

THE ECONOMIC IMPACTS OF INTERNATIONAL BORDER CLOSURE:
A STATE-BY-STATE ANALYSIS

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INTRODUCTION

Recurrent reminders that an international avian influenza epidemic is a real possibility have prompted a variety of public policy discussions. A recent World Bank study estimated that the global economy would lose \$2 trillion from an outbreak, or three percent of world GDP. Another report in *The Lancet* (by the Harvard Initiative for Global Health Group; Murray et al., 2006) largely based on an analogy drawn from the Spanish Flu epidemic of 1918-20 presented various estimates of possible U.S. fatalities. These included a low threshold of 114,483; a median threshold of 297,883; a mean threshold of 383,881; and a high threshold of 744,226. Applying the U.S. Environmental Protection Agency's valuation of a statistical life, \$5.8 million, these fatalities amount to large imputed dollar amounts: \$664 billion; \$1.728 trillion; \$2.227 trillion; and \$4.317 trillion, respectively. These estimates, astronomical though they are, ignore the treatment costs of those who get sick but do not die, quarantine costs, and other disaster management costs. The Harvard loss estimates are also much higher than the values estimated by Meltzer, Cox and Fukuda (1999), who estimated U.S. losses in the range of \$71-\$166 billion. While *The Lancet* study argues that a future pandemic might be even worse than in 1918-20, it also accepts that fatalities might be lower because of improved medical management (although the health care system could be overwhelmed), anti-viral medicines, quarantine, and vaccination. Yet, it is probably safe to say that terrorists with an admitted interest in acquiring and using weapons of mass destruction have taken note of these magnitudes as well as the recent reports that the H5N1 strain can be spread by human-to-human contact.

The closure of the U.S. to international trade and travel for as long as one year has been proposed as an extreme policy that might be justified by such an extreme threat. In this research we ask whether such extreme measures can be justified in economic terms. We attempt to measure the economic impacts of a one-year border closure. The hypothetical disruptions are obviously severe, well beyond anything that the U.S. economy has ever experienced, and raise additional analytical issues that we take up briefly at the end of this chapter.

Our modeling approach (reported in some of our previous papers; see Gordon, et al., 2007b and Park, et al, 2007) enables us to report most of the impacts at the level of the individual states and the District of Columbia (DC). Political decision-making in a federal system requires spatially disaggregated information. We utilized NIEMO (National Interstate Economic Model), the only operational multi-regional input-output (MRIO) model of the U.S., which provides estimates for 47-sectors (the "USC Sectors"), and the 50-states plus DC. We applied demand-side and supply-side versions of NIEMO whenever direct spatial impacts could be located (stopping international air travel, trade and cross-border shopping). We also used USIO, a 47-sector aggregation of the national IMPLAN IO model for circumstances in which the spatial locations of direct impacts remain unknown. Our simulations are for 2001, the year for which we had access to the most relevant data (Minnesota IMPLAN Group, 2003). We did not address the costs or the feasibility of implementing border closures.

In round numbers, the bottom line from the summing of our most optimistic scenarios is that a one-year border closing results in a total output loss of \$2.359 trillion. Dividing our low-end estimated output loss by an aggregate economic multiplier of approximately 1.655 (from our

results), we get an overall GDP loss of approximately \$ 1.425 trillion, or approximately 14 percent of 2001 GDP.

These are the aggregated impacts from five kinds of disruptions: a one-year shutdown of all international air travel, in and out of the U.S.; a one-year shutdown in international commodity trade (except gas and oil, which would be delivered via pipeline); a one-year shut-down of legal as well as illegal immigration; and a one-year disruption of all cross-border shopping. In each case, we tried to model and include various plausible mitigations. Also in the interests of conservatism, we restricted our reporting to Type-I input-output (IO) multiplier results. Multiplier results would be approximately 50 percent greater if values for Type-II multipliers are reported. Given the limited mitigations that we were able to model, the more conservative results seem the most plausible. Nevertheless, such a very large event is difficult to model, and the results must be understood in light of many caveats. Also our models are linear, so predictions for shorter duration border closings would merely consist of proportionately smaller impacts.

INVENTORYING LOSSES

International Air Travel Losses

Air travel losses can be estimated for various scenarios. We report on the most optimistic, which includes the assumed diversion of 65 percent of U.S.-based overseas travel to U.S. travel (for domestic vacations) *and* a 25 percent increase in telecommunications activities as substitutions for canceled business trips. Direct losses such as hotel, food, shopping and ground transportation were located at major airports (including an average five percent local airport revenues from ticket sales taxes; 95 percent of ticket sales revenue losses were allocated nationally).

The various modeling steps involved

- 1) calculating annual passenger volumes for four trip types, (U.S.-based international inbound, U.S.-based international outbound, abroad-based international inbound, abroad-based international outbound) for each of the U.S. international airports and aggregating each of the four volumes to the fifty states and D.C. (Tables A1 and A2); and
- 2) calculating per-passenger spending patterns for each of the representative trip types by major USC Sector (Table A3).

The resulting estimated direct losses for the whole nation are shown in Table A4. Table A5 shows the national effects of just the lost air ticket sales, specifically the 95 percent these sales that are distributed across the nation. This creates an overall loss of nearly \$84 billion.

However, the two proposed mitigations (substituting telecommunications and domestic travel) reduce losses substantially with most of the positive offsetting impacts coming from the increased use of telecommunications. In light of the mitigations, direct losses were estimated to be just over \$58 billion. These prompted more than \$113 billion of total losses. As expected,

almost 95 percent of the losses would be felt in three of the USC Sectors and almost two-thirds of that would impact the Transportation Sector. See Table 1.

Table 1: Total (Direct and Indirect) Losses for the Top 3 Impacted Sectors Across the 50 United States and DC (\$M)

	Sector Code	Total Sector Losses	Percent of Total
Transportation	USC 33	-71,231.45	(62.80 %)
Accommodations, Food Services	USC 45	-19,499.01	(17.19 %)
Retail Trade	USC 35	-16,321.99	(14.39 %)
Subtotal: Top 3 Impacted Sectors		-107,052.45	(94.38 %)
Total: All 47 USC Sectors		-113,428.83	(100.00 %)

These results are in light of both kinds of assumed mitigations. Taking these one at a time, the results of the assumed telecommunications offset are shown in Table A6; these are results for the nation as a whole because the location of telecommunications offset impacts is unknown.

We also modeled the state-level mitigations from lost international tickets sales to U.S. travelers made up by the increased sales of domestic air travel. To the extent that there are geographic effects, these are shown in Table A7, which accounts for the effects of differences in local purchases are shown.

Trade Losses

The most optimistic international trade loss scenario allows for the continuation of energy imports (USC Sector 10) and it also includes the presumption of substantial economic resilience by assuming that canceled exports replace canceled imports to the maximum extent possible. To plausibly model that possibility, we had to disaggregate to the maximum extent possible; this analysis was conducted at the six-digit Harmonized System (HS) Commodity Code level for each state. These data by port of entry were available from WISERTrade. At this disaggregated level, we assumed that if local exports are greater than imports, then local exports are sold to local importers: Exporting sectors experience only partial losses and the importing sectors are not disrupted. We applied the NIEMO demand-side model. On the other hand, if exports were less than imports, then the local importing industries purchase from local exporting industries: Importing sectors experience partial losses; the exporting sectors are not disrupted. We then applied the NIEMO supply-side model.

The results of international trade losses for the most impacted states and sectors are shown in Tables 2a and 2b. Table A8 shows the state-by-state effects of trade losses, both with and without the two assumed mitigations.

Legal Immigration Losses

Annual legal net immigration per year is approximately 1.5 million. We assume that the labor force participation rate of immigrants is 67 percent, and that there are 1-million workers among

Table 2a: Total (Direct and Indirect) Impacts due to Trade Losses Across 47 Sectors for the Top 3 Impacted States (\$M)

	Total State Losses	Percent of Total
California	-220,685.56	(9.93 %)
Texas	- 148,719.02	(6.69 %)
Illinois	- 90,465.95	(4.07 %)
Subtotal: Top 3 Impacted States	- 459,870.53	(20.69 %)
Total: All 47 USC Sectors	- 2,223,037.28	(100.00 %)

Table 2b: Total (Direct and Indirect) Impacts due to Trade Losses Across 51 States for the Top 3 Impacted Sectors (\$M)

	Sector Code	Total Sector Losses	Percent of Total
Electronic and Other Electrical Equipment, Components, and Office Equipment	USC24	- 285,665.30	(12.85 %)
Misc. Manufactured Products, Scrap, and Mixed Freight	USC29	- 248,300.23	(11.17 %)
Motorized and Other Vehicles	USC25	- 206,953.18	(9.31 %)
Subtotal: Top 3 Impacted Sectors		- 740,908.71	(33.33 %)
Total: 47 USC sectors		- 2,223,037.28	(100.00 %)

them. There are also estimates of the occupations of this group. Our first step was to assign occupations to industries, using BLS information. We then applied Borjas' labor supply elasticity (-0.3). This raised wages in selected sectors. We then used a national I-O price model to calculate sector-level price effects and used these to reduce final demands. Table 3 shows the major impacted sectors. The left side of Table A9 provides the state-by-state details for price effects. The right side provides state-by-state details for reduced final demand effects.

Table 3: Total (Direct and Indirect) Impacts due to Legal Immigration Losses Across 51 States for the Top 3 Impacted Sectors (\$M)

	Sector Code	Total Sector Losses	Percent of Total
Health Care and Social Assistance	USC43	- 1,090.68	(10.78 %)
Construction	USC31	- 995.60	(9.84 %)
Retail Trade	USC35	- 678.86	(6.71 %)
Subtotal: Top 3 Impacted Sectors		- 2,765.14	(27.32 %)
Total: 47 USC sectors		- 10,121.90	(100.00%)

Illegal Immigration Losses

This part of the analysis was similar to our treatment of legal immigration. Of course, the magnitudes involve less precision: Our mid-level estimate of annual illegal immigration is 628,000 (Gordon, et al., 2007a). This value is conservative. The Pew Hispanic Center (Passel, 2006) provides an estimate of 850,000 unauthorized immigrants per year. We allocate most of these people to some of the 47 USC sectors, based on proportions of illegal employment predominantly working in agriculture, construction, retail, other production, and other services sectors. We then followed the same estimation procedure as in the case of legal immigrants. The results on the most impacted sectors are shown in Table 4. Table A10 shows sector-level detail, including price effects in the left columns and final demand effects in the right columns.

Table 4: Total (Direct and Indirect) Impacts due to Illegal Immigration Losses Across 50 States and the District of Columbia for the Top 3 Impacted Sectors (\$M)

	Sector Code	Total Sector Losses	Percent of Total
Construction	USC31	- 479.30	(23.51 %)
Retail Trade	USC35	- 342.87	(16.82 %)
Real Estate and Rental and Leasing	USC38	- 96.06	(4.71 %)
Subtotal: Top 3 Impacted Sectors		- 918.23	(45.04 %)
Total: 47 USC sectors		- 2,038.91	(100.00%)

Annual Incoming Border-Crossing Sales Losses

Data for annual inbound border-crossings by state are available from the U.S. Bureau of Transportation Statistics. Based on various reports, we assumed that 60 percent of these are foreign visitors crossing over to shop in the U.S. and spending \$100 per shopping visit. We also assumed that 40 percent of the crossings are returning U.S. shoppers who would shop domestically instead. The results for the most impacted states and sectors are shown in Tables 5a and 5b. State-level details are shown in Table A11.

Table 5a: Total (Direct and Indirect) Impacts due to Cross-border Shopping Losses Across 47 Sectors for the Top 3 Impacted States (\$M)

	Total State Losses	Percent of Total
Texas	- 3,553.20	(35.74 %)
Arizona	- 2,533.17	(25.48 %)
California	- 986.02	(9.92 %)
Subtotal: Top 3 Impacted States	- 7,072.39	(71.14 %)
Total: All 47 USC Sectors	- 9,941.23	(100.00 %)

Table 5b: Total (Direct and Indirect) Impacts due to Cross-border Shopping Losses Across 50 States and the District of Columbia for the Top 3 Impacted Sectors (\$M)

	Sector Code	Total Sector Losses	Percent of Total
Retail Trade	USC35	- 6,139.92	(61.76 %)
Professional, Scientific, and Technical Services	USC39	- 615.75	(6.19 %)
Real Estate and Rental and Leasing	USC28	- 530.84	(5.34 %)
Subtotal: Top 3 Impacted Sectors		- 7,286.51	(73.30 %)
Total: 47 USC sectors		- 9,941.23	(100.00 %)

Summary of Losses (\$M)

The total projected losses mentioned in the introduction are the sum of the losses documented in the previous five sections. As expected, the loss of commodity trade, even with the major mitigations that we included, accounts for the overwhelming share of the disruption. See Table 6.

Table 6: Total (Direct and Indirect) Impacts (\$M) of Border Closure

	Loss
International Air Travel	113,429.
International Trade	2,223,037.
Legal Immigration	10,122.
Illegal Immigration	2,039.
Cross-Border Shopping	9,941.
Total	2,358,568.

CONCLUSIONS

Our approach is based on the premise that border closure effects vary from place to place and that local (state-level, in this case) effects are what most political decision makers consider. This motivates a modeling approach that estimates state-level effects.

Interestingly, the magnitude of estimated costs is close to the cited median dollar value of expected loss of life. Until other information becomes available, our first-order estimates suggest that the total costs of the proposed border closure policy match the magnitude of the cost of the threat. In this case, benefits are costs forgone because policies are implemented. If sealing the national border is 100% effective in precluding fatalities from a pandemic, then we estimate that the economic impact of a one year would be approximately equal to the value of lives saved. The value of life is measured in this case in terms of federal standards. This comparison ignores the costs avoided by not needing to treat survivors, and assumes energy

imports continue. Consequently this first analysis is incomplete, but it is apparent that a border closure strategy would likely be too expensive to justify, and that the cost-effectiveness measures of more limited responses or mitigations are likely to be considerably higher.

In an event as extreme as a long term U.S. border closure, complex global repercussions, especially via changes in capital markets, that might further multiply economic impacts are likely to be important. These are missing from our models, and it may be impossible to meaningfully anticipate such effects given the number of simultaneous economic relationships and magnitudes involved. We are also missing enforcement costs as well as the welfare losses from reduced consumer choice (Broda and Weinstein, 2004). On the other hand, much of the natural resiliency of market economies is also left out of our approaches, and these effects would mitigate impacts. We must acknowledge that the utility of our research, and any research focusing on extreme, nation-level events, rests on the possibility that the many positives as well as the many negatives that are beyond the scope of the models used might roughly balance.

Obviously, many methodological questions remain. How should we best model very extreme events? Can we expect to ever be able to reliably model the economic impacts of very extreme events? Available models, by design, highlight perturbations at the economic margin, where adjustment strategies are reasonably limited. The MRIO analysis executed here precludes many meaningful adjustments are the parts of all producers and consumers. Yet the essence of meaningful economic behavior is adjustment, including strategies ranging from resource conservation to technological innovation and beyond. When policy makers are compelled by statutory responsibilities or by circumstances to make choices about events beyond the margin, it becomes unclear how to analyze and evaluate options. Beyond the margin, it may be important resort to subjective applications of domain expertise. Work by RAND researchers on the effects of nuclear attack makes use of “scenario analysis” and “strategic gaming” exercises that basically rely on expert judgment (Meade and Molander, 2007). See also Carter, et al. (2007). Analytical results provided my models structure to treat the margin might still be used to inform the initial stages of such a process.

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APPENDIX

Table A1: State-by-State Estimates of International Passenger Volumes, Base Year 2005⁴

State	Total Inbound Flows from International Origins	Proportions of Total U.S. Arrivals from International Origins ^{1,3}	Arrivals of International Passengers (AIP) from International Origins	Proportion of AIP to U.S. Total	Arrivals of U.S. Residents (IAUS) from International Origins	Proportion of IAUS to U.S. Total	Total Outbound Flows to International Destinations	Proportions of Total U.S. Departures to International Destinations ^{2,3}	Departures of International Passengers (DIP) to International Destinations	Proportion of DIP to U.S. Total	Departures of U.S. Residents to International Destinations (IDUS)	Proportion of IDUS to U.S. Total
AL	1,475	0.021%	1,227	0.004%	248	0.001%	2,021	0.014%	759	0.002%	1,262	0.003%
AK	52,435	0.750%	43,620	0.159%	8,815	0.020%	64,232	0.434%	24,133	0.070%	40,099	0.109%
AZ	890,631	1.929%	528,910	1.929%	361,721	0.818%	909,656	6.146%	341,768	0.989%	567,888	1.537%
AR	509	0.007%	423	0.002%	86	0.000%	666	0.005%	250	0.001%	416	0.001%
CA	12,597,191	16.395%	4,495,735	16.395%	8,101,456	18.327%	12,648,021	20.000%	5,256,479	15.211%	7,391,542	20.000%
CO	849,231	1.039%	284,798	1.039%	564,433	1.277%	820,241	5.542%	308,173	0.892%	512,068	1.386%
CT	48,006	0.686%	39,936	0.146%	8,070	0.018%	46,631	0.315%	17,520	0.051%	29,111	0.079%
DE	-	0.000%	0	0.000%	0	0.000%	4	0.000%	2	0.000%	2	0.000%
DC	2,580,552	36.898%	2,146,737	7.829%	433,815	0.981%	2,555,433	4.000%	1,077,125	3.117%	1,478,308	4.000%
FL	10,224,178	14.985%	4,109,224	14.985%	6,114,954	13.833%	10,262,260	6.000%	8,044,797	23.280%	2,217,463	6.000%
GA	3,676,131	2.226%	610,281	2.226%	3,065,850	6.935%	3,647,994	24.649%	1,370,591	3.966%	2,277,403	6.162%
HI	2,108,498	30.148%	1,754,039	6.396%	354,459	0.802%	2,118,845	14.317%	796,073	2.304%	1,322,772	3.579%
ID	126	0.002%	105	0.000%	21	0.000%	524	0.004%	197	0.001%	327	0.001%
IL	5,616,636	3.932%	1,078,163	3.932%	4,538,473	10.267%	5,551,295	5.000%	3,703,409	10.717%	1,847,886	5.000%
IN	34,550	0.494%	28,742	0.105%	5,808	0.013%	30,898	0.209%	11,609	0.034%	19,289	0.052%
IA	524	0.007%	436	0.002%	88	0.000%	2,278	0.015%	856	0.002%	1,422	0.004%
KS	645	0.009%	537	0.002%	108	0.000%	774	0.005%	291	0.001%	483	0.001%
KY	546,907	7.820%	454,967	1.659%	91,940	0.208%	558,455	3.773%	209,818	0.607%	348,637	0.943%
LA	37,980	0.543%	31,595	0.115%	6,385	0.014%	33,367	0.225%	12,536	0.036%	20,831	0.056%
ME	6,454	0.092%	5,369	0.020%	1,085	0.002%	5,495	0.037%	2,065	0.006%	3,430	0.009%
MD	286,920	0.816%	223,770	0.816%	63,150	0.143%	291,562	1.970%	109,543	0.317%	182,019	0.493%
MA	1,983,484	2.967%	813,708	2.967%	1,169,776	2.646%	1,983,037	3.000%	874,306	2.530%	1,108,731	3.000%
MI	1,938,839	1.113%	305,140	1.113%	1,633,699	3.696%	1,900,136	12.839%	713,902	2.066%	1,186,234	3.210%
MN	1,306,762	0.371%	101,713	0.371%	1,205,049	2.726%	1,308,609	8.842%	491,658	1.423%	816,951	2.211%
MS	749	0.011%	623	0.002%	126	0.000%	265	0.002%	100	0.000%	165	0.000%
MO	167,179	0.519%	142,399	0.519%	24,780	0.056%	164,058	1.109%	61,638	0.178%	102,420	0.277%
MT	58	0.001%	48	0.000%	10	0.000%	95	0.001%	36	0.000%	59	0.000%
NE	2,567	0.037%	2,135	0.008%	432	0.001%	1,449	0.010%	544	0.002%	905	0.002%
NV	856,052	12.240%	712,141	2.597%	143,911	0.326%	838,183	5.663%	314,914	0.911%	523,269	1.416%
NH	10,056	0.144%	8,365	0.031%	1,691	0.004%	9,862	0.067%	3,705	0.011%	6,157	0.017%
NJ	4,598,623	3.412%	935,764	3.412%	3,662,859	8.286%	4,569,535	5.000%	2,721,649	7.876%	1,847,886	5.000%
NM	295	0.004%	245	0.001%	50	0.000%	505	0.003%	190	0.001%	315	0.001%
NY	10,131,931	20.846%	5,716,297	20.846%	4,415,634	9.989%	10,082,301	21.000%	2,321,182	6.717%	7,761,119	21.000%
NC	1,071,051	0.964%	264,455	0.964%	806,596	1.825%	1,068,898	7.222%	401,596	1.162%	667,302	1.806%
ND	127	0.002%	106	0.000%	21	0.000%	2,176	0.015%	818	0.002%	1,358	0.004%
OH	176,570	2.525%	146,887	0.536%	29,683	0.067%	172,409	1.165%	64,776	0.187%	107,633	0.291%
OK	1,051	0.015%	874	0.003%	177	0.000%	4,767	0.032%	1,791	0.005%	2,976	0.008%
OR	256,533	0.593%	162,742	0.593%	93,791	0.212%	259,889	1.756%	97,643	0.283%	162,246	0.439%
PA	1,938,357	2.151%	589,938	2.151%	1,348,419	3.050%	1,925,884	3.000%	817,153	2.365%	1,108,731	3.000%
RI	18,027	0.258%	14,996	0.055%	3,031	0.007%	17,763	0.120%	6,674	0.019%	11,089	0.030%
SC	9,925	0.142%	8,257	0.030%	1,668	0.004%	10,130	0.068%	3,806	0.011%	6,324	0.017%
SD	711	0.010%	591	0.002%	120	0.000%	821	0.006%	308	0.001%	513	0.001%
TN	218,559	3.125%	181,817	0.663%	36,742	0.083%	209,548	1.416%	78,729	0.228%	130,819	0.354%
TX	5,956,051	3.264%	895,079	3.264%	5,060,972	11.449%	6,001,647	6.000%	3,784,184	10.951%	2,217,463	6.000%
UT	178,024	2.545%	148,096	0.540%	29,928	0.068%	193,382	1.307%	72,656	0.210%	120,726	0.327%
VT	2	0.000%	2	0.000%	0	0.000%	11	0.000%	4	0.000%	7	0.000%
VA	5,739	0.082%	4,774	0.017%	965	0.002%	5,431	0.037%	2,040	0.006%	3,391	0.009%
WA	1,143,749	1.261%	345,826	1.261%	797,923	1.805%	1,135,398	2.000%	396,244	1.147%	739,154	2.000%
WV	28	0.000%	23	0.000%	5	0.000%	132	0.001%	50	0.000%	82	0.000%
WI	96,515	1.380%	80,290	0.293%	16,225	0.037%	97,742	0.660%	36,723	0.106%	61,019	0.165%
WY	6	0.000%	5	0.000%	1	0.000%	11	0.000%	4	0.000%	7	0.000%
Total	71,627,199		27,421,952	100%	44,205,247	100%	71,514,726		34,557,016	100%	36,957,710	100%

Notes: 1. Proportions of arrivals in the U.S. from overseas international locations are available from the International Trade Administration (ITA) Office of Travel and Tourism Industries (OTTI) at <http://tinet.ita.doc.gov/cat/f-2005-45-541.html>.
2. Proportions of departures of U.S. residents to overseas international locations are available from the International Trade Administration (ITA) Office of Travel and Tourism Industries (OTTI) at <http://tinet.ita.doc.gov/view/m-2005-O-001/index.html>.
3. Some proportions are unavailable from OTTI or are available but inconsistent. Adjusted proportions are calculated by authors based on the difference between the ‘total inbound or outbound passengers’ and ‘the sum of preliminary fixed inbound or outbound passengers’ available from the International Trade Administration (ITA) Office of Travel and Tourism Industries (OTTI, <http://tinet.ita.doc.gov/>). The differences between inbound passengers to all states and inbound passengers to OTTI’s selected major states are used to estimate proportions not provided by OTTI. These adjusted proportions are used to calculate international arrivals unreported by OTTI. U.S.-based outbound passengers are estimated similarly.
4. Our approach combines two different data sources to estimate four types of passenger flows (domestic inbound from foreign origins, domestic outbound to foreign destinations, international inbound from foreign origins, and international outbound to foreign destinations). Our results include modest discrepancies between inbound and outbound international and domestic passenger flows. Much of the discrepancy is due to passengers arriving or departing outside the 2005 base year. We have not attempted corrections.

Table A2: Annual Passenger Volumes: International Travel

Travelers Based in the U.S.		Travelers Based Abroad	
Case 1: Inbound	Case 2: Outbound	Case 3: Inbound	Case 4: Outbound
44,205,247	36,957,710	27,421,952	34,557,016
Source: BTS, OTTI	Source: OTTI	Source: OTTI	Source: BTS, OTTI

Note: U.S. Department of Transportation Bureau of Transportation Statistics (BTS) TranStats Table T-100, International Market (All Carriers, 2005), <http://www.transtats.bts.gov/>. We also used data from the International Trade Administration's Office of Travel and Tourism Industries (OTTI), <http://tinet.ita.doc.gov> to calculate foreign arrivals and outbound trips taken by U.S. residents.

Table A3: Domestic Spending Patterns of International Passengers

Sector Code	Expenditure ¹	U.S.-Based		Based Abroad	
		\$ per Passenger Inbound	\$ per Passenger Outbound	\$ per Passenger Inbound	\$ per Passenger Outbound
USC33	Airline Tickets ²	333.33	333.33	333.33	333.33
USC33	Transportation	90.67	90.67	143.50	143.50
USC45	Accommodation	0.00	0.00	686.00	0.00
USC35	Foods	0.00	0.00	267.31 ³	0.00
USC45	Grocery Stores	0.00	0.00	60.69 ³	0.00
USC35	Gifts/Shopping	0.00	0.00	406.00	0.00
USC44	Amusement	0.00	0.00	264.00	0.00
	Total	424.00	424.00	2,160.83	476.83

Notes: 1. All expenditures except Airline Tickets are based on U.S. expenditures per round-trip from proprietary data purchased from the Travel Industry Association (www.tia.org). See also Table A2.

2. These values are applied to all international boardings or alightings at U.S. airports in 2005 (www.bts.gov). We assume that the average cost of an international round-trip is \$1,000, and that two-third of this value accounts for the share of tickets that may have been purchased for U.S. carriers. See: <http://www.lawa.org/lax/statistics/tcom-1201.pdf>. We separately consider both trip types and assume that half are made by U.S. residents and half by foreign residents.

3. Based on \$328 for the Food/Beverage sector (Maplesden, et al., 2002: p.74), which we separate across two USC Sectors on the premise that Food/Beverage sector spending is similar to the pattern shown by domestic travelers (*ibid*: p.73). The proportions shown are 81.5 percent for the Foods Sector and 18.5 percent for the Grocery Stores Sector.

Table A4: Net Direct Losses Given Increased Telecommunications and Diversion of Domestic Travel

USC Sectors	Activity	Amount (Millions \$)
36	Telecommunication	43,596.65
33, 35, 44, 45	Diversion to Domestic Travel	8,381.50
33, 35, 44, 45	Total Direct Loses	- 110,145.09
	Net Direct Losses	- 58,166.94

Note: We assume final demand for Telecommunications services (IMPLAN® 2001 Data File, sector 422) increases by 25% during the one-year international travel ban.

Table A5. Impacts of Total Air Ticket Sales Losses (\$Millions), 47 USC Sectors

	Sector Code	Direct Impact	Indirect Impact	Total Impact
	USC01	0.0	-57.1	-57.1
	USC02	0.0	-36.2	-36.2
	USC03	0.0	-12.2	-12.2
	USC04	0.0	-38.2	-38.2
	USC05	0.0	-80.8	-80.8
	USC06	0.0	-53.1	-53.1
	USC07	0.0	-0.1	-0.1
	USC08	0.0	-36.6	-36.6
	USC09	0.0	-12.5	-12.5
	USC10	0.0	-4,021.2	-4,021.2
	USC11	0.0	-93.9	-93.9
	USC12	0.0	-6.4	-6.4
	USC13	0.0	-16.2	-16.2
Commodity Sectors	USC14	0.0	-163.6	-163.6
	USC15	0.0	-380.4	-380.4
	USC16	0.0	-157.6	-157.6
	USC17	0.0	-248.4	-248.4
	USC18	0.0	-618.1	-618.1
	USC19	0.0	-67.0	-67.0
	USC20	0.0	-97.8	-97.8
	USC21	0.0	-174.9	-174.9
	USC22	0.0	-397.2	-397.2
	USC23	0.0	-488.4	-488.4
	USC24	0.0	-384.3	-384.3
	USC25	0.0	-826.6	-826.6
	USC26	0.0	-454.2	-454.2
	USC27	0.0	-53.2	-53.2
	USC28	0.0	-29.4	-29.4
	USC29	0.0	-87.8	-87.8
		USC30	0.0	-389.6
	USC31	0.0	-264.2	-264.2
	USC32	0.0	-2,281.6	-2,281.6
	USC33	-45,327.8	-6,268.2	-51,596.0
	USC34	0.0	-850.0	-850.0
	USC35	0.0	-596.0	-596.0
	USC36	0.0	-1,710.7	-1,710.7
	USC37	0.0	-2,902.5	-2,902.5
Non-Commodity (Service) Sectors	USC38	0.0	-2,889.2	-2,889.2
	USC39	0.0	-3,559.8	-3,559.8
	USC40	0.0	-647.2	-647.2
	USC41	0.0	-2,783.8	-2,783.8
	USC42	0.0	-48.9	-48.9
	USC43	0.0	-88.3	-88.3
	USC44	0.0	-103.8	-103.8
	USC45	0.0	-731.2	-731.2
	USC46	0.0	-645.7	-645.7
	USC47	0.0	-2,617.9	-2,617.9
Total		-45,327.8	-38,471.7	-83,799.5

**Table A6: Impacts of a 25 Percent Increase in Telecommunications Expenditures (\$Millions),
47 USC Sectors**

	Sector Code	Direct Impact	Indirect Impact	Total Impact
Commodity Sectors	USC01	0.0	19.6	19.6
	USC02	0.0	12.9	12.9
	USC03	0.0	5.0	5.0
	USC04	0.0	12.1	12.1
	USC05	0.0	28.7	28.7
	USC06	0.0	21.0	21.0
	USC07	0.0	0.0	0.0
	USC08	0.0	12.7	12.7
	USC09	0.0	7.7	7.7
	USC10	0.0	213.2	213.2
	USC11	0.0	40.1	40.1
	USC12	0.0	5.1	5.1
	USC13	0.0	7.6	7.6
	USC14	0.0	132.2	132.2
	USC15	0.0	227.3	227.3
	USC16	0.0	130.7	130.7
	USC17	0.0	282.1	282.1
	USC18	0.0	1,065.7	1,065.7
	USC19	0.0	38.4	38.4
	USC20	0.0	129.6	129.6
	USC21	0.0	150.0	150.0
	USC22	0.0	267.7	267.7
	USC23	0.0	219.8	219.8
	USC24	0.0	2,894.0	2,894.0
	USC25	0.0	111.8	111.8
	USC26	0.0	6.2	6.2
	USC27	0.0	26.6	26.6
	USC28	0.0	36.4	36.4
	USC29	0.0	55.9	55.9
Non-Commodity Sectors	USC30	0.0	261.2	261.2
	USC31	0.0	256.3	256.3
	USC32	0.0	832.9	832.9
	USC33	0.0	427.3	427.3
	USC34	0.0	400.7	400.7
	USC35	0.0	174.8	174.8
	USC36	43,596.7	8,205.4	51,802.0
	USC37	0.0	1,161.2	1,161.2
	USC38	0.0	2,195.2	2,195.2
	USC39	0.0	3,174.6	3,174.6
	USC40	0.0	257.6	257.6
	USC41	0.0	923.0	923.0
	USC42	0.0	51.1	51.1
	USC43	0.0	58.8	58.8
	USC44	0.0	706.1	706.1
	USC45	0.0	231.1	231.1
	USC46	0.0	177.4	177.4
	USC47	0.0	1,089.3	1,089.3
Total		43,596.7	26,744.0	70,340.7

Table A7: State-by-State Impacts of Air Ticket Sales Losses (\$Millions, With and Without Diversion)

State	Without Diversion			With Diversion		
	Direct Impacts	Indirect Impacts	Total Impacts	Direct Impacts	Indirect Impacts	Total Impacts
AL	-2.5	-235.4	-237.9	-2.3	-210.5	-212.8
AK	-89.6	-114.7	-204.2	-80.5	-101.9	-182.4
AZ	-1,129.9	-683.6	-1,813.5	-1,001.1	-604.5	-1,605.6
AR	-0.9	-182.1	-182.9	-0.8	-161.5	-162.3
CA	-10,795.8	-7,083.3	-17,879.0	-9,119.7	-6,064.2	-15,183.8
CO	-690.1	-551.1	-1,241.2	-574.0	-468.5	-1,042.5
CT	-80.4	-159.1	-239.5	-73.8	-141.8	-215.7
DE	0.0	-46.0	-46.0	0.0	-40.7	-40.7
DC	-4,336.7	-1,935.6	-6,272.3	-4,001.5	-1,779.3	-5,780.8
FL	-9,761.0	-5,759.9	-15,520.9	-9,258.1	-5,456.7	-14,714.8
GA	-1,918.5	-1,501.3	-3,419.8	-1,402.1	-1,187.7	-2,589.8
HI	-3,542.3	-1,969.3	-5,511.6	-3,242.3	-1,794.4	-5,036.7
ID	-0.3	-75.1	-75.4	-0.2	-65.9	-66.0
IL	-3,267.0	-2,420.6	-5,687.5	-2,847.9	-2,132.6	-4,980.5
IN	-57.6	-302.9	-360.5	-53.2	-268.5	-321.6
IA	-1.1	-259.5	-260.6	-0.8	-227.0	-227.8
KS	-1.1	-169.2	-170.3	-1.0	-148.8	-149.8
KY	-919.9	-722.6	-1,642.5	-840.9	-654.1	-1,495.0
LA	-63.2	-376.2	-439.4	-58.5	-335.1	-393.6
ME	-10.7	-70.9	-81.6	-9.9	-62.2	-72.1
MD	-456.5	-448.4	-904.9	-415.3	-407.1	-822.3
MA	-1,885.2	-1,158.7	-3,043.9	-1,633.8	-1,008.1	-2,641.9
MI	-979.8	-948.9	-1,928.7	-710.8	-754.9	-1,465.7
MN	-483.4	-630.6	-1,114.0	-298.1	-485.3	-783.4
MS	-1.2	-126.4	-127.6	-1.2	-110.9	-112.0
MO	-286.1	-375.8	-662.0	-262.9	-337.4	-600.3
MT	-0.1	-45.8	-45.9	-0.1	-40.2	-40.3
NE	-4.2	-220.1	-224.3	-4.0	-195.6	-199.6
NV	-1,435.4	-715.2	-2,150.6	-1,316.7	-652.7	-1,969.4
NH	-16.9	-44.5	-61.4	-15.5	-39.4	-54.9
NJ	-2,753.1	-1,856.2	-4,609.4	-2,334.1	-1,603.0	-3,937.1
NM	-0.5	-59.2	-59.7	-0.5	-52.2	-52.7
NY	-12,220.6	-6,447.9	-18,668.5	-10,460.7	-5,523.8	-15,984.5
NC	-710.2	-764.2	-1,474.4	-558.9	-643.8	-1,202.7
ND	-0.5	-62.9	-63.4	-0.2	-55.1	-55.3
OH	-296.0	-669.6	-965.6	-271.6	-594.3	-865.8
OK	-2.2	-192.3	-194.5	-1.6	-168.0	-169.6
OR	-343.2	-332.9	-676.1	-306.5	-294.7	-601.2
PA	-1,482.6	-1,431.8	-2,914.4	-1,231.2	-1,223.1	-2,454.3
RI	-30.2	-51.8	-82.0	-27.7	-46.6	-74.4
SC	-16.7	-150.3	-167.0	-15.3	-132.6	-147.9
SD	-1.2	-54.8	-56.0	-1.1	-48.0	-49.1
TN	-365.9	-421.7	-787.6	-336.2	-379.2	-715.4
TX	-3,038.0	-3,519.1	-6,557.1	-2,535.2	-3,062.9	-5,598.1
UT	-300.9	-255.9	-556.8	-273.5	-230.7	-504.2
VM	0.0	-32.5	-32.5	0.0	-28.6	-28.6
VA	-9.6	-217.5	-227.1	-8.8	-193.6	-202.5
WA	-866.2	-747.0	-1,613.3	-698.6	-624.3	-1,322.9
WV	-0.1	-72.9	-73.0	0.0	-63.2	-63.3
WI	-162.2	-493.9	-656.1	-148.4	-436.1	-584.5
WY	0.0	-54.6	-54.6	0.0	-49.4	-49.4
US subtotal	-64,817.3	-47,221.7	-112,039.0	-56,436.8	-41,390.7	-97,827.4
FOREIGN	0.0	-2,420.5	-2,420.5	0.0	-2,142.5	-2,142.5
Total	-64,817.3	-49,642.2	-114,459.5	-56,436.8	-43,533.2	-99,970.0

Table A8: Impacts Due to International Trade Losses (\$Billions, With and Without Substitutions)

State	No substitution Effects									Substitution effects			
	Imports (A)			Imports, except energy sector (USC 10) (B)			Exports (C)						Total (B)+(C)
	Direct Impacts	Indirect Impacts	Total Impacts	Direct Impacts	Indirect Impacts	Total Impacts	Direct Impacts	Indirect Impacts	Total Impacts	Total Impacts	Direct Impacts	Indirect Impacts	Total Impacts
AL	-19.4	-7.8	-27.2	-18.2	-6.5	-24.7	-10.8	-13.2	-24.0	-48.7	-22.4	-14.1	-36.5
AK	-3.2	-1.4	-4.7	-2.9	-1.3	-4.2	-0.7	-1.2	-1.9	-6.1	-2.6	-1.8	-4.4
AZ	-18.5	-8.7	-27.1	-17.5	-7.3	-24.7	-13.3	-8.6	-21.9	-46.6	-22.4	-11.4	-33.8
AR	-11.0	-4.7	-15.7	-10.4	-3.9	-14.3	-7.2	-8.9	-16.1	-30.4	-17.2	-11.0	-28.2
CA	-151.2	-57.3	-208.5	-130.6	-43.8	-174.5	-107.9	-83.9	-191.8	-366.2	-144.4	-76.2	-220.7
CO	-20.6	-9.9	-30.5	-19.6	-8.9	-28.5	-9.7	-8.9	-18.7	-47.2	-21.7	-13.0	-34.7
CT	-18.4	-7.7	-26.0	-17.4	-6.2	-23.6	-15.2	-11.4	-26.6	-50.2	-25.2	-13.2	-38.3
DE	-5.0	-2.2	-7.2	-4.2	-1.7	-6.0	-2.0	-2.2	-4.2	-10.2	-4.2	-2.8	-6.9
DC	-4.5	-2.2	-6.7	-4.0	-1.5	-5.5	-0.3	-0.3	-0.7	-6.1	-2.9	-1.3	-4.2
FL	-57.6	-29.0	-86.7	-55.0	-25.7	-80.7	-18.1	-15.9	-34.0	-114.7	-41.2	-25.3	-66.5
GA	-36.7	-16.6	-53.3	-34.3	-13.9	-48.2	-17.5	-18.0	-35.5	-83.7	-36.6	-21.3	-57.9
HI	-4.4	-2.6	-6.9	-3.5	-1.9	-5.4	-0.7	-0.8	-1.5	-7.0	-3.7	-2.2	-6.0
ID	-5.4	-2.4	-7.8	-5.2	-1.9	-7.1	-3.7	-3.0	-6.7	-13.8	-6.9	-3.7	-10.6
IL	-59.6	-28.2	-87.8	-53.4	-21.5	-74.9	-34.7	-36.8	-71.5	-146.4	-54.7	-35.8	-90.5
IN	-32.4	-13.5	-45.9	-29.9	-10.5	-40.4	-23.9	-28.4	-52.3	-92.6	-41.2	-26.7	-67.9
IA	-14.3	-6.5	-20.8	-13.3	-5.4	-18.7	-10.6	-11.5	-22.1	-40.8	-23.8	-14.9	-38.6
KS	-16.5	-7.7	-24.2	-15.5	-6.7	-22.3	-12.0	-11.9	-23.8	-46.1	-25.8	-16.3	-42.2
KY	-23.5	-8.7	-32.2	-22.3	-7.8	-30.2	-13.1	-15.4	-28.5	-58.7	-28.3	-15.6	-43.9
LA	-22.8	-10.3	-33.0	-15.4	-6.9	-22.3	-9.6	-13.8	-23.4	-45.7	-16.1	-13.1	-29.2
ME	-5.1	-2.3	-7.4	-4.8	-2.0	-6.9	-2.9	-3.0	-5.9	-12.8	-5.7	-3.5	-9.2
MD	-22.7	-10.7	-33.3	-21.5	-9.1	-30.6	-6.9	-6.6	-13.5	-44.1	-22.6	-11.5	-34.1
MA	-34.4	-14.0	-48.4	-32.6	-11.9	-44.5	-23.2	-17.4	-40.6	-85.1	-37.6	-19.5	-57.1
MI	-65.2	-25.6	-90.8	-62.9	-22.7	-85.6	-35.8	-37.7	-73.5	-159.1	-44.6	-29.4	-74.0
MN	-28.3	-12.5	-40.7	-26.0	-9.8	-35.7	-15.2	-15.9	-31.1	-66.8	-31.5	-18.9	-50.4
MS	-11.7	-4.9	-16.5	-10.2	-3.7	-13.9	-5.9	-7.4	-13.3	-27.2	-13.4	-8.5	-21.9
MO	-28.8	-12.8	-41.6	-27.1	-10.8	-37.8	-14.0	-14.7	-28.8	-66.6	-34.4	-18.8	-53.3
MT	-4.0	-2.2	-6.3	-3.1	-1.6	-4.7	-1.1	-1.9	-3.0	-7.7	-2.6	-2.2	-4.8
NE	-8.2	-4.6	-12.7	-7.3	-3.5	-10.8	-5.3	-6.1	-11.4	-22.2	-11.8	-8.3	-20.1
NV	-7.5	-4.2	-11.7	-7.1	-3.5	-10.6	-1.7	-1.6	-3.2	-13.8	-7.6	-4.2	-11.8
NH	-6.3	-2.5	-8.7	-6.0	-2.1	-8.1	-4.4	-3.9	-8.3	-16.4	-10.4	-5.2	-15.5
NJ	-38.0	-18.8	-56.7	-33.9	-14.1	-48.0	-19.7	-18.9	-38.5	-86.5	-35.9	-19.6	-55.5
NM	-8.1	-3.1	-11.3	-7.7	-2.8	-10.5	-2.7	-2.4	-5.2	-15.7	-8.4	-4.0	-12.4
NY	-75.5	-34.6	-110.1	-71.3	-29.0	-100.2	-34.9	-29.8	-64.7	-164.9	-51.4	-31.7	-83.0
NC	-35.6	-15.0	-50.5	-33.8	-12.5	-46.3	-26.2	-23.8	-50.0	-96.4	-47.3	-26.9	-74.2
ND	-3.6	-1.7	-5.3	-3.2	-1.3	-4.5	-2.2	-2.3	-4.5	-8.9	-3.6	-2.6	-6.2
OH	-63.4	-24.1	-87.5	-60.5	-20.6	-81.2	-39.3	-44.0	-83.4	-164.6	-52.3	-36.2	-88.5
OK	-15.7	-6.7	-22.4	-13.8	-5.8	-19.6	-7.7	-9.8	-17.6	-37.1	-21.1	-13.3	-34.4
OR	-15.9	-6.3	-22.2	-15.0	-5.0	-20.0	-12.4	-9.3	-21.7	-41.6	-19.3	-9.7	-29.0
PA	-53.6	-23.8	-77.4	-48.9	-19.1	-67.9	-32.1	-33.6	-65.7	-133.6	-50.1	-31.9	-81.9
RI	-4.8	-1.8	-6.7	-4.5	-1.5	-5.9	-3.1	-2.7	-5.9	-11.8	-7.5	-3.6	-11.2
SC	-16.9	-6.7	-23.6	-16.0	-5.5	-21.5	-11.6	-12.2	-23.8	-45.3	-18.4	-11.0	-29.4
SD	-3.5	-1.8	-5.2	-3.3	-1.5	-4.7	-2.1	-2.3	-4.4	-9.1	-4.3	-3.0	-7.3
TN	-29.3	-11.9	-41.2	-27.9	-10.2	-38.1	-16.3	-17.7	-34.0	-72.0	-32.7	-19.2	-52.0
TX	-96.1	-42.8	-139.0	-82.1	-35.3	-117.4	-59.8	-63.7	-123.5	-241.0	-87.3	-61.4	-148.7
UT	-8.7	-4.2	-12.9	-7.7	-3.3	-11.0	-5.0	-5.2	-10.2	-21.2	-10.8	-6.8	-17.5
VM	-2.8	-1.1	-3.9	-2.6	-0.9	-3.6	-2.5	-1.6	-4.2	-7.7	-3.0	-1.6	-4.6
VA	-34.2	-14.4	-48.6	-32.8	-12.6	-45.4	-13.1	-12.6	-25.7	-71.1	-32.8	-17.4	-50.3
WA	-33.1	-15.0	-48.1	-30.2	-11.3	-41.4	-23.9	-19.8	-43.7	-85.2	-39.3	-22.2	-61.6
WV	-6.7	-2.8	-9.5	-6.2	-2.4	-8.6	-4.7	-6.6	-11.3	-19.9	-10.9	-7.6	-18.4
WI	-30.6	-12.0	-42.6	-29.0	-10.1	-39.1	-18.9	-21.6	-40.5	-79.6	-38.9	-22.6	-61.6
WY	-2.4	-1.2	-3.6	-1.9	-1.0	-3.0	-0.8	-1.5	-2.2	-5.2	-2.7	-2.2	-4.8
US subtotal	-1,325.2	-573.5	-1,898.8	-1,213.3	-469.8	-1,683.2	-766.3	-751.9	-1,518.2	-3,201.4	-1,341.4	-804.0	-2,145.3
FOREIGN	0.0	-41.9	-41.9	0.0	-38.5	-38.5	0.0	-83.8	-83.8	-122.3	0.0	-77.7	-77.7
Total	-1,325.2	-615.5	-1,940.7	-1,213.3	-508.3	-1,721.7	-766.3	-835.8	-1,602.1	-3,323.7	-1,341.4	-881.7	-2,223.0

Table A9: Impacts Due to Elimination of Legal Migration (\$Millions)

Classification	Leontief Price Model			Total Industry Output	Demand-side USIO			
	USCsec.	Job Losses(1000)	Increased Wage		Increased Price	Direct Impact	Indirect Impact	Total Impact
	USC01	-17.506	0.0036%	0.0184%	173,097	-31.928	-53.292	-85.220
	USC02	-15.599	0.0032%	0.0135%	118,853	-16.100	-30.619	-46.720
	USC03	-4.087	0.0008%	0.0161%	44,785	-7.193	-15.563	-22.757
	USC04	-8.019	0.0017%	0.0137%	84,932	-11.594	-20.559	-32.153
	USC05	-17.407	0.0036%	0.0173%	286,070	-49.480	-71.343	-120.823
	USC06	-1.710	0.0004%	0.0109%	61,546	-6.715	-15.704	-22.420
	USC07	-0.773	0.0002%	0.0076%	52,637	-4.009	-0.186	-4.195
	USC08	-3.251	0.0007%	0.0077%	19,049	-1.459	-12.258	-13.718
	USC09	-0.968	0.0002%	0.0079%	9,129	-0.718	-3.894	-4.612
	USC10	-12.860	0.0027%	0.0135%	371,603	-50.313	-145.066	-195.379
	USC11	-3.033	0.0006%	0.0115%	76,034	-8.740	-25.064	-33.804
	USC12	-6.282	0.0013%	0.0098%	134,457	-13.218	-16.569	-29.787
	USC13	-0.831	0.0002%	0.0103%	16,209	-1.665	-5.881	-7.546
Commodity Sectors	USC14	-6.736	0.0014%	0.0115%	142,133	-16.389	-42.933	-59.322
	USC15	-19.663	0.0041%	0.0149%	203,666	-30.293	-90.718	-121.011
	USC16	-12.398	0.0026%	0.0133%	101,676	-13.477	-73.066	-86.542
	USC17	-10.040	0.0021%	0.0133%	142,353	-18.924	-61.830	-80.754
	USC18	-22.982	0.0048%	0.0132%	203,883	-26.905	-87.329	-114.233
	USC19	-23.036	0.0048%	0.0163%	172,998	-28.277	-29.044	-57.322
	USC20	-10.892	0.0023%	0.0117%	97,801	-11.422	-67.565	-78.987
	USC21	-8.249	0.0017%	0.0129%	121,498	-15.660	-50.146	-65.806
	USC22	-24.032	0.0050%	0.0143%	184,519	-26.448	-88.621	-115.069
	USC23	-32.231	0.0067%	0.0169%	331,350	-55.988	-65.114	-121.102
	USC24	-42.166	0.0087%	0.0169%	601,195	-101.766	-96.724	-198.490
	USC25	-24.500	0.0051%	0.0185%	447,184	-82.700	-65.058	-147.758
	USC26	-9.550	0.0020%	0.0124%	118,010	-14.683	-4.403	-19.087
	USC27	-11.311	0.0023%	0.0114%	114,130	-12.995	-13.696	-26.691
	USC28	-13.267	0.0027%	0.0129%	73,637	-9.536	-16.183	-25.719
	USC29	-13.410	0.0028%	0.0111%	282,474	-31.340	-23.446	-54.786
	USC30	-10.323	0.0021%	0.0103%	296,699	-30.432	-75.830	-106.263
	USC31	-386.254	0.0800%	0.0939%	1,013,114	-951.797	-43.806	-995.603
	USC32	-90.127	0.0187%	0.0266%	875,258	-233.021	-260.171	-493.192
	USC33	-50.485	0.0105%	0.0238%	502,771	-119.428	-141.814	-261.243
	USC34	-23.662	0.0049%	0.0122%	162,269	-19.786	-85.979	-105.765
	USC35	-238.062	0.0493%	0.0583%	942,803	-549.591	-129.268	-678.859
	USC36	-28.886	0.0060%	0.0137%	586,269	-80.457	-185.599	-266.056
Non-Commodity Sectors	USC37	-68.963	0.0143%	0.0244%	1,287,273	-313.909	-338.570	-652.479
	USC38	-35.227	0.0073%	0.0146%	1,681,503	-246.257	-383.897	-630.153
	USC39	-104.510	0.0216%	0.0276%	1,008,257	-278.631	-371.406	-650.037
	USC40	-26.512	0.0055%	0.0114%	210,209	-23.881	-104.940	-128.821
	USC41	-191.282	0.0396%	0.0478%	443,881	-212.121	-228.778	-440.899
	USC42	-162.262	0.0336%	0.0485%	85,680	-41.535	-4.248	-45.782
	USC43	-376.519	0.0780%	0.0896%	1,188,873	-1065.819	-24.860	-1090.679
	USC44	-50.143	0.0104%	0.0201%	154,279	-30.940	-20.977	-51.917
	USC45	-354.587	0.0734%	0.0837%	498,852	-417.576	-58.896	-476.472
	USC46	-218.761	0.0453%	0.0471%	1,288,980	-607.182	-40.334	-647.516
	USC47	-93.648	0.0194%	0.0302%	755,883	-228.573	-179.859	-408.432
Total		-2887.000	0.5979%	1.0636%	17,769,757	-6150.873	-3971.107	-10,121.98

Notes: 1. Legal employment data are obtained from recent year of entry (2000 to 2004) in Table 2.8, *U.S. Census Bureau, Current Population Survey, Annual Social and Economics Supplement, 2004*. We distributed the employment values to the USC sectors based on occupation-industry data sets available at Bureau of Labor Survey web page, and a conversion bridge developed by authors that maps 2-digit North American Industry Classification System (NAICS) sectors to USC sectors.

2. Total employment (144,850 million) from the U.S. Department of Labor (2006).

3. The lower range labor supply elasticity estimate is -0.3 (Borjas, 2003).

4. Total Industry Output values are available from the 2001 version of IMPLAN® (2003). The authors aggregated the 509 IMPLAN sectors to 47 USC sectors according to the process described in Park et al. (2007)

Table A10: Impacts Due to Elimination of Illegal Migration (\$Millions, Median Estimate)

Classification	Leontief Price Model			Total Industry Output	Demand-side USIO			
	USCsec.	Job Losses(1000)	Increased Wage		Increased Price	Direct Impact	Indirect Impact	Total Impact
	USC01	-24.477	0.0051%	0.0101%	173,097	-17.466	-10.141	-27.607
	USC02	-44.443	0.0092%	0.0112%	118,853	-13.284	-6.954	-20.239
	USC03	-9.338	0.0019%	0.0065%	44,785	-2.922	-4.512	-7.434
	USC04	0.000	0.0000%	0.0028%	84,932	-2.395	-1.547	-3.942
	USC05	-13.198	0.0027%	0.0064%	286,070	-18.267	-11.098	-29.365
	USC06	-0.727	0.0002%	0.0016%	61,546	-0.996	-2.270	-3.266
	USC07	-1.061	0.0002%	0.0011%	52,637	-0.591	-0.050	-0.640
	USC08	-1.029	0.0002%	0.0012%	19,049	-0.222	-4.747	-4.970
	USC09	-0.309	0.0001%	0.0010%	9,129	-0.095	-1.029	-1.124
	USC10	-4.307	0.0009%	0.0025%	371,603	-9.133	-33.883	-43.016
	USC11	-1.264	0.0003%	0.0017%	76,034	-1.278	-4.656	-5.933
	USC12	-2.635	0.0005%	0.0015%	134,457	-1.986	-0.845	-2.831
	USC13	-0.347	0.0001%	0.0012%	16,209	-0.196	-1.536	-1.732
Commodity Sectors	USC14	-2.809	0.0006%	0.0019%	142,133	-2.742	-11.310	-14.052
	USC15	-8.207	0.0017%	0.0032%	203,666	-6.563	-22.194	-28.757
	USC16	-10.137	0.0021%	0.0041%	101,676	-4.154	-28.239	-32.393
	USC17	-4.185	0.0009%	0.0025%	142,353	-3.516	-13.289	-16.804
	USC18	-11.972	0.0025%	0.0036%	203,883	-7.295	-17.423	-24.718
	USC19	-12.314	0.0026%	0.0044%	172,998	-7.559	-6.791	-14.350
	USC20	-4.546	0.0009%	0.0022%	97,801	-2.133	-26.967	-29.101
	USC21	-3.569	0.0007%	0.0020%	121,498	-2.489	-15.412	-17.901
	USC22	-10.399	0.0022%	0.0034%	184,519	-6.305	-31.243	-37.548
	USC23	-13.924	0.0029%	0.0044%	331,350	-14.579	-21.311	-35.890
	USC24	-20.422	0.0042%	0.0055%	601,195	-33.342	-26.007	-59.349
	USC25	-10.584	0.0022%	0.0045%	447,184	-19.913	-15.644	-35.557
	USC26	-4.132	0.0009%	0.0025%	118,010	-2.922	-0.791	-3.712
	USC27	-4.894	0.0010%	0.0022%	114,130	-2.528	-2.327	-4.856
	USC28	-5.741	0.0012%	0.0027%	73,637	-2.022	-6.303	-8.325
	USC29	-8.413	0.0017%	0.0030%	282,474	-8.334	-5.380	-13.714
	USC30	0.000	0.0000%	0.0014%	296,699	-4.226	-16.460	-20.686
	USC31	-207.570	0.0430%	0.0466%	1,013,114	-472.204	-7.098	-479.302
	USC32	0.000	0.0000%	0.0008%	875,258	-7.427	-62.525	-69.952
	USC33	0.000	0.0000%	0.0013%	502,771	-6.570	-32.776	-39.347
	USC34	0.000	0.0000%	0.0008%	162,269	-1.315	-17.880	-19.195
	USC35	-145.299	0.0301%	0.0313%	942,803	-295.085	-47.783	-342.868
	USC36	-0.397	0.0001%	0.0011%	586,269	-6.207	-38.087	-44.294
Non-Commodity Sectors	USC37	-1.272	0.0003%	0.0008%	1,287,273	-10.640	-53.140	-63.780
	USC38	-0.930	0.0002%	0.0015%	1,681,503	-24.536	-71.522	-96.058
	USC39	-1.786	0.0004%	0.0009%	1,008,257	-8.747	-85.541	-94.288
	USC40	-0.282	0.0001%	0.0009%	210,209	-1.977	-28.798	-30.775
	USC41	-1.547	0.0003%	0.0013%	443,881	-5.781	-38.806	-44.586
	USC42	-0.325	0.0001%	0.0020%	85,680	-1.673	-0.638	-2.311
	USC43	-2.556	0.0005%	0.0017%	1,188,873	-20.218	-2.653	-22.871
	USC44	-0.529	0.0001%	0.0012%	154,279	-1.814	-3.391	-5.204
	USC45	-1.861	0.0004%	0.0025%	498,852	-12.556	-9.015	-21.572
	USC46	-3.695	0.0008%	0.0012%	1,288,980	-15.420	-7.491	-22.911
	USC47	-20.937	0.0043%	0.0062%	755,883	-47.074	-42.712	-89.786
Total		-628.371	0.1301%	0.2044%	17,769,757	-1138.696	-900.216	-2,038.91

Notes: 1. Total employment (144,850 million) from the U.S. Department of Labor (2006).

2. The lower range labor supply elasticity estimate is -0.3 (Borjas, 2003).

3. Job proportions of unauthorized migrants in USC Sectors estimated by combining employment shares from the version 2001 of IMPLAN® Data Files (Minnesota IMPLAN Group, 2003) with tabular data available at the Wikipedia entry on Illegal immigrant population of the United States http://en.wikipedia.org/wiki/Illegal_immigrant_population_of_the_United_States . Summary calculations are available from the authors.

4. Total Industry Output values are available from the 2001 version of IMPLAN® Data Files (Minnesota IMPLAN Group, 2003). The authors aggregated the 509 IMPLAN sectors to 47 USC sectors according to the process described in Park et al. (2007)

Table A11: State-by-State Impacts of Cross-Border Shopping Losses (\$Millions)

State	Direct Impacts	Indirect Impacts	Total Impacts
AL	0.0	-7.4	-7.4
AK	-9.2	-6.0	-15.2
AZ	-655.1	-330.9	-986.0
AR	0.0	-6.3	-6.3
CA	-1,685.7	-847.5	-2533.2
CO	0.0	-5.4	-5.4
CT	0.0	-3.3	-3.3
DE	0.0	-0.8	-0.8
DC	0.0	-0.3	-0.3
FL	0.0	-7.3	-7.3
GA	0.0	-7.2	-7.2
HI	0.0	-0.8	-0.8
ID	-7.7	-5.6	-13.3
IL	0.0	-16.8	-16.8
IN	0.0	-10.8	-10.8
IA	0.0	-4.5	-4.5
KS	0.0	-3.9	-3.9
KY	0.0	-6.6	-6.6
LA	0.0	-16.7	-16.7
ME	-139.6	-80.4	-220.0
MD	0.0	-2.3	-2.3
MA	0.0	-7.2	-7.2
MI	-351.7	-195.8	-547.4
MN	-57.7	-38.4	-96.0
MS	0.0	-4.8	-4.8
MO	0.0	-7.1	-7.1
MT	-30.2	-19.9	-50.1
NE	0.0	-1.7	-1.7
NV	0.0	-1.9	-1.9
NH	0.0	-2.7	-2.7
NJ	0.0	-9.2	-9.2
NM	-42.7	-27.1	-69.8
NY	-456.1	-230.8	-686.9
NC	0.0	-7.5	-7.5
ND	-33.1	-20.7	-53.8
OH	0.0	-19.5	-19.5
OK	0.0	-13.5	-13.5
OR	0.0	-7.9	-7.9
PA	0.0	-14.3	-14.3
RI	0.0	-0.9	-0.9
SC	0.0	-4.9	-4.9
SD	0.0	-0.8	-0.8
TN	0.0	-7.4	-7.4
TX	-2,315.7	-1237.5	-3553.2
UT	0.0	-3.5	-3.5
VM	-45.3	-25.7	-71.1
VA	0.0	-4.8	-4.8
WA	-213.4	-119.4	-332.8
WV	0.0	-2.9	-2.9
WI	0.0	-13.1	-13.1
WY	0.0	-1.1	-1.1
US_subtotal	-6,043.3	-3,422.8	-9,466.0
FOREIGN	0.0	-475.2	-475.2
Total	-6,043.3	-3,898.0	-9,941.2

Notes: 1. Number of cross-border shoppers not arriving by air obtained from

http://www.transtats.bts.gov/Fields.asp?Table_ID=1358.

2. Extracted from Table 3.2 Same-Day Travel Between the United States and Canada and the United States and Mexico by Transportation Mode: 2000-2004 (Thousands of Visits.), (Research and Innovation Technology Administration/Bureau of Transportation Statistics, 2006). We assume 40 percent of arrivals crossing the border are U.S. residents. These substitute domestic purchases for shopping abroad.

3. We assume expenditures of \$100 in the retail trades (USC Sector 35) per arriving cross-border shopper.