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North American Airline Mergers: Strategic Response to Imperfectly Competitive International Markets

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The wave of domestic mergers among North American airlines during the late 1980s and the **subsequent** reduction in competition increased the risk of higher domestic prices for airline tickets. Why then have the North American governments allowed this consolidation to occur? Research to date has focused on these mergers *as a* domestic phenomenon, but they occurred in response to imperfectly competitive international aviation markets as well. The North American nations and their international airlines could garner the lion's share of the supranational profits to be had in these imperfectly competitive markets by cutting the costs of their international carriers. Matching international routes with domestic-route networks and establishing a global hub-and-spoke system lower the cost of providing international flight service. Domestic airline mergers are a **means** to creating significant domestic-route networks, cutting costs, and allowing international carriers to increase **profit** shares in international markets. Economic incentive for airline mergers is established and provides a basis for consideration of the political **sphere**; findings indicate that **these** mergers are beneficial to private interests and are also in the public welfare. Private interest and public-welfare political rationales are often in opposition both in political literature and in practice, but in this case they coincide. Empirical tests support domestic airline consolidation in North America as a contributing factor in competitive gains in international markets for both the nations and the airlines.

There was a spate of domestic mergers and acquisitions within the North American aviation markets in the late 1980s. In Canada six carriers consolidated into Canadian Airlines International (CAI), reducing the domestic market to an Air Canada-CAI duopoly. The United States experienced something similar as the market share of the eight largest U.S. airlines increased from 74 percent in 1985 to 89 percent in 1989. Mexico is unique in North America because it had only two significant airlines in 1983, a situation that existed through 1992.

To show a fundamental change in the North American airline industry it would be desirable to illustrate a rise in domestic airline market-concentration ratios over the last decade. An accepted measure of industry concentration and competition is the Herfindahl index (HI), which represents the sum of the squares of each market competitor's market shares. His were constructed from the International Civil Aviation Organization (ICAO) Traffic series. Two measures of quantity were used—number of passengers and number of departures, resulting in two His based on the different quantity measures.

Without change in other variables, the North American His would be expected to rise **throughout** the last decade, indicative of the mergers that have taken place. Figure 1(a) represents the Canadian domestic His for 1983-1992. The two Canadian HI measures

show a steady rise in the domestic market concentration from 1986 onward. The two U.S. HI measures in Figure 1(b) also show a **steady** rise in concentration from 1986 onward. The **Mexican** domestic market does not parallel that of its northern neighbors, as shown in Figure 1(c). The Mexican domestic market appears to be a remarkably stable duopoly with the exception of a large spike in the passenger HI in 1988. This spike is indicative of deep cutbacks in operations by AeroMexico, which were in part due to a stark economic recession in the country. It appears that the mergers in the United States and Canada did affect their level of domestic airline concentration in these nations.

His are constructed on a national basis, a somewhat crude measure of competition and concentration. Morrison and Winston (1) show that before deregulation there were many airlines but few pair-city market competitors, yet in the late 1980s the number of national airlines fell and the number of pair-city market competitors increased. An average of all the domestic pair-city market His would be more **appropriate**, but insufficient data are available to arrive at one. The research focus is on North American consolidation, but consolidation has also been evident in Europe. British Airways, Air France, Lufthansa, and other European carriers have bought out domestic competitors.

MERGER RATIONALES

Why have North American governments allowed consolidation to occur, when their respective domestic aviation antitrust policies are charged with prevention of monopolies and promotion of domestic competition? Many writers have looked at the rise of U.S. airline mergers as an effect of domestic deregulation, which can imply that mergers in other nations are a response to their domestic deregulation. Some researchers contend that mergers are an efficient response to deregulation. Morrison and Winston (1) stress the increased competition in individual pair-city markets because of large domestic networks. Levine (2) states that economies from hub-and-spoke operations significantly reduce domestic airline costs. Other writers view mergers as pernicious accruals of market power. Borenstein (3) illustrates that the Northwest-Republic and TWA-Ozark mergers resulted in **quasi-monopolies** in the markets to and from Minneapolis and St. Louis—the respective main hubs of Northwest and TWA. Kim and Singal (4) find that the efficiency gains due to mergers in the United States are outweighed by the market-power gains.

There are significant differences among the authors who focus on either the efficiency or market-power implications of mergers, but

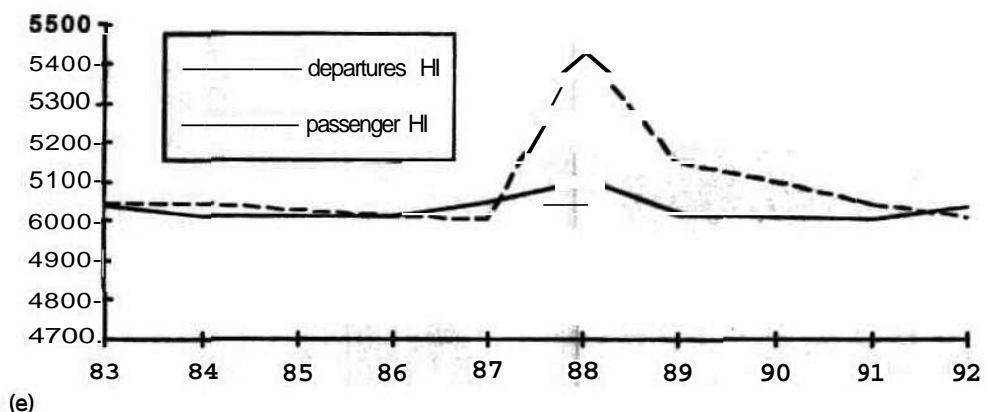
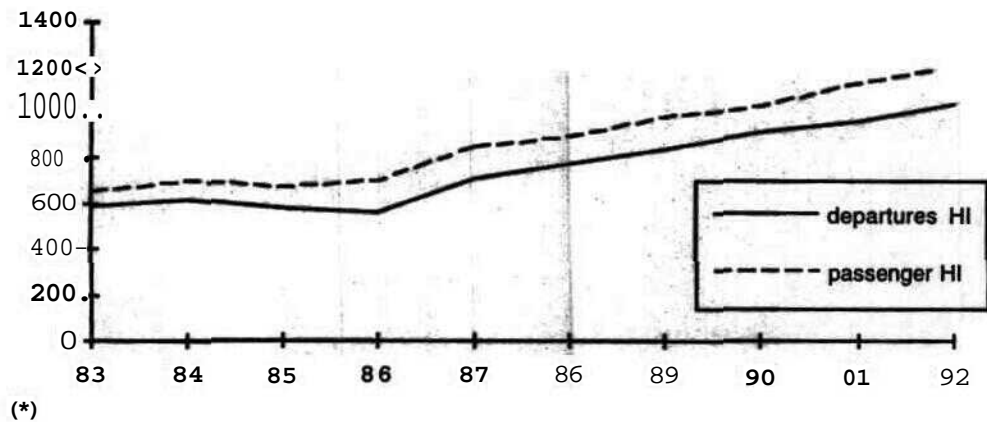
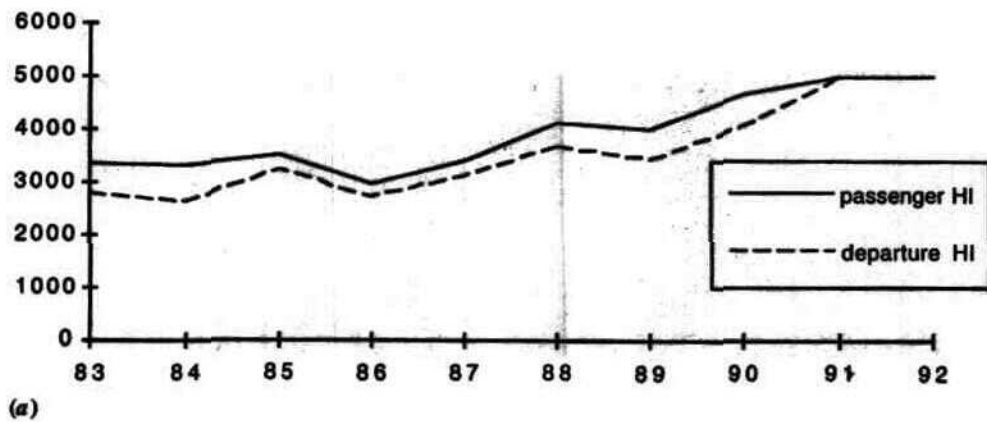


FIGURE 1 North American Herfindahl indexes, 1983-1992; the higher the HI the greater the industry concentration—the highest possible HI is 10,000, for a monopoly, (a) Canadian indexes, (b) U.S. indexes, and (c) Mexican indexes.

there is also agreement. Both groups contend that mergers are largely a domestic phenomenon even as they differ on whether or not they are an efficient reaction to deregulation. They pay little heed to the international environment and how that may affect airline behavior.

International factors, not just domestic deregulation, were considered as explanation for the North American domestic airline mergers. The aim was to assess the extent to which the **mergers**

were a reaction to international market realities. The hypothesis is that domestic mergers allow a nation and its airlines to earn greater shares of the traffic and profits in international markets. Confirmation of the hypothesis would indicate that domestic mergers are also a function of the international market environment and not solely due to domestic realities, as the literature now implies.

THE THEORETICAL ARGUMENT

Economics

The nature of international aviation has changed over the last decade as international markets have been gradually deregulated. Despite liberal international competition conditions and airlines' increasing freedom to set their own prices and capacities, international aviation markets do not resemble the conditions that describe perfect competition. International airlines increasingly have set capacity independently, but entry into international markets is restricted. Some recent Open Skies agreements show promise of allowing free entry, but it is not in effect now, nor was it during 1983-1992, the period under consideration. It is more appropriate to consider these markets as imperfectly competitive, as thenature falls between perfect competition and monopoly (5).

The Cournot model of imperfect competition, which emphasizes quantity adjustments by a few firms, is a good one to demonstrate the long-term implications of international aviation competition. Tirole (6, p. 224) states that "quantity competition can more generally be seen as competition in choices of scale, where a firm's choice of scale determines its cost function and thus the conditions of price competition." How the size of an airline operation affects its cost functions will be illustrated subsequently. There has also been work that models the strategic competition of a few firms as consisting of two subgames within one stage: quantity competition comes first; a second period then emerges during which there is price competition. Kreps and Scheinkman (7) show that Cournot models of competition best approximate the long-term results of this competition. This two-stage competition is in some respects similar to the airlines' procedure of first scheduling the number of international flights and afterward setting pricing policy to fill seats. Cournot models are therefore reasonably good models of international aviation competition.

Characteristic of the Cournot model of imperfect competition is the existence of supranormal profits, profits above and beyond the minimal profits found in perfectly competitive markets. International aviation is characterized by high profits on international routes (8). Market profitability is sensitive to macroeconomic fluctuations, however. Another crucial characteristic of Cournot models is that the lowest-cost competitor obtains the lion's share of the market and its profits. The lowest-cost carrier in imperfectly competitive international markets therefore, would gain the majority of traffic and profits. Nations and their international airlines can garner a larger share of the international traffic and the corresponding supranormal profits by cutting the costs of their international carriers. This behavior is known as the strategic trade incentive in economics and can make protection optimal for a nation, a situation that does not occur under the normal economic prescription for free trade (9). It is important to understand how the costs of these international carriers can be reduced.

There are economies that result from matching domestic networks to international routes, because domestic networks make international-route carriers more efficient in providing international service (J). These economies derive from the existence of density economies on a specific flight or within a specific market; with every additional passenger, carriers lower their average costs (10). The initial costs of providing air service are high and include the acquisition of aircraft, maintenance facilities, gate and takeoff rights, and even, to a degree, personnel. However, the additional or marginal cost of providing for one more passenger is a few dollars

worth of fuel and a meal, and as a result the average costs go down significantly—in other words, there are substantial density economies. It is for this reason that load factors—the percentage of available plane seats occupied by paying customers—are such important indicators for the industry. One way of taking advantage of these density economies is to match international flights with domestic feeder-flights that funnel passengers onto a certain flight, increasing the load factor for that flight and ensuring that it takes advantage of density economies.

The matching of flights into a network brings up the issue of scope economies. Economies of scope generally refer to two goods being provided more efficiently by one company than two. In aviation, economies of scope are found when the provision of one service (flights from Los Angeles to New York City, for example) reduces the cost of providing another service (flights from New York City to London). Matching different pair-city markets into a network brings about cost reductions, which is why the economies from hub-and-spoke networks are often rightly referred to as scope economies. It is important to realize that these scope economies derive from the greater densities in an airline's flights allowed by matching routes.

These economies of scope are credited with explaining many of the hub-and-spoke networks in the deregulated U.S. environment, but they are also apparent in international aviation. It is imperative that international airlines take advantage of these scope economies because the resulting cost reductions would allow international carriers to increase their international market shares and profits—the strategic trade incentive. Mergers that provide greater scope economies will be sought by international carriers to improve their competitive international position and overall profitability.

Politics

Political considerations arise when an airline seeks to expand its domestic reach to compete more **effectively** for international profits. Airlines need government approval to complete mergers because of antitrust policies that protect consumers from industry consolidation. It is possible to look at theories that explain political action as being in either the private- or public-interest tradition. Those whose writings promote the private-interest tradition see explanations for specific public policies in society and the pressure groups within society. In contrast, the public-interest, or state-interest, tradition argues that national interest determines policy formulation. Government officials act in the interests of the nation, not in the interests of a few noisy pressure groups.

Private Interest

It is no surprise that airlines lobby governments for merger approvals when international incentives exist. The acquisition of a greater domestic network improves the competitive international position of an airline, not to mention the potential domestic-market efficiency or market-power gains. Industries' efforts to lobby government for actions that favor them have been researched since Schattschneider's (11) work on the depression era Smoot-Hawley tariffs. George Stigler (12) and others in the public-choice tradition have done theoretical work modeling the process by which private interests find it rational to lobby for public policies that favor their ventures. The received wisdom is that these pressure groups or spe-

cial interests lobby a government for an action (i.e., tariff protection, subsidies, or a merger) that is beneficial to them but not to the public at large.

Public Interest

The case for public interest is stated by John Odell (13), who observed that when market **conditions** change and make **policy** irrational, governments change policy and yield to market forces. The merger of domestic carriers could be considered an efficient response to change in international markets because of several benefits of such mergers. The mergers cause profit increases for home-nation airlines at the expense of foreign airlines. In addition, the home nation benefits from the added employment and economic activity generated by its airline's role as a larger global provider (14). Consumers also gain from merger efficiencies, because the introduction of a lower-cost airline creates a more competitive international market with lower prices, more service, and a corresponding international-consumer surplus gain. The state must weigh these **benefits** against the potential costs of reduced domestic competition, specifically the reduced domestic-consumer surplus and potential employment reductions in the domestic industry. Nevertheless, mergers can be deemed efficient responses to the conditions in international markets.

Coincidence of Private and Public Interests

The norm is for the societal and state theories of policy formulation to duel both in the theoretical literature and in practice. Scholars argue over whether it is interests within the state (societal or private interest) or the state acting in the interests of the whole nation (state or public interest) that defines public policy. It is not unusual for arguments to arise over public policy when special interests desire what is good for them but a counter-argument is made that the policy is bad for society.

The domestic airline consolidation policy is unique in that political support can come from both societal interests (the airlines) and state-interest keepers (government officials). Airlines seek these mergers to improve their profits; government officials can approve these mergers on the merits of their benefits to society, although that is less usual. Governments act in response to the interests of the airlines, but are not captured by these interests—consolidation also improves societal welfare. Mansfield (15) has found that when societal and state interests converge policy outcome is at its most robust; he has called for more research on the interaction of societal and state pressure in place of continued debate over the preeminence of a single perspective. An instance of converging state and societal interests over aviation mergers was examined.

EMPIRICAL TESTING

There are two major tasks for testing the analysis of the airline merger phenomenon that is proposed. The first task is to test the mergers' ability to improve airlines' shares of international market traffic—the size of a single airline's domestic network should translate into competitive international advantages. If they do result in improvement there would be some evidence to support the idea that airlines desire and lobby for domestic mergers. The second

major task is to test whether domestic mergers contribute to a nation's share of international-market traffic. If governments are to approve mergers for the public welfare, it is imperative that nations obtain higher international traffic shares as a result of the approvals.

The period of the analysis is 1983-1992, and the focus is the international performance of the North American airlines and the North American nations in the international airline markets. The data set on which the tests were done is composed of international-market performance and domestic-market performance statistics. The domestic-market statistics are from the ICAO Traffic series; the international market statistics come from the ICAO Traffic by Flight Stage series. The tests look at North American airline performance in the international pair-city markets among the 3 North American nations and in the pair-city markets among the 3 nations and 18 other major aviation nations. For example, the Mexico City-New York, Mexico City-Vancouver, Mexico City-London markets and all other international pair-city markets that begin in Mexico City and go to any of the 20 other nations are included. All other cities in North America that have international service to any of the 20 other nations are also included. The data contains annual figures for 1983-1992, with both time-series and cross-sectional measures.

Airline Incentive Tests

The first test looks at the performance by North American airlines in the international markets where they compete and tests whether the scale and scope of domestic market presence contributes to international **market** share. The estimated model is

$$\text{INPSSHR}_i = \beta_0 + \beta_1 * \text{DOMDEPS}_i + \beta_2 * \text{DPMKTSHR}_i + \beta_3 * \text{COMPS}_i + p > \text{LGINPSSH}_k$$

There is one dependent variable, and (here are two explanatory variables:

- INPSSHR, the dependent variable, is the share of revenue **passengers** carried by a specific airline in an international pair-city market for a particular year. The theoretical foundation laid out leads to the expectation that international market traffic shares proxy international market profitability. An increase in market share translates into an increased share of market profitability.
- DOMDEPS is the number of domestic departures for the airline in that year. A positive relationship would be expected, as the greater the number of domestic departures—the larger the size of an airline's domestic network—the better the airline can take advantage of economies of scope and therefore the greater its ability to lower costs and increase share of the international market traffic.
- DPMKTSHR is the airline's share of the total domestic departures for that year, and a positive relationship between it and the dependent variable would also be expected. The more an airline monopolizes a domestic market, the greater its ability to take advantage of the available scope economies and the greater should be its share of international traffic.

The two explanatory variables are the crux of the argument. Domestic departures proxies the size of the domestic scope economies brought to bear on international market performance, and the share of total domestic departures shows the extent of an

airline's presence in the domestic market and its effect on international market competitiveness.

Two final variables are included to get a better causal inference from the first two explanatory variables.

- COMPS is the number of competitors in the international pair-city market; it would be expected that the more competitors, the smaller an airline's share in that market. All markets for which an airline possesses a monopoly (markets where COMPS = 1) were omitted from the tests because domestic sources of cost advantages would mean little to an airline holding a monopoly—its market share would simply be 100 percent.

- LGINPSSH is the lagged dependent variable, the airline's share of international traffic in that international pair-city market in the previous year. International traffic rights are granted by nations, so what airlines fly what markets and what their route rights are in those markets is fixed with substantial rigidity. For example, the share of Air Canada in the Montreal to Washington, D.C., market in 1986 should provide a very powerful explanation of Air Canada's performance in this market in 1987.

By inserting LGINPSSH, it is possible to look at the effects of domestic departures and the share of domestic market departures holding previous international market performance levels constant (16). This mitigates the problematic fact that the larger the size of an airline, as reflected by DOMDEPS and DPMKTSHR, the greater the route rights it could garner from its government. Consequently, the airline's share in the international pair-city market it flies should be a positive function of its share in the previous year.

Results of Airline Incentive Tests

The results of the airline incentive tests do not deviate from what was expected and they are shown in Table 1. The Ordinary Least Squares method was first used to estimate the regression, but there was significant serial correlation. The Maximum Likelihood Estimate method was then used to estimate the model and correct for serial correlation, and discussion of these results will be elaborated. The regular *IP* is 0.46 and the total *IP* is 0.73; the latter is indicative of the lagged error terms being included in the model. More importantly, the beta values all have the correct signs with significant *t*-ratios. The beta value for DOMDEPS is 0.000013; an airline that increased annual domestic departures by 100,000 would see an increase of 1.3 percentage points on average to its international pair-city market shares. The beta value for DPMKTSHR is 0.175; an airline that increases its share of the domestic market by 10 percent will see an increase of 1.75 percentage points on average to its international pair-city market shares.

TABLE 1 Airline Incentive Tests—MLE Regression Results

Variable	B Value	Std Error	<i>t</i> Ratio	Annrv Prob
Intercept	17.8	1.38	12.9	0.0001
COMPS	0.000013	0.0000015	8.7	0.0001
DPMKTSHR	0.175	0.026	6.7	0.0001
COMPS	-2.4	0.202	-11.0	0.0001
LGINPSSH	0.54	0.013	42.8	0.0001

This test gives positive evidence that it behooves international airlines to increase the size of their domestic networks because there are international market rewards. These tests do not negate other rationales that may be behind mergers, including domestic efficiency or market-power gains. However, the tests corroborate the hypothesis that airlines seek mergers and lobby for their approval partly because of the international gains mergers generate.

Nation Incentive Tests

The second test looks at North American nations' performance in the international markets where they have national carriers and compete, and it tests whether the scale and scope of domestic market presence contributes to international market share. The estimated model is

$$\begin{aligned}
 \text{NTINPSSH}_i = & \beta_1 * \text{HMDMDEPS}_i + \beta_2 * \text{HMDPMKSH}_i \\
 & + \beta_3 * \text{NTCOMPS}_i + \beta_4 * \text{NTCOMPSS}_i \\
 & + \beta_5 * \text{LGINPSSH}_i + \beta_6 * \text{UNSTDUM}_i \\
 & + P_1 * \text{CANDDUM}_i + P_2 * \text{MEXCDUM}_i
 \end{aligned}$$

There is one dependent variable, and there are two explanatory variables:

- NTINPSSH, the dependent variable, is a nation's share of the passenger traffic in the various international pair-city markets for a particular year. For example, if American Airlines held 20 percent and Delta Airlines 15 percent of the Miami-Santiago market, and there were no other U.S. competitors, the U.S. share of traffic (NTINPSSH) would be 35 percent for that year. The larger a nation's share of traffic, the larger its take of market profits is expected to be.

- HMDMDEPS is the total number of annual domestic departures by home country airlines that fly the international pair-city market. A positive relationship would be expected; the more domestic departures behind a nation's international competitors the better a nation can take advantage of economies of scope. These economies of scope translate into lower costs for a nation's airlines and a higher share of the international market traffic.

- HMDPMKSH is the share of total domestic departures held by the airline's national competitors in a particular international pair-city market. A positive relationship is also expected between this variable and the dependent variable. The more a nation's international competitors monopolize a domestic market, the greater the nation's airlines' ability to take advantage of what scope economies there are in the domestic market; the national share of international traffic should be greater as well, because of these cost advantages.

The two explanatory variables, as in the airline incentive tests, are the crux of the argument. The first variable shows the size of the national domestic scope economies brought to bear on international market performance, and the second shows the extent of a nation's international competitors' presence in the domestic market and how that affects international market performance. There are six other variables:

- NTCOMPS is the number of home nation competitors in the international pair-city market. There were contradictory expectations for the sign of this coefficient—increasing the number of

national competitors could induce competition between national carriers and lead to cost reductions and advantages over foreign competitors, but could also split the domestic scope economies available, thereby reducing a nation's share of international traffic.

- NTCOMPSH is the home nation share of competitors in the international pair-city market. Clearly, if Mexico had two home carriers competing in the Acapulco-San Diego market and the United States only one, then Mexico would be expected to have a greater share of the traffic, all other variables being equal.

- LGINPSSH is the lagged dependent variable, the international traffic share by the subject nation in that international pair-city market for the previous year. Again, it is expected that the rights nations have acquired for their carriers would be rigidly fixed; by inserting this variable it is possible to look at the effects of other explanatory variables, holding previous international market performance levels constant (16). That nations acquire route rights in bilateral negotiations that are rarely revised is thereby mitigated. Consequently, an airline's share in the international pair-city market it flies should be a positive function of its share for the previous year.

- UNSTDUM, CANDDUM, and MEXCDUM are dummy variables for the three nations studied, and are included to control for any consistent bargaining or structural advantages held by these nations in the markets they face internationally. The regressions are run without intercept, to include all dummy variables.

Results of Nation Incentive Tests

The model estimates again meet all expectations, the *f*-ratios are all significant, and the regular R^2 is 0.94 as shown in Table 2. The regression results were again arrived at using the MLE method to correct for OLS serial correlation problems. The first variable, HMDMDEPS, has a beta value of 0.000000027, meaning that an increase in home nation airline domestic departures of 100 million would lead to a 2.7 percentage point increase on average to share of the international markets served by the home nation. The second variable, HMDPMKSH, has a beta value of 0.085, meaning that an increase in home market share of 10 percent by an airline or airlines in an international pair-city market should result in an increase in international market share by 0.85 percentage points if all other variables are constant.

The third variable, NTCOMPS, has a beta value of -3.8, which seems to indicate that the more a nation adds home competitors to a specific international pair-city market, the smaller that nation's market share will be. The more home carriers in an international

pair-city market, the more domestic economies are split and under-used. This reflects badly on the U.S. policy of multiple carrier designation in international routes, at least in the area of its share as a nation, if not in the area of competitive equilibrium in the international market. However, these implications are counterbalanced by the fourth variable, NTCOMPSH, which has a beta value of 0.5. That value suggests that the larger a nation's share of the carriers in a market the larger its share of traffic will be. Adding a second or third carrier to an international market may reduce a nation's traffic share as demonstrated by the value for NTCOMPS, but it is also likely that it would increase a nation's share of the carriers in the market, which increases a nation's market share, as demonstrated by the value for NTCOMPSH. Adding a carrier would also increase the values for HMDMDEPS and HMDPMKSH, both of which positively effect the value for NTINPSSH. The advisability of multiple-carrier-designation policy depends in part on the costs and benefits as represented by these variables, which seems to indicate that the benefits of multiple carrier designation outweigh the costs.

The fifth variable, LGINPSSH, is significant and positive as expected, as are the country dummy variables. The country dummy variables seem to show that the United States, with a beta value of 5.9, has some structural or bargaining advantages compared with its neighbor nations. Canada is not far behind in these advantages, as the CANDDUM variable has a beta value of 5.5. Mexico suffers from a dummy variable beta value of 3.6 and would be expected to have a national share in its international pair-city markets of 2.3 percentage points below that of the United States and 1.9 percentage points below that of Canada, all other variables being equal. These results make intuitive sense when the relative bargaining power these nations have when dealing with other nations to secure traffic rights is considered.

The evidence suggests that it behooves a nation to increase the size and scope of the domestic operations of its international airlines in order to perform better in the international markets. One way of bringing more domestic economies to bear in the international arena is to grant additional international route rights to other home carriers. The tests show there are benefits to multiple carrier designation as values for HMDMDEPS, HMDPMKSH, and NTCOMPSH should rise as a result and lead to a higher home nation share in the international markets. The benefits represented by NTCOMPSH are dependent on foreign nations responding by resisting the designation of additional carriers. There are also costs in national traffic shares when additional carriers are designated as demonstrated by the value for NTCOMPS.

Another way to increase the nation's competitiveness is to allow mergers that increase the domestic presence of the home nation international airlines. The variables HMDMDEPS and HMDPMKSH reflect the size and extent of domestic networks, and they positively affect national shares in international markets. The test seems to corroborate the hypothesis that it can be in the public welfare for governments to approve airline mergers, because of the international gains these mergers generate.

TABLE 2 Nation Incentive Tests—MLE Regression Results

Variable	B Value	Std Error	t Ratio	Approx Prob
HMDMDEPS	2.69 E-8	8.28 E-9	3.3	0.0012
HMDPMKSH	0.085	0.025	3.4	0.0006
NTCOMPS	3.8	0.532	-7.2	0.0001
NTCOMPSH	0.50	0.012	43.3	0.0001
LGINPSSH	0.46	0.012	37.7	0.0001
UNSTDUM	5.94	1.05	5.6	0.0001
CANDDUM	5.50	1.48	3.7	0.0002
MEXCDUM	3.61	1.70	2.1	0.0329

CONCLUSION

The research integrates knowledge from the fields of economics and political science into an analysis that explains the domestic airline merger phenomenon. The analysis first considers the field of strategic trade and finds that imperfectly competitive markets create a

rationale for government action when economics otherwise cautions against most forms of protection. This field has been subject to much criticism, in part because of its lack of empirical evidence (77). The research helps in the defense of strategic trade by testing some implications of the strategic-trade rationale in the case of international aviation, and it shows there are gains to be made in imperfectly competitive international airline markets by consolidating airlines.

The analysis then considers the political science literature to understand how and why pressure would be put on government actors to facilitate airline mergers. The case of North American airline mergers is one of private and public interests sharing the same policy position. The norm is to find societal and state interests opposed. The empirical evidence supports the hypothesis that public and private interests coincide to yield political approval of North American airline mergers.

The results also have clear implications for aviation public policy, especially for the advisability of nations' sacrificing of domestic antitrust policy aims for increased international competitiveness (18). The statistical tests show that higher domestic-airline concentration contributes to a greater **share** in international markets. Domestic-airline regulators would be well served by considering these international gains when appraising the merits of proposed airline mergers.

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