

TO: Matt Clark, DHS
Adam Rose and Detlof von Winterfeldt, CREATE
Chris Soares, John Wirth, Treasury

FROM: Peter Gordon, Jim Moore, JiYoung Park and Harry Richardson, CREATE

DATE: January 12, 2007

RE: U.S. Border Closing Economic Impact Simulations (REVISIONS)

On the basis of our discussion this week, we have made some revisions.

The simulations are for 2001, the year for which we have most of the data. We applied NIEMO (the National Interstate Economic Model), a 47-sector, 50-state (and D.C.; see <http://www.usc.edu/dept/create/research/economics.htm?#int>) model where spatial impacts are known (disrupted cross-border shopping); and USIO, a 47-sector aggregation of the national IMPLAN model. Demand-side and supply-side versions of both models are available and were used.

In round numbers, the bottom line from the sum of our most optimistic scenarios is that a one-year border closing results in a \$1.7 trillion total output loss. (Less optimistic scenarios show output losses as large as \$5.4 trillion). Dividing the low output loss by an aggregate multiplier of approximately 1.77 (from our results), we get an overall GDP loss of approximately \$1 trillion, or approximately ten percent of 2001 GDP.

Our models are linear, so shorter closings would simply produce proportionate impacts. The nature of the disruption is obviously severe, well beyond anything that the U.S. economy has ever experienced. Such a large event is difficult to model, and the work must therefore be understood in light of many caveats.

The columns of the attached summary tables show that there are several types of impacts as well as several possible mitigating effects. The summary tables also reference which of the attached tables include further industry-level details. The three rows of the summaries also correspond to alternate assumptions about illegal immigration.

In Column 1 of the overall summary, we show the effects of terminating international air traffic in both directions. This creates a \$335 billion loss. The methodology considered spending reductions in all of the sectors that international visitors are known to patronize (hotels, meals, shopping, ground transportation, etc.)

We also divided international travel into four types of trips: U.S. based (inbound and outbound) and international-based (inbound and outbound). We assumed that each round trip costs \$1,000. We assume that two-thirds of these are purchased from U.S. carriers (footnote in table). We also note different on-the-ground expenditures for each type of trip. Table 1-2a shows the corresponding direct, indirect and induced effects.

Column 1A adds the mitigation from a 25 percent increase of telecommunications purchases by the grounded U.S.-based business travelers. Table 1-1b shows the details.

Column 1B shows the effect of a second possible mitigation. We now assume that 65 percent of U.S.-based international outbound trips are for pleasure and that these are replaced by domestic trips. Table 1-1c shows the expenditures for these trips. Table 1-2c shows the direct, indirect and induced impacts.

Column 1C shows the effect of both mitigations. Net losses from these reductions and changes are just less than \$154 billion. Table 1-2d shows the associated direct, indirect and induced effects.

Columns 2-5 of the summary table show the separate impacts of export and import closures, including the special case of only allowing gas and oil imports.

We next call attention to the net trade losses in Column 5A. In the interests of conservatism, we tried to minimize trade closure impacts by having U.S. exporters and

importers mitigate each others losses. Analyzing trade flows at the six-digit NAICS level, we identified sectors in which exports exceed imports and restricted export losses to the difference between the two, assuming that U.S. exporters would instead sell to U.S. importers. We also identified sectors in which imports exceed exports and restricted U.S. import losses to the amounts that could not be replaced by purchases from U.S. exporters. This is an extremely optimistic assumption that ignores specializations beyond the six-digit NAICS level and also ignores transactions costs. But it counters the severity of impacts resulting from our modeling assumption of fixed technological coefficients. This trade reduction costs the economy more than \$1.5 trillion. Tables 2-6 show the industry-level details that correspond to the Columns 2-5A.

Column 6 shows the losses from shutting off legal immigration for one year. There are approximately one million legal immigrants each year, and their sectors of employment are known. Applying the Borjas' (2003) labor supply elasticity of 0.3, and boosting wages correspondingly, we used the Leontief price model to calculate higher prices in all 47 USIO economic sectors. Household final demand was then reduced in light of these higher prices. This resulted in a \$10 billion loss.

Columns 7-9 show the effects of illegal immigration. The precise numbers are not known so we used three estimates, a low (406,000), middle (628,000), and high (850,000). The industrial employment of illegal immigrants is not well known, and our assignments were based on assumptions. The same approach was applied as for legal immigrants and the annual losses ranged from \$1.3 billion to \$2.8 billion.

Column 10 reports results for the loss of cross-border shopping. Incoming crossings (not by air) at all ports of entry are reported at http://www.transtats.bts.gov/Fields.asp?Table_ID=1358. There were 302,163,564 such crossings in 2005. Each shopping visit was assumed to include \$100 in retail expenditures. From Chris Soares' "Same-Day Travel Between the U.S. and Canada and the U.S. and Mexico by Transportation Mode, 2000-2004", we conclude that 60 percent of these crossings were by foreigners. The loss of these shopping trips has an impact of \$29 billion.

Column 10A includes a mitigation. The 40 percent of U.S.-based shoppers are assumed to substitute domestic purchases for shopping abroad. The net loss is now slightly less than \$10 billion.

We also include six additional spreadsheets. Spreadsheet A describes costs of shutting down human traffic. Spreadsheet B describes costs of shutting down human traffic with mitigations. Spreadsheet C and D describe costs of trade losses without mitigation and with mitigation, respectively. Spreadsheet E combines spreadsheet A and C and explains the worst case total impact without mitigation. Finally, Spreadsheet F combines spreadsheet B and D, and hence describes the optimist case total impact with mitigation in this research.

There are surely areas of overestimation in our work as well as underestimates. Aside from the optimistic trade adjustments mentioned, our models underestimate myriad adaptations that cannot be predicted, but we also missed some costs. We do not know the enforcement costs of the policy so they are not included. Also Broda and Weinstein (2004) estimate the losses from reductions in consumer choice, which we omit. Our hope is that the areas of underestimation roughly balance the areas of overestimation.

Finally, since our results suggest that the one-year border closing results in very large economic impacts, we wondered about the potential health costs of a flu pandemic. *The Lancet* published a paper in December 2006 by the Harvard Initiative for Global Health Group (Murray et al., 2006). Based on an analogy drawn from the Spanish Flu epidemic of 1918-20, the study produced a range of estimates of US fatalities: a low threshold, a median, a mean, and a high threshold. These numbers are: 114,483; 297,883; 383,881 and 744,226; respectively. We applied the US EPA value of life of \$5.8 million, which has been used in previous CREATE studies (Zimmerman et al., 2007), and obtained imputed fatalities dollar estimates: \$664 billion; \$1.728 trillion; \$2.227 trillion and \$4.317 trillion, respectively. If we use the low fatalities estimate, the \$1.728 trillion loss is of a similar order of magnitude to the economic costs of border closure for one year. Also, this estimate ignores the treatment costs of those who get sick but do not die, quarantine costs, and other disaster management costs. 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), antivirals, quarantine, and vaccination.

References

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Table 1-1a. Direct losses

One year	IMPLAN	Sector	U.S.-based				Based Abroad			
			International Inbound		International Outbound		International Inbound		International Outbound	
Losses of International			\$ per	\$m. for all	\$ per	\$m. for all	\$ per	\$m. for all	\$ per	\$m. for all
Passengers(m.)	Sectors	Descriptions	passenger		passenger		passenger		passenger	
148,496	391	Airline Tickets	333.33	-12,374.63	333.33	-12,374.63	333.33	-12,374.63	333.33	-12,374.63
	392~395	Transportation	132.29	-4,911.09	132.29	-4,911.09	132.29	-4,911.09	132.29	-4,911.09
	479~480	Accomodation	0.00	0.00	0.00	0.00	683.96	-25,391.20	0.00	0.00
	405, 481	Foods	0.00	0.00	0.00	0.00	247.11	-9,173.54	0.00	0.00
	408~412	Gifts/Shopping	0.00	0.00	0.00	0.00	290.91	-10,799.84	0.00	0.00
	475~478	Amusement	0.00	0.00	0.00	0.00	172.04	-6,386.98	0.00	0.00
		Total	465.62	-17,285.72	465.62	-17,285.72	1,859.65	-69,037.28	465.62	-17,285.72

Note:

1. These are 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 \$1,000. We assume two-third of this value to account for the share of tickets that may have been purchased in U.S. carriers. See: <http://www.lawa.org/lax/statistics/tcom-1201.pdf>. We separately consider both of these trips and assume that half are made by U.S. residents and half by foreign residents.
2. Transportation, accommodation, food, gifts/shopping, and amusement expenditures are based on US expenditures per round-trip, proprietary data purchased from the Travel Industry Association (www.tia.org).

Table 1-1b Direct losses with telecommunications mitigations

One year	IMPLAN Code	Sector	
Mitigations	422	Telecommunication ¹⁾	43,596.65
Direct losses		Total Direct Losses ²⁾	-120,894.44
		Net Losses	-77,297.79

Notes:

1. We assume final demand for Telecommunications services (available from 2001 IMPLAN sector 422) increases by 25% during one-year closure
2. Total Direct Losses are calculated in Table 1-1a.

Table 1-1c. Direct losses with mitigations of diversion to U.S. domestic travel for pleasures from the international travels

One year				
U.S.-based losses of International Passengers for pleasure (m.)	IMPLAN Sectors	Sector Descriptions	Domestic travel \$ per passenger ²⁾	\$m. for all
24.131 ¹⁾	391	Airline Tickets	325.00	7,842.42
	392~395	Transportation	194.29	4,688.22
	479~480	Accommodation	281.43	6,791.02
	405, 481	Foods	173.57	4,188.37
	408~412	Gifts/Shopping	164.29	3,964.30
	475~478	Amusement	92.86	2,240.69
		Total	1,231.43	29,715.03
Direct losses		Total Direct Losses ³⁾		-120,894.44
		Net Losses		-91,179.40

Notes:

1. We assume 65 percent of U.S.-based international outbound travel is for pleasure and diverted to U.S. destinations, based on the pleasure purpose of international travelers in the U.S., 2000 (Maplesden, et al., 2002: p.71).
2. For domestic travel expenditures, refer to Gordon et al. (2007)
3. Total Direct Losses are calculated in Table 1-1a.

Table 1-1d. Direct losses with both mitigations of the telecommunications and the diversion.

One year	IMPLAN Code	Sector	
Mitigations	422	Telecommunication ¹⁾	43,596.65
Mitigations		Diversion ²⁾	29,715.03
Direct losses		Total Direct Losses ³⁾	-120,894.44
		Net Losses	-47,582.75

Notes:

1. We assume final demand for Telecommunications services (available from 2001 IMPLAN sector 422) increases by 25% during one-year closure
2. We assume 65 percent of U.S.-based international outbound travels are for pleasure and diverted to U.S. destinations, based on the pleasure purpose of international travelers in the U.S., 2000 (Maplesden, et al., 2002: p.71).
3. Total Direct Losses are calculated in Table 1-1a.

Table 1-2a. Results without Mitigation: Direct, Indirect, and Total Impacts

One year Sectors	IMPACTS			Type I Multipliers	IMPACTS		Type SAM Multipliers
	Direct	Indirect	Simple Total		Induced	Total	
Air Transportation	-49.499	-44.523	-94.022	1.8995	-50.790	-144.811	2.9256
Other Transportations	-19.644	-17.083	-36.727	1.8696	-19.066	-55.793	2.8402
Accommodations	-25.391	-14.319	-39.710	1.5639	-22.792	-62.502	2.4616
Foods	-9.174	-7.564	-16.738	1.8246	-9.931	-26.669	2.9071
Gifts/Shopping	-10.800	-6.890	-17.690	1.6380	-11.299	-28.989	2.6842
Amusement	-6.387	-3.521	-9.908	1.5513	-6.558	-16.467	2.5782
Total	-120.894	-93.900	-214.794	1.7767	-120.436	-335.230	2.7729

Units for Impacts: \$Billions

Table 1-2b. Results of Simulation: Mitigation with Telecommunications

One year Sectors	IMPACTS			Type I Multipliers	IMPACTS		Type SAM Multipliers
	Direct	Indirect	Simple Total		Induced	Total	
Total losses without mitigation	-120.894	-93.900	-214.794	1.7767	-120.436	-335.230	2.7729
Mitigation with Telecommunications	43.597	23.422	67.018	1.5372	32.777	99.795	2.2891
Total	-77.298	-70.478	-147.776	1.9118	-87.659	-235.435	3.0458

Units for Impacts: \$Billions

Note: We assume final demand for Telecommunications services (available from 2001 IMPLAN sector 422) increases by 25% during one-year closures.

Table 1-2c. Results without Mitigation: Direct, Indirect, and Total Impacts

One year Sectors	IMPACTS			Type I Multipliers	IMPACTS		Type SAM Multipliers
	Direct	Indirect	Simple Total		Induced	Total	
Total Losses without Mitigation	-120.894	-93.900	-214.794	1.7767	-120.436	-335.230	2.7729
Air Transportation*	7.842	7.054	14.897	1.8995	8.047	22.944	2.9256
Other Transportations	4.688	4.077	8.765	1.8696	4.550	13.315	2.8402
Accommodations	6.791	3.830	10.621	1.5639	6.096	16.717	2.4616
Foods	4.188	3.454	7.642	1.8246	4.534	12.176	2.9071
Gifts/Shopping	3.964	2.529	6.493	1.6380	4.148	10.641	2.6842
Amusement	2.241	1.235	3.476	1.5513	2.301	5.777	2.5782
Diversion Mitigation Total	29.715	22.179	51.894	1.7464	29.675	81.569	2.7450
Total	-91.179	-71.721	-162.901	1.7866	-90.760	-253.661	2.7820

Units for Impacts: \$Billions

Note: We assume 65 percent of U.S.-based international outbound travels are for pleasure and diverted to U.S. destinations, based on the pleasure purpose of international travelers in the U.S., 2000 (Maplesden, et al., 2002: p.71).

Table 1-2d. Results of Simulation: Mitigation with Telecommunications and diversions of U.S.-based international travelers

One year Sectors	IMPACTS			Type I Multipliers	IMPACTS		Type SAM Multipliers
	Direct	Indirect	Simple Total		Induced	Total	
Total losses without mitigation	-120.894	-93.900	-214.794	1.7767	-120.436	-335.230	2.7729
Mitigation with Telecommunications	43.597	23.422	67.018	1.5372	32.777	99.795	2.2891
Diversion Mitigation Total	29.715	22.179	51.894	1.7464	29.675	81.569	2.7450
Total	-47.583	-48.300	-95.883	2.0151	-57.983	-153.866	3.2336

Units for Impacts: \$Billions

Notes:

1. We assume final demand for Telecommunications services (available from 2001 IMPLAN sector 422) increases by 25% during one-year closures.
2. We assume 65 percent of U.S.-based international outbound travels are for pleasure and diverted to U.S. destinations, based on the pleasure purpose of international travelers in the U.S., 2000 (Maplesden, et al., 2002: p.71).

Table 2. Border Closures: Import Disturbance for Commodity Sectors

Classification	IMPORT (One year Closures)			
	USCsec.	Direct Impact	Indirect Impact	Total Impact
Commodity Sectors	USC01	-15.949	-42.035	-57.984
	USC02	-12.170	-27.931	-40.100
	USC03	-0.852	-27.361	-28.213
	USC04	-2.447	-17.113	-19.559
	USC05	-18.380	-39.853	-58.233
	USC06	-17.605	-42.865	-60.470
	USC07	-1.305	-8.185	-9.490
	USC08	-2.098	-19.795	-21.893
	USC09	-1.257	-21.572	-22.829
	USC10	-111.892	-161.920	-273.812
	USC11	-17.773	-45.955	-63.728
	USC12	-40.136	-51.381	-91.517
	USC13	-4.693	-20.847	-25.540
	USC14	-13.709	-35.751	-49.460
	USC15	-24.537	-49.890	-74.427
	USC16	-18.096	-36.025	-54.121
	USC17	-15.823	-35.923	-51.746
	USC18	-6.415	-18.770	-25.185
	USC19	-116.184	-157.033	-273.217
	USC20	-14.921	-30.434	-45.354
	USC21	-39.692	-65.591	-105.283
	USC22	-16.032	-37.183	-53.214
	USC23	-90.321	-121.476	-211.797
	USC24	-219.846	-261.666	-481.512
	USC25	-203.591	-273.507	-477.098
	USC26	-25.986	-69.232	-95.218
	USC27	-46.300	-75.754	-122.054
	USC28	-21.468	-42.941	-64.409
	USC29	-205.749	-216.817	-422.565
Non-Commodity Sectors	USC30	0.000	-31.184	-31.184
	USC31	0.000	-21.089	-21.089
	USC32	0.000	-5.988	-5.988
	USC33	0.000	-18.292	-18.292
	USC34	0.000	-10.361	-10.361
	USC35	0.000	-5.777	-5.777
	USC36	0.000	-17.330	-17.330
	USC37	0.000	-2.113	-2.113
	USC38	0.000	-3.081	-3.081
	USC39	0.000	-4.515	-4.515
	USC40	0.000	-4.385	-4.385
	USC41	0.000	-6.029	-6.029
	USC42	0.000	-7.300	-7.300
	USC43	0.000	-8.939	-8.939
	USC44	0.000	-6.683	-6.683
	USC45	0.000	-10.972	-10.972
	USC46	0.000	-2.336	-2.336
	USC47	0.000	-27.217	-27.217
Total		-1325.227	-2248.391	-3573.618

Unit: \$Billions.

Table 3. Border Closures: Import Disturbance for Commodity Sectors, Except USC Sector 10
(Energy sector)

Classification	IMPORT (One year Closures)			
	USCsec.	Direct Impact	Indirect Impact	Total Impact
	USC01	-15.949	-34.263	-50.212
	USC02	-12.170	-18.241	-30.411
	USC03	-0.852	-5.642	-6.494
	USC04	-2.447	-7.257	-9.703
	USC05	-18.380	-43.129	-61.509
	USC06	-17.605	-21.432	-39.037
	USC07	-1.305	-2.583	-3.888
	USC08	-2.098	-2.787	-4.884
	USC09	-1.257	-1.802	-3.060
	USC10	0.000	-8.801	-8.801
	USC11	-17.773	-22.392	-40.165
	USC12	-40.136	-47.389	-87.524
	USC13	-4.693	-5.647	-10.341
	USC14	-13.709	-23.459	-37.169
Commodity Sectors	USC15	-24.537	-42.450	-66.987
	USC16	-18.096	-28.177	-46.272
	USC17	-15.823	-27.208	-43.031
	USC18	-6.415	-15.558	-21.973
	USC19	-116.184	-151.366	-267.550
	USC20	-14.921	-20.159	-35.080
	USC21	-39.692	-52.449	-92.140
	USC22	-16.032	-33.289	-49.321
	USC23	-90.321	-123.772	-214.093
	USC24	-219.846	-270.681	-490.527
	USC25	-203.591	-287.985	-491.577
	USC26	-25.986	-41.297	-67.283
	USC27	-46.300	-54.705	-101.006
	USC28	-21.468	-28.709	-50.176
	USC29	-205.749	-216.921	-422.670
	USC30	0.000	-4.228	-4.228
	USC31	0.000	-70.994	-70.994
	USC32	0.000	-13.230	-13.230
	USC33	0.000	-13.221	-13.221
	USC34	0.000	-2.504	-2.504
	USC35	0.000	-13.127	-13.127
	USC36	0.000	-20.201	-20.201
	USC37	0.000	-6.932	-6.932
Non-Commodity Sectors	USC38	0.000	-14.981	-14.981
	USC39	0.000	-12.244	-12.244
	USC40	0.000	-2.584	-2.584
	USC41	0.000	-6.189	-6.189
	USC42	0.000	-1.632	-1.632
	USC43	0.000	-38.157	-38.157
	USC44	0.000	-2.928	-2.928
	USC45	0.000	-19.706	-19.706
	USC46	0.000	-5.009	-5.009
	USC47	0.000	-52.728	-52.728
	Total	-1213.334	-1940.144	-3153.478

Unit: \$Billions.

Table 4. Border Closures: Export Disturbance for Commodity Sectors

Classification	EXPORT (One year Closures)			
	USCsec.	Direct Impact	Indirect Impact	Total Impact
Commodity Sectors	USC01	-12.507	-20.019	-32.525
	USC02	-23.330	-29.761	-53.091
	USC03	-1.853	-5.357	-7.210
	USC04	-2.706	-3.874	-6.580
	USC05	-17.535	-26.426	-43.961
	USC06	-11.573	-15.878	-27.451
	USC07	-4.350	-4.515	-8.864
	USC08	-1.534	-3.291	-4.825
	USC09	-1.190	-3.731	-4.920
	USC10	-13.094	-39.609	-52.703
	USC11	-19.052	-28.108	-47.160
	USC12	-22.043	-24.297	-46.340
	USC13	-4.606	-6.597	-11.203
	USC14	-22.716	-35.979	-58.695
	USC15	-27.688	-48.730	-76.418
	USC16	-5.941	-13.863	-19.805
	USC17	-12.925	-28.852	-41.776
	USC18	-8.073	-17.091	-25.164
	USC19	-25.114	-37.524	-62.638
	USC20	-8.277	-13.580	-21.857
	USC21	-18.923	-45.575	-64.498
	USC22	-7.727	-34.264	-41.990
	USC23	-94.620	-117.899	-212.519
	USC24	-166.774	-215.725	-382.499
	USC25	-67.592	-89.086	-156.677
	USC26	-50.627	-54.985	-105.612
	USC27	-46.613	-50.332	-96.944
	USC28	-4.035	-4.869	-8.903
	USC29	-65.223	-72.019	-137.242
Non-Commodity Sectors	USC30	0.000	-13.276	-13.276
	USC31	0.000	-4.069	-4.069
	USC32	0.000	-73.916	-73.916
	USC33	0.000	-26.448	-26.448
	USC34	0.000	-9.458	-9.458
	USC35	0.000	-4.666	-4.666
	USC36	0.000	-19.513	-19.513
	USC37	0.000	-27.894	-27.894
	USC38	0.000	-39.669	-39.669
	USC39	0.000	-43.424	-43.424
	USC40	0.000	-21.635	-21.635
	USC41	0.000	-18.116	-18.116
	USC42	0.000	-0.590	-0.590
	USC43	0.000	-0.997	-0.997
	USC44	0.000	-2.194	-2.194
	USC45	0.000	-6.256	-6.256
	USC46	0.000	-4.700	-4.700
	USC47	0.000	-36.677	-36.677
	Total		-768.238	-1445.330

Unit: \$Billions.

Table 5. Border Closures: Total Trade Losses, with Energy Sector Open

Classification	EXPORT (One year Closures)			
	USCsec.	Direct Impact	Indirect Impact	Total Impact
Commodity Sectors	USC01	-28.456	-54.281	-82.737
	USC02	-35.500	-48.002	-83.502
	USC03	-2.705	-10.999	-13.704
	USC04	-5.153	-11.131	-16.283
	USC05	-35.915	-69.556	-105.470
	USC06	-29.178	-37.310	-66.487
	USC07	-5.655	-7.097	-12.752
	USC08	-3.632	-6.077	-9.709
	USC09	-2.447	-5.533	-7.980
	USC10	-13.094	-48.410	-61.504
	USC11	-36.825	-50.500	-87.324
	USC12	-62.178	-71.686	-133.864
	USC13	-9.299	-12.244	-21.543
	USC14	-36.425	-59.438	-95.863
	USC15	-52.225	-91.180	-143.404
	USC16	-24.037	-42.040	-66.077
	USC17	-28.748	-56.060	-84.808
	USC18	-14.489	-32.649	-47.137
	USC19	-141.298	-188.890	-330.188
	USC20	-23.198	-33.739	-56.937
	USC21	-58.615	-98.024	-156.639
	USC22	-23.759	-67.553	-91.311
	USC23	-184.940	-241.671	-426.611
	USC24	-386.620	-486.406	-873.026
	USC25	-271.183	-377.071	-648.254
	USC26	-76.613	-96.282	-172.895
	USC27	-92.913	-105.037	-197.950
	USC28	-25.502	-33.577	-59.079
	USC29	-270.972	-288.940	-559.912
Non-Commodity Sectors	USC30	0.000	-17.504	-17.504
	USC31	0.000	-75.063	-75.063
	USC32	0.000	-87.146	-87.146
	USC33	0.000	-39.668	-39.668
	USC34	0.000	-11.962	-11.962
	USC35	0.000	-17.793	-17.793
	USC36	0.000	-39.714	-39.714
	USC37	0.000	-34.826	-34.826
	USC38	0.000	-54.650	-54.650
	USC39	0.000	-55.668	-55.668
	USC40	0.000	-24.219	-24.219
	USC41	0.000	-24.305	-24.305
	USC42	0.000	-2.222	-2.222
	USC43	0.000	-39.154	-39.154
	USC44	0.000	-5.122	-5.122
	USC45	0.000	-25.962	-25.962
	USC46	0.000	-9.709	-9.709
	USC47	0.000	-89.405	-89.405
	Total		-1981.573	-3385.473

Unit: \$Billions.

Table 6. Border Closures: Maximum possible substitution by U.S. Exporters and U.S. Importers

Classification	One year Closures of Exports and Imports			
	USCsec.	Direct Impact	Indirect Impact	Total Impact
Commodity Sectors	USC01	-12.413	-13.525	-25.938
	USC02	-28.283	-6.065	-34.348
	USC03	-1.316	-4.093	-5.409
	USC04	-2.910	-3.236	-6.146
	USC05	-17.114	-18.345	-35.459
	USC06	-12.318	-3.237	-15.555
	USC07	-1.362	-0.932	-2.295
	USC08	-1.982	-0.753	-2.736
	USC09	-1.060	-0.729	-1.789
	USC10	-1.704	-11.760	-13.464
	USC11	-6.864	-4.850	-11.713
	USC12	-30.443	-5.039	-35.482
	USC13	-2.383	-1.171	-3.555
	USC14	-11.076	-8.436	-19.511
	USC15	-21.520	-15.524	-37.044
	USC16	-23.849	-12.500	-36.349
	USC17	-10.619	-11.246	-21.865
	USC18	-1.531	-7.004	-8.535
	USC19	-114.110	-32.920	-147.030
	USC20	-14.143	-4.702	-18.844
	USC21	-41.580	-16.022	-57.602
	USC22	-14.932	-20.471	-35.402
	USC23	-52.411	-28.205	-80.616
	USC24	-175.205	-45.387	-220.593
	USC25	-140.034	-60.651	-200.684
	USC26	-33.712	-10.853	-44.565
	USC27	-17.408	-6.770	-24.178
	USC28	-22.606	-6.297	-28.904
	USC29	-103.919	-8.578	-112.498
Non-Commodity Sectors	USC30	0.000	-5.844	-5.844
	USC31	0.000	-54.467	-54.467
	USC32	0.000	-26.068	-26.068
	USC33	0.000	-13.890	-13.890
	USC34	0.000	-3.826	-3.826
	USC35	0.000	-9.393	-9.393
	USC36	0.000	-17.718	-17.718
	USC37	0.000	-11.386	-11.386
	USC38	0.000	-20.221	-20.221
	USC39	0.000	-17.297	-17.297
	USC40	0.000	-6.703	-6.703
	USC41	0.000	-7.559	-7.559
	USC42	0.000	-1.199	-1.199
	USC43	0.000	-22.882	-22.882
	USC44	0.000	-2.374	-2.374
	USC45	0.000	-13.733	-13.733
	USC46	0.000	-4.407	-4.407
	USC47	0.000	-41.690	-41.690
	Total		-918.808	-649.955

Unit: \$Billions.

Table 7. Border Closures: Legal Migration Reduction

Classification	Leontief Price Model			Total Industry Output	Demand-side USIO			
	USCsec.	Job Losses(1000)	Increased Wage		Increased Price	Direct Impact	Indirect Impact	Total Impact
Commodity Sectors	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
	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
Non-Commodity Sectors	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
	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. Impact unit: \$Millions.
2. Legal employment data are obtained from Table 2.8 in U.S. Census Bureau, Current Population Survey, Annual Social and Economics Supplement, 2004, and authors distribute the employment numbers to USC sectors, based on occupation-industry data sets available at Bureau of Labor Survey web page and conversion bridge of 2digit NAICS to USC sector developed by authors.
3. Total employment (144850 million) from U.S. department of labor (2006)
4. Low-end labor supply elasticity is assumed -0.3 (Borjas, 2003)
5. Total Industry Output is available from 2001 IMPLAN and authors aggregated 509 IMPLAN sectors to 47 USC sectors according to the process of Park et al. (2007)

Table 8. Border Closures: Minimum Illegal Migration Reduction

Classification	Leontief Price Model			Total Industry Output	Demand-side USIO			
	USCsec.	Job Losses(1000)	Increased Wage		Increased Price	Direct Impact	Indirect Impact	Total Impact
Commodity Sectors	USC01	-15.877	0.0033%	0.0065%	173,097	-11.329	-6.578	-17.907
	USC02	-28.828	0.0060%	0.0073%	118,853	-8.617	-4.511	-13.128
	USC03	-6.057	0.0013%	0.0042%	44,785	-1.896	-2.927	-4.822
	USC04	0.000	0.0000%	0.0018%	84,932	-1.553	-1.004	-2.557
	USC05	-8.561	0.0018%	0.0041%	286,070	-11.849	-7.199	-19.048
	USC06	-0.471	0.0001%	0.0010%	61,546	-0.646	-1.472	-2.118
	USC07	-0.688	0.0001%	0.0007%	52,637	-0.383	-0.032	-0.415
	USC08	-0.667	0.0001%	0.0008%	19,049	-0.144	-3.079	-3.224
	USC09	-0.200	0.0000%	0.0007%	9,129	-0.061	-0.668	-0.729
	USC10	-2.794	0.0006%	0.0016%	371,603	-5.924	-21.978	-27.902
	USC11	-0.820	0.0002%	0.0011%	76,034	-0.829	-3.020	-3.849
	USC12	-1.709	0.0004%	0.0010%	134,457	-1.288	-0.548	-1.837
	USC13	-0.225	0.0000%	0.0008%	16,209	-0.127	-0.996	-1.123
	USC14	-1.822	0.0004%	0.0013%	142,133	-1.779	-7.336	-9.115
	USC15	-5.323	0.0011%	0.0021%	203,666	-4.257	-14.396	-18.653
	USC16	-6.575	0.0014%	0.0027%	101,676	-2.695	-18.317	-21.012
	USC17	-2.715	0.0006%	0.0016%	142,353	-2.280	-8.620	-10.900
	USC18	-7.766	0.0016%	0.0023%	203,883	-4.732	-11.301	-16.033
	USC19	-7.988	0.0017%	0.0028%	172,998	-4.903	-4.405	-9.308
	USC20	-2.949	0.0006%	0.0014%	97,801	-1.384	-17.492	-18.876
	USC21	-2.315	0.0005%	0.0013%	121,498	-1.614	-9.997	-11.611
	USC22	-6.746	0.0014%	0.0022%	184,519	-4.089	-20.266	-24.355
	USC23	-9.032	0.0019%	0.0029%	331,350	-9.457	-13.823	-23.280
	USC24	-13.247	0.0027%	0.0036%	601,195	-21.627	-16.869	-38.497
	USC25	-6.865	0.0014%	0.0029%	447,184	-12.917	-10.147	-23.064
	USC26	-2.680	0.0006%	0.0016%	118,010	-1.895	-0.513	-2.408
	USC27	-3.175	0.0007%	0.0014%	114,130	-1.640	-1.510	-3.150
	USC28	-3.724	0.0008%	0.0018%	73,637	-1.311	-4.089	-5.400
	USC29	-5.457	0.0011%	0.0019%	282,474	-5.406	-3.490	-8.896
Non-Commodity Sectors	USC30	0.000	0.0000%	0.0009%	296,699	-2.741	-10.677	-13.418
	USC31	-134.640	0.0279%	0.0302%	1,013,114	-306.294	-4.604	-310.899
	USC32	0.000	0.0000%	0.0006%	875,258	-4.818	-40.556	-45.374
	USC33	0.000	0.0000%	0.0008%	502,771	-4.262	-21.260	-25.522
	USC34	0.000	0.0000%	0.0005%	162,269	-0.853	-11.598	-12.451
	USC35	-94.248	0.0195%	0.0203%	942,803	-191.406	-30.995	-222.401
	USC36	-0.258	0.0001%	0.0007%	586,269	-4.026	-24.705	-28.731
	USC37	-0.825	0.0002%	0.0005%	1,287,273	-6.902	-34.469	-41.371
	USC38	-0.603	0.0001%	0.0009%	1,681,503	-15.915	-46.393	-62.308
	USC39	-1.159	0.0002%	0.0006%	1,008,257	-5.674	-55.486	-61.160
	USC40	-0.183	0.0000%	0.0006%	210,209	-1.282	-18.680	-19.962
	USC41	-1.003	0.0002%	0.0008%	443,881	-3.750	-25.171	-28.921
	USC42	-0.211	0.0000%	0.0013%	85,680	-1.085	-0.414	-1.499
	USC43	-1.658	0.0003%	0.0011%	1,188,873	-13.114	-1.721	-14.835
	USC44	-0.343	0.0001%	0.0008%	154,279	-1.176	-2.199	-3.376
	USC45	-1.207	0.0003%	0.0016%	498,852	-8.144	-5.848	-13.992
	USC46	-2.396	0.0005%	0.0008%	1,288,980	-10.002	-4.859	-14.861
	USC47	-13.581	0.0028%	0.0040%	755,883	-30.535	-27.705	-58.240
Total		-407.592	0.0844%	0.1326%	17,769,757	-738.613	-583.924	-1,322.54

Notes:

1. Impact unit: \$Millions.
2. 2006 total employment (144,850 million) from U.S. department of labor
3. Low-end labor supply elasticity is assumed -0.3 (Borjas, 2003)
4. Illegal job proportions are available at the http://en.wikipedia.org/wiki/Illegal_immigrant_population_of_the_United_States
5. Total Industry Output is available from 2001 IMPLAN and authors aggregated 509 IMPLAN sectors to 47 USC sectors according to the process of Park et al. (2007)

Table 9. Border Closures: Median Illegal Migration Reduction

Classification	Leontief Price Model			Total Industry Output	Demand-side USIO			
	USCsec.	Job Losses(1000)	Increased Wage		Increased Price	Direct Impact	Indirect Impact	Total Impact
Commodity Sectors	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
	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
Non-Commodity Sectors	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
	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. Impact unit: \$Millions.
2. 2006 total employment (144,850 million) from U.S. department of labor
3. Low-end labor supply elasticity is assumed -0.3 (Borjas, 2003)
4. Illegal job proportions are available at the http://en.wikipedia.org/wiki/Illegal_immigrant_population_of_the_United_States
5. Total Industry Output is available from 2001 IMPLAN and authors aggregated 509 IMPLAN sectors to 47 USC sectors according to the process of Park et al. (2007)

Table 10. Border Closures: Maximum Illegal Migration Reduction

Classification	Leontief Price Model				Total Industry Output	Demand-side USIO		
	USCsec.	Job Losses(1000)	Increased Wage	Increased Price		Direct Impact	Indirect Impact	Total Impact
Commodity Sectors	USC01	-33.077	0.0069%	0.0136%	173,097	-23.603	-13.704	-37.306
	USC02	-60.058	0.0124%	0.0151%	118,853	-17.952	-9.397	-27.349
	USC03	-12.619	0.0026%	0.0088%	44,785	-3.949	-6.097	-10.047
	USC04	0.000	0.0000%	0.0038%	84,932	-3.236	-2.091	-5.327
	USC05	-17.835	0.0037%	0.0086%	286,070	-24.685	-14.997	-39.683
	USC06	-0.982	0.0002%	0.0022%	61,546	-1.346	-3.067	-4.413
	USC07	-1.434	0.0003%	0.0015%	52,637	-0.798	-0.067	-0.866
	USC08	-1.390	0.0003%	0.0016%	19,049	-0.301	-6.415	-6.716
	USC09	-0.417	0.0001%	0.0014%	9,129	-0.128	-1.391	-1.519
	USC10	-5.820	0.0012%	0.0033%	371,603	-12.342	-45.788	-58.130
	USC11	-1.708	0.0004%	0.0023%	76,034	-1.727	-6.292	-8.018
	USC12	-3.561	0.0007%	0.0020%	134,457	-2.684	-1.142	-3.826
	USC13	-0.468	0.0001%	0.0016%	16,209	-0.264	-2.076	-2.340
	USC14	-3.796	0.0008%	0.0026%	142,133	-3.706	-15.283	-18.989
	USC15	-11.090	0.0023%	0.0044%	203,666	-8.869	-29.992	-38.861
	USC16	-13.698	0.0028%	0.0055%	101,676	-5.614	-38.160	-43.774
	USC17	-5.655	0.0012%	0.0033%	142,353	-4.751	-17.958	-22.708
	USC18	-16.179	0.0034%	0.0048%	203,883	-9.858	-23.545	-33.403
	USC19	-16.641	0.0034%	0.0059%	172,998	-10.214	-9.178	-19.392
	USC20	-6.143	0.0013%	0.0029%	97,801	-2.883	-36.443	-39.325
	USC21	-4.824	0.0010%	0.0028%	121,498	-3.363	-20.827	-24.190
	USC22	-14.053	0.0029%	0.0046%	184,519	-8.520	-42.220	-50.740
	USC23	-18.816	0.0039%	0.0059%	331,350	-19.702	-28.798	-48.500
	USC24	-27.598	0.0057%	0.0075%	601,195	-45.057	-35.145	-80.202
	USC25	-14.303	0.0030%	0.0060%	447,184	-26.909	-21.140	-48.050
	USC26	-5.584	0.0012%	0.0033%	118,010	-3.948	-1.069	-5.017
	USC27	-6.614	0.0014%	0.0030%	114,130	-3.416	-3.145	-6.562
	USC28	-7.758	0.0016%	0.0037%	73,637	-2.732	-8.518	-11.250
	USC29	-11.369	0.0024%	0.0040%	282,474	-11.263	-7.270	-18.533
Non-Commodity Sectors	USC30	0.000	0.0000%	0.0019%	296,699	-5.711	-22.244	-27.955
	USC31	-280.500	0.0581%	0.0630%	1,013,114	-638.113	-9.593	-647.705
	USC32	0.000	0.0000%	0.0011%	875,258	-10.037	-84.493	-94.530
	USC33	0.000	0.0000%	0.0018%	502,771	-8.879	-44.292	-53.171
	USC34	0.000	0.0000%	0.0011%	162,269	-1.777	-24.163	-25.940
	USC35	-196.350	0.0407%	0.0423%	942,803	-398.763	-64.572	-463.335
	USC36	-0.537	0.0001%	0.0014%	586,269	-8.388	-51.469	-59.857
	USC37	-1.719	0.0004%	0.0011%	1,287,273	-14.378	-71.811	-86.189
	USC38	-1.257	0.0003%	0.0020%	1,681,503	-33.157	-96.651	-129.808
	USC39	-2.414	0.0005%	0.0012%	1,008,257	-11.820	-115.595	-127.416
	USC40	-0.381	0.0001%	0.0013%	210,209	-2.671	-38.916	-41.587
	USC41	-2.091	0.0004%	0.0018%	443,881	-7.812	-52.440	-60.252
	USC42	-0.440	0.0001%	0.0026%	85,680	-2.260	-0.863	-3.123
	USC43	-3.454	0.0007%	0.0023%	1,188,873	-27.321	-3.585	-30.906
	USC44	-0.715	0.0001%	0.0016%	154,279	-2.451	-4.582	-7.033
	USC45	-2.515	0.0005%	0.0034%	498,852	-16.968	-12.183	-29.151
	USC46	-4.993	0.0010%	0.0016%	1,288,980	-20.838	-10.123	-30.961
	USC47	-28.293	0.0059%	0.0084%	755,883	-63.614	-57.719	-121.333
Total		-849.150	0.1759%	0.2762%	17,769,757	-1538.778	-1216.509	-2,755.29

Notes:

1. Impact unit: \$Millions.
2. 2006 total employment (144,850 million) from U.S. department of labor
3. Low-end labor supply elasticity is assumed -0.3 (Borjas, 2003)
4. Illegal job proportions are available at the http://en.wikipedia.org/wiki/Illegal_immigrant_population_of_the_United_States
5. Total Industry Output is available from 2001 IMPLAN and authors aggregated 509 IMPLAN sectors to 47 USC sectors according to the process of Park et al. (2007)

Table 11. Border Closures: Case of cross-border shopping, based on the assumption of 60 percent foreigner (\$Millions)

State	Direct Impacts	Indirect Impacts	Total Impacts
AL	0.0	-22.2	-22.2
AK	-27.5	-18.0	-45.5
AZ	-1,965.4	-992.6	-2958.1
AR	0.0	-19.0	-19.0
CA	-5,057.1	-2542.4	-7599.5
CO	0.0	-16.1	-16.1
CT	0.0	-10.0	-10.0
DE	0.0	-2.5	-2.5
DC	0.0	-0.9	-0.9
FL	0.0	-21.8	-21.8
GA	0.0	-21.6	-21.6
HI	0.0	-2.3	-2.3
ID	-23.0	-16.8	-39.8
IL	0.0	-50.5	-50.5
IN	0.0	-32.5	-32.5
IA	0.0	-13.6	-13.6
KS	0.0	-11.8	-11.8
KY	0.0	-19.8	-19.8
LA	0.0	-50.0	-50.0
ME	-418.8	-241.3	-660.0
MD	0.0	-7.0	-7.0
MA	0.0	-21.5	-21.5
MI	-1,055.1	-587.3	-1642.3
MN	-173.0	-115.1	-288.1
MS	0.0	-14.5	-14.5
MO	0.0	-21.2	-21.2
MT	-90.7	-59.7	-150.4
NE	0.0	-5.1	-5.1
NV	0.0	-5.7	-5.7
NH	0.0	-8.0	-8.0
NJ	0.0	-27.6	-27.6
NM	-128.1	-81.2	-209.3
NY	-1,368.4	-692.4	-2060.8
NC	0.0	-22.6	-22.6
ND	-99.2	-62.2	-161.4
OH	0.0	-58.6	-58.6
OK	0.0	-40.5	-40.5
OR	0.0	-23.7	-23.7
PA	0.0	-43.0	-43.0
RI	0.0	-2.8	-2.8
SC	0.0	-14.7	-14.7
SD	0.0	-2.4	-2.4
TN	0.0	-22.2	-22.2
TX	-6,947.2	-3712.4	-10659.6
UT	0.0	-10.4	-10.4
VM	-136.0	-77.2	-213.2
VA	0.0	-14.4	-14.4
WA	-640.2	-358.2	-998.4
WV	0.0	-8.8	-8.8
WI	0.0	-39.3	-39.3
WY	0.0	-3.2	-3.2
US_subtotal	-18,129.8	-10,268.3	-28,398.1
FOREIGN	0.0	-475.2	-475.2
Total	-18,129.8	-10,743.5	-28,873.3

Notes:

1. Input data of number of incoming cross-border, *not by air*, are obtained from http://www.transtats.bts.gov/Fields.asp?Table_ID=1358.
2. Based on Chris Soares' Table 3.2 "Same-Day Travel Between the United States and Canada and the United States and Mexico by Transportation Mode: 2000-2004", we assume 60 percent of incoming people crossing the border as foreigners.
3. We assumed \$100 expenditures for retail industry (USC sector 35) per incoming person crossing border.

Table 12. Border Closures: Case of cross-border shopping, based on the instead shopping of U.S. residents (\$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. Input data of number of incoming cross-border, *not by air*, are obtained from http://www.transtats.bts.gov/Fields.asp?Table_ID=1358.
2. Based on Chris Soares' Table 3.2 "Same-Day Travel Between the United States and Canada and the United States and Mexico by Transportation Mode: 2000-2004", we assume 40 percent of incoming people crossing the border as the U.S. residents. Those substitute domestic purchase for shopping abroad if the U.S. borders were closed.
3. We assumed \$100 expenditures for retail industry (USC sector 35) per incoming person crossing border.