | Model IV: | Model VA: | Model VB: |
|--------------------------|---------------------------|---------------------------|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|--------------------------|
| | 1820-1999 | 1820-1999 | 1820-1914 | 1920-1999 | 1852-1914 | 1852-1914 | 1920-1999 | 1945-1999 | 1945-1999 |
| Constant | -14.253 (0.425) | -11.326 (1.112) | -17.742 (1.297) | -0.772 (3.645) | -6.682 (1.157) | -2.538 (2.431) | -0.754 (4.078) | -19.448 (0.328) | 25.845 (3.070) |
| ln(Per Capita Real GDP) | 1.761 (0.049) | 1.519 (0.098) | 1.802 (0.097) | 0.588 (0.336) | 0.901 (0.096) | 0.722 (0.132) | 0.586 (0.394) | 2.356 (0.306) | -0.592 (0.224) |
| War Dummy | -0.602 (0.121) | -0.503 (0.124) | -0.529 (0.324) | -0.460 (0.152) | 0.012 (0.165) | 0.052 (0.163) | -0.461 (0.154) | 0.052 (0.097) | 0.061 (0.037) |
| ln(Exchange Rate, £/\$) | | 0.632 (0.222) | -2.018 (0.615) | 2.352 (0.474) | 0.249 (0.353) | 0.624 (0.396) | 2.352 (0.484) | 1.003 (0.358) | 0.140 (0.148) |
| ln(Exchange Rate, FF/\$) | | | | | | | 0.001 (0.112) | | |
| ln(Ocean Fares) | | | | | | -0.292 (0.151) | | | |
| ln(Air Fares) | | | | | | | | | -2.454 (0.142) |
| R-squared | 0.880 | 0.886 | 0.796 | 0.830 | 0.699 | 0.717 | 0.830 | 0.924 | 0.988 |
| Adj. R-squared | 0.879 | 0.884 | 0.789 | 0.823 | 0.684 | 0.698 | 0.821 | 0.919 | 0.987 |
| SE of regression | 0.602 | 0.590 | 0.422 | 0.591 | 0.209 | 0.204 | 0.595 | 0.316 | 0.120 |

Standard errors reported below coefficients

Table 4
Demand for Overseas Tourism - Short Run Error Correction Model Equations
 Dependent Variable: $\Delta \text{LN}(\text{overseas travelers per 1,000 population})$

| | Model I: | Model IIA: | Model IIB: | Model IIC: | Model IIIA: | Model IIIB: | Model IV: | Model VA: | Model VB: |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | 1820-1999 | 1820-1999 | 1820-1914 | 1920-1999 | 1852-1914 | 1852-1914 | 1920-1999 | 1945-1999 | 1945-1999 |
| Constant | 0.033 (0.022) | 0.035 (0.022) | 0.024 (0.030) | 0.036 (0.027) | 0.004 (0.022) | 0.001 (0.020) | 0.035 (0.027) | 0.047 (0.022) | 0.023 (0.016) |
| $\Delta \text{Ln}(\text{Travelers, } t-1)$ | 0.258 (0.072) | 0.262 (0.072) | 0.335 (0.101) | 0.284 (0.105) | 0.115 (0.133) | 0.320 (0.134) | 0.292 (0.114) | 0.171 (0.109) | 0.093 (0.095) |
| $\Delta \text{Ln}(\text{Per Capita Real GDP, } t)$ | -0.948 (0.411) | -0.969 (0.412) | 0.707 (0.644) | -1.295 (0.441) | 0.536 (0.431) | 0.082 (0.424) | -1.235 (0.436) | -0.336 (0.447) | 0.362 (0.347) |
| $\Delta \text{Ln}(\text{Per Capita Real GDP, } t-1)$ | 0.030 (0.425) | -0.025 (0.427) | -1.007 (0.679) | 0.234 (0.447) | -0.364 (0.453) | -0.379 (0.445) | 0.135 (0.444) | 0.206 (0.422) | -0.275 (0.279) |
| $\Delta \text{Ln}(\text{Exchange Rate, } \text{£}/\text{\$, } t)$ | | 0.106 (0.259) | -0.204 (0.422) | 0.009 (0.248) | 0.258 (0.265) | 0.516 (0.256) | -0.071 (0.261) | 0.353 (0.169) | 0.087 (0.112) |
| $\Delta \text{Ln}(\text{Exchange Rate, } \text{£}/\text{\$, } t-1)$ | | -0.246 (0.259) | 0.097 (0.431) | -0.332 (0.246) | 0.074 (0.272) | 0.030 (0.261) | -0.197 (0.253) | -0.084 (0.168) | 0.035 (0.112) |
| $\Delta \text{Ln}(\text{Exchange Rate, FF}/\text{\$, } t)$ | | | | | | | 0.180 (0.115) | | |
| $\Delta \text{Ln}(\text{Exchange Rate, FF}/\text{\$, } t-1)$ | | | | | | | -0.146 (0.113) | | |
| $\Delta \text{Ln}(\text{Ocean Fares, } t)$ | | | | | | -0.321 (0.114) | | | |
| $\Delta \text{Ln}(\text{Ocean Fares, } t-1)$ | | | | | | -0.009 (0.107) | | | |
| $\Delta \text{Ln}(\text{Air Fares, } t)$ | | | | | | | | | -0.750 (0.237) |
| $\Delta \text{Ln}(\text{Air Fares, } t-1)$ | | | | | | | | | -0.073 (0.019) |
| War Dummy (t) | 0.054 (0.048) | 0.055 (0.048) | 0.024 (0.117) | 0.070 (0.044) | 0.068 (0.075) | 0.037 (0.068) | 0.072 (0.044) | 0.063 (0.027) | 0.019 (0.018) |
| $u(t-1)$ | -0.131 (0.033) | -0.144 (0.033) | -0.277 (0.066) | -0.106 (0.038) | -0.340 (0.106) | -0.440 (0.104) | -0.104 (0.038) | -0.303 (0.05) | -0.297 (0.091) |
| R-squared | 0.169 | 0.183 | 0.219 | 0.316 | 0.222 | 0.391 | 0.356 | 0.677 | 0.548 |
| Adj. R-squared | 0.144 | 0.149 | 0.154 | 0.248 | 0.121 | 0.283 | 0.272 | 0.628 | 0.439 |
| SE of regression | 0.245 | 0.244 | 0.241 | 0.174 | 0.148 | 0.133 | 0.171 | 0.086 | 0.055 |

Notes and Sources for Tables 3 and 4

Data for real GDP per capita was obtained from: Louis D. Johnston and Samuel H. Williamson, "The Annual Real and Nominal GDP for the United States, 1790 - Present." Economic History Services, October 2005, URL : <http://www.eh.net/hmit/gdp/>

Data for the pound/dollar exchange rate and the GDP deflator was obtained from: Lawrence H. Officer, "Exchange rate between the United States dollar and the British pound, 1791-2004." Economic History Services, EH.Net, 2004. URL: <http://www.eh.net/hmit/exchangerates/pound.php>

Data for the French Franc/Dollar exchange rate are those in "consistent currency units" from Susan Carter, et al, *Historical Statistics of the United States*, Cambridge University Press, Vol. 5, Series Ee665.

The sources of data for ocean fares 1852-1914 and the methods of calculating and deflating them are discussed in the text. The airfares used were those implied by the Average Passenger Revenue per Passenger Mile for a roundtrip New York to London. Susan Carter, et al, *Historical Statistics of the United States*, Series Df1129.

The War dummy variable takes on a value of 1 in the years 1861-64 (The American Civil War), 1914-18 (World War I), 1939-45 (World War II), the Korean War (1950-1953) and Vietnam (beginning with the Gulf of Tonkin, 1964-1975).

For the shorter time period, 1885-1914, we compared the results using our first class passenger fares with those using the Cunard "fares" compiled by Drew Keeling, but have not shown the results here. His fares have been updated and extended from those published in "The Transport Revolution and Transatlantic Migration," *Economic History*, vol. 19, 1999, pp. 39-74. In both of these specifications, income elasticity was significantly positive, while the Sterling-dollar exchange rate also had a positive impact on travel demand but it was significant only in the regression using our first-class fares. Finally, while the first class fares had the correct sign, the coefficient on the Cunard fares was positive, although in neither case was the coefficient significant.

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