Online Appendix for "The Economics of Cross-Border Travel", Review of Economics and Statistics, Forthcoming

Ambarish Chandra[a] Keith Head[b,c] Mariano Tappata[b]

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[a]: University of Toronto, Rotman School of Management
[b]: University of British Columbia, Sauder School of Business
[c]: CEPR

Appendices

A Theoretical derivations

Supply-side determination of price deviations

The Dornbusch, Fischer, and Samuelson (1977) model implies prices (in local currency) are given by $P(z) = a(z)W$ and $P^*(z) = a^*(z)W^*$. In DFS the $a(z)$ and $a^*(z)$ are unit labour requirements and product markets are perfectly competitive. For our purposes, the $a(z)$ could be the product of the cost parameter and a constant good-specific markup (such as would occur in the Dixit-Stiglitz monopolistic competition model).

Utility is $\ln U = \int_0^1 b(z) \ln C(z) dz$, where $C(z)$ denotes consumption of good z. With Cobb-Douglas preferences the natural definition of the price indexes are $\bar{P} = \exp(\int_0^1 b(z) \ln P(z) dz)$ and $\bar{P}^* = \exp(\int_0^1 b^*(z) \ln P^*(z) dz)$. The ratio of the domestic to foreign price index is given by $\bar{P}/\bar{P}^* = W/(W^* \kappa)$, where

$$\kappa \equiv \exp\left(\int_0^1 [b^*(z) \ln a^*(z) - b(z) \ln a(z)] dz\right)$$

is a constant if budget shares and relative productivities across goods do not change over time. Relative price deviations are determined entirely in terms of exogenous parameters: $\delta(z) = \kappa a(z)/a^*(z)$. Hence under the DFS supply side assumptions, $\delta(z)$ is not influenced by the exchange rate.

Derivation of quadratic benefits function

The quadratic is the exact solution under the assumptions of uniform budgeting and exponential relative price deviations, that is $b(z) = 1$ and $\delta(z) = \exp[\lambda(z - 1/2)]$. The exponential deviations assumption is not as arbitrary as it might seem. Since z spans the unit interval and $\delta(z)$ is sorted in increasing order, the $\delta(z)$ function is actually the inverse of the the cumulative distribution function (CDF) of relative nominal prices. Hence an exponential form implies that the CDF of relative prices is linearly related to the log of $\delta(z)$. Strictly positive variables are often distributed log-normally in practice and this distribution has the feature that for most of the data except the tails, there is a close-to-linear relationship between the CDF and the log of the variable. Under these assumptions, the solution for the borderline good is linear in the log real exchange rate ($\tilde{z} = \frac{1}{2} + \frac{1}{\lambda} \ln e$) and parameters of equation (9) have structural interpretations, with $\beta_0 = \lambda/8$, $\beta_1 = -1/2 < 0$, and $\beta_2 = 1/(2\lambda) > 0$.

Single-good model

Suppose instead of there being a continuum of goods which are available on both sides of the border there is only a single product that potential travellers are deciding where to buy. Maintaining Cobb-Douglas, consumers spend a fixed share b of their income on this product ($1-b$ goes to items such as rent and taxes that are only purchased in the country of residence). This could be an all-inclusive holiday at a ski resort, for example. Let local currency prices be P and P^*. Let $F(\zeta)$ be the CDF of the difference in perceived quality of this good between the foreign and domestic version and, as before, τ_c is the iceberg travel cost. The indifferent potential crosser has $\zeta_c^* = b\ln P - b\ln(EP^*) - \ln\tau_c$. Assuming relative prices of this product are proportional to the ratio of CPIs ($P/P^* = a\bar{P}/\bar{P}^*$), the fraction who cross is

$$x_c = \mathbb{P}(\zeta > \zeta_c^*) = F(b\ln a - b\ln e - \ln\tau_c).$$

This model predicts a coefficient of zero for $[\ln e]^2$. Moreover, since F'/F is decreasing in its argument for the distributions of $F()$ used in fractional models (logit, probit, gumbel), the elasticity of crossings with respect to crossings will tend to *diminish* in absolute value with the strength of the home exchange rate, the opposite of our finding in section 2.

Geographic aggregation

To think about why a province (or country) might have a higher elasticity, we need to aggregate multiple communities c, of size N_c into a single region R of size N_R. The crossing rate of the aggregate is $x_R = \sum_{c\in R}\frac{N_c}{N_R}x_c$. The elasticity of crossings of this region with respect to e is given by

$$\frac{\partial\ln x_R}{\partial\ln e} = \sum_{c\in R}\frac{N_c}{N_R}\frac{x_c}{x_R}\frac{\partial\ln x_c}{\partial\ln e} = -\frac{[1-\vartheta(\tilde{z})]}{x_R}\sum_{c\in R}\frac{N_c}{N_R}F'. \tag{16}$$

Inspection of equation (16) suggests various ways in which crossing elasticities can differ between regions. One way US elasticities could be smaller is if $\vartheta(\tilde{z})$, the expenditure share of goods that are cheaper at home, were sufficiently lower in Canada than its counterpart for the US. In the model this would occur if $b(z)$ and $b^*(z)$ are positively correlated with $\delta(z)$, that is if both countries tend to spend high shares of their incomes on goods that are relatively expensive in Canada.

Equation (16) also reveals that differences in regional elasticities can arise from differences in the geographic distribution of the potential crossers in each region. If cities in one region all have higher τ_c, x_R decreases and the absolute value of the crossing elasticity in equation (16) becomes larger. There is a secondary impact of higher τ_c via changes in F'. The elasticity is only certain to rise (in absolute value) if $F'' < 0$ for all communities c. The analysis is further complicated when taking into account difference in the weights of potential crossers, N_c/N_R. In general, the relationship between geography and the regional exchange rate crossing elasticity must be addressed numerically.

B Data construction

B.1 Crossing fractions

Each observation in the ITS data is a questionnaire filled out by a Canadian resident returning to Canada from a trip to the US. This includes people who enter by car, bus, train, air, foot, boat etc. A maximum of one questionnaire is given to each traveling party. We keep only those observations where the traveling party exited and re-entered Canada by car. We also restrict the sample to people who reside in one of the 7 provinces that share a land border with the United States: New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. This leaves us with 646,223 questionnaires over 20 years (1990–2010).

These questionnaires are handed out at the various border crossing ports, but not in a representative manner (either across ports, or across months of the year for a given port). Therefore, Statistics Canada has assigned weights to each questionnaire in order to address non-representative sampling and non-response. Applying these weights makes the data representative at the annual level for each port-factor-group (PFG).[1] However, we also want to exploit within-year variation in the exchange rate, and therefore require representative data on monthly travel. More importantly, we also require representative data at the level of each Census Division (CD) in order to examine the effect of the geographic distribution of residents on their propensity to travel. In order to construct data that are representative for each CD in each month, we construct our own weights.

Each questionnaire is associated with a particular CD and a port of entry into Canada. It also provides the month of travel and the length of the trip.[2] Therefore, each observation is CD-port-month-trip length combination. For notational clarity, we suppress subscripts for month and trip length. Define r_{cp} as the number of respondents from census division c passing through port of entry p. Define r_c as total respondents (across all CDs) at port p: $r_p = \sum_c r_{cp}$. Let n_p be the true number of crossers at port p which we obtain on a monthly basis from Cansim Table 427-0002. To estimate crossings by census division, $\hat{n}_c$, we first allocate n_p across census divisions using shares of response counts: $\hat{n}_{cp} = (r_{cp}/r_p)n_p$. Alternatively, one can think of this as the weighted sum of questionnaire respondents, r_{cp}, where weights are given by n_p/r_p, the number of actual crossers per respondent at a given port-month. Summing over all p for a given c we obtain $\hat{n}_c = \sum_p r_{cp} n_p/r_p$.

The estimated crossing fraction is given by dividing $\hat{n}_c$ by our estimate of cars at risk, $N_c = \text{Pop}_{ct} \times \text{CPC}_c \times 30$. Census division populations, Pop_{ct}, are available annually from Cansim Table 051-0034, provided by Statistics Canada. Car registration

[1] A PFG is a combination of a port of entry, length of stay, and mode of travel. For example, the PFG defined as Blaine–1 night–automobile is the set of traveling parties that entered Canada at the Blaine, BC port, having claimed to have spent one night in the US.

[2] We construct the length of trip from the reported dates of exit and entry. We assign the month of travel as the calendar month in which the vehicle entered Canada.

data used for generating CPC$_c$ come from Statistics Canada publication 53-219-XIB ("Road Motor Vehicle Registrations 1998").

B.2 Driving distances and times to the border

We calculate the distance from each Canadian Census Division (similar to a US county) to the nearest ports D_c using two methods. The primary method takes advantage of geographically detailed information at the level of Census Subdivisions (similar to US Census Tracts). The 250 CDs have an average of 20 subdivisions. We obtained Subdivision centroid information from the Standard Geographical Classification of 2001 and used Google's driving distance application to measure the road distance and time from each centroid to the nearest crossing port. We obtained two measures: the median and the average distances for each CD. These two metrics are very similar for the majority of CDs except for two CDs in Ontario where the average distance is heavily influenced by outlier (low population and high distance to the border) subdivisions. We therefore used medians in our estimations. The results using averages do not differ much in terms of exchange rate or distance elasticities but the province and income effects are influenced by the two outliers.

The secondary method of calculating distances (employed in columns (5) and (6) of Table 3) takes into account the fact that crossers from a given census division do not always use the same port. At the CD level, we know shares of crossers from each CD that cross at 102 different ports. We use the average shares of the top 5 ports over the 1990 to 2010 period to construct weighted average distance and time from the CD's geographic centroid. This measure generates several outliers in large CDs that have centroids that are far from the border but populations that are concentrated close to the border.

B.3 Prices, exchange rates, and incomes

Exchange rates obtained from Pacific Exchange Rate Service (`fx.sauder.ubc.ca`). The US Consumer Price Index is the US city average for all items and all urban consumers, not seasonally adjusted (Series ID CUUR0000SA0 from `bls.gov/cpi#data`). Canadian prices are from CANSIM Table 3260020, 2009 basket, all items. We choose July 1993 as the base period because in that month the nominal exchange rate was equal to the annual purchasing power parity rate provided by the OECD and thus the RER was approximately 1. Prices for regular unleaded gasoline at self service filling stations are obtained from CANSIM Table 3260009 for a major urban centre for each of the border provinces. We obtained median household income from the CHASS Canadian Census Analyser for the years 1991, 1996, 2001, and 2006. We linearly interpolated and extrapolated around July of each census year to obtain the monthly data from 1990 to 2010.

C Additional Tables

Table 1 presents summary statistics on the CBSA data used in Section 2 of the paper. Each observation is a calendar month in a given province.

Table 1: Summary Statistics: 1972–2010 (3276 province-months)

	Mean	SD	Median	Min	Max
Day Trips (1000 vehicles):					
US	114.7	211.4	42.7	1	1224.8
CA	173.7	213.2	100.8	2.9	1192.9
Overnight Trips (1000 vehicles):					
US	41.7	71.9	14.4	0.5	519.1
CA	42.8	51.6	18.3	1.1	346.4
Nominal ER (CAD/USD)	1.236	0.166	1.221	0.962	1.6
Real ER	1.007	0.127	0.99	0.814	1.333

Table 2 presents summary statistics for the ITS data and the distance, gas price, and income data we have merged onto it. The first column presents variable means across all observations, while the second column does so only for the subset of observations (39088) in which there was at least one car trip across the border in the given month. Conditioning on positive trips, Census Divisions tend to be closer to the border, and more populated. The large standard deviation for gas prices is mainly driven by temporal variation, whereas there is substantial cross-CD variation in household incomes.

Table 2: Summary Statistics: 63000 Census Divisions-months

Variable	Mean	Mean|trips>0[a]	SD	Median	Min	Max
Driving Distance (km)	263.0	187.0	281.2	161.9	6.8	1877.1
Driving time (hrs)	3.7	2.6	3.9	2.2	0.2	26.7
Population (1000)	116.2	165.8	273.8	40.8	1.2	2667.9
Gasoline Price (c/L)	73.5	72.5	21.1	66.5	39.5	146.6
Median HH Income ($1000)	42.8	44.1	11.3	41.2	15.2	157.7
Cross-border trips (cars):						
Same-day	4093	6597	20229	0	0	456542
Overnight	1319	2126	4146	80	0	90662

[a] 39088 CD-months with at least one car trip across the border.

Table 3 presents the reasons that travelers give for crossing the border. These figures were derived from the International Travel Survey.

In Table 4 we present a regression that is analogous to Table 1 in the paper. It employs country-level data, instead of breaking up the data by provinces. That is, an

Table 3: Reasons for Crossing the Border, 1990–2010 (in percent)

Trip Duration:	Sameday		Overnight	
Residence of Travelers:	US	Canada	US	Canada
Business Affairs	7.5	7.4	7.6	7.5
Visit friends/relatives	15.2	8.8	22.8	22.2
Pleasure or personal trip	43.1	53.2	62.3	64.6
Commuting to work	2.3	6.0	-	-
Other	21.1	15.4	7.2	5.5
Not stated	10.8	9.2	0.1	0.2
Total Respondents ('000s)	304	445	226	264

Source: Authors' calculations from the International Travel Survey

observation is a country-month instead of a province-month. The results in the two tables are similar.

Table 4: Nation-level regressions of log crossings

Length of stay:	Daytrip		Overnight		Daytrip		Overnight	
Residence:	US	CA	US	CA	US	CA	US	CA
$\ln e$	1.54^a	-1.60^a	0.44^c	-1.49^a	1.38^b	-1.92^a	0.46	-1.66^a
(CAD/USD)	(0.21)	(0.42)	(0.26)	(0.25)	(0.61)	(0.38)	(0.35)	(0.35)
$\ln e \times\ [e > 1.09]$					0.63	0.87^b	0.45	0.42
(strong USD)					(0.80)	(0.38)	(0.37)	(0.44)
$\ln e \times\ [e < 0.90]$					-0.80^c	-0.73^b	-1.07^a	-0.27
(strong CAD)					(0.41)	(0.33)	(0.38)	(0.34)
R^2	0.81	0.86	0.93	0.93	0.83	0.88	0.94	0.93

Newey-West standard errors in parentheses are robust to serial correlation out to 60 months.
Significance indicated by ^{c} $p < 0.1$, ^{b} $p < 0.05$, ^{a} $p < 0.01$. N=468

To establish the robustness of the stylized facts in Section 2 of the paper, we also estimate using year-on-year differences of equation 1. That is, we subtract from each variable the value it had twelve months before. This holds constant season and province effects and also removes time-varying factors that may not have been well captured by the trend variables:

$$\begin{aligned} \ln n_{it} - \ln n_{i,t-12} &= \{12\eta_3 + 144\eta_4\} + \eta_1 \left[\ln \mathrm{e}_t - \ln \mathrm{e}_{t-12}\right] \\ &+ \eta_2 \left[\text{post911}_t - \text{post911}_{t-12}\right] + 24\eta_4 t + \varepsilon_{it} - \varepsilon_{i,t-12}. \end{aligned} \quad (17)$$

The 12-month differences transform the linear trend into the constant term and the quadratic trend to a linear trend. The results of estimating this equation using country-level data are presented in Table 5.

Table 5: Nation-level regressions using year-on-year differences

Length of stay:	Daytrip		Overnight		Daytrip		Overnight	
Residence:	US	CA	US	CA	US	CA	US	CA
$\ln e$	0.55^a	-1.17^a	0.26^c	-1.01^a	0.75^b	-1.24^a	0.26^b	-1.10^a
(CAD/USD)	(0.20)	(0.27)	(0.14)	(0.26)	(0.32)	(0.26)	(0.12)	(0.29)
$\ln e \times\ [e > 1.09]$					0.01	0.22	0.24^b	0.25
(strong USD)					(0.23)	(0.29)	(0.11)	(0.31)
$\ln e \times\ [e < 0.90]$					-0.41^c	-0.01	-0.17^b	0.02
(strong CAD)					(0.21)	(0.19)	(0.07)	(0.22)
R^2	0.17	0.52	0.04	0.27	0.19	0.52	0.07	0.27

Newey-West standard errors in parentheses are robust to serial correlation out to 60 months. Significance indicated by ^{c} $p < 0.1$, ^{b} $p < 0.05$, ^{a} $p < 0.01$. N=456

Table 6 shows the effect of including economic indicators, namely national GDP and employment rates, in the regression of cross-border travel on the Real Exchange Rate. The regression is at the country-month level. Note that there are fewer observations in this table than in Table 4. This is because the earliest year for which we could obtain comparable US and Canadian employment data was 1976.

The results show that adding economic variables does not change the main result. US elasticities are somewhat lower, while Canadian elasticities are somewhat higher, when these variables are included.

In Table 7 we present results of the various robustness checks described in Section 4.2 of the paper, using data on daytrips. The first column reproduces the results of our preferred specification, which is in Column 3 of Table 7. We do not report the province fixed effects in this table. The second column adds a quadratic term for log distance. This term is not significant and does not contribute significantly to the fit of the model.

In column 3, we add an interaction between the distance and exchange rate variables. Once again, this term is not significant. In columns 4 and 5 we drop census divisions with implausibly long daytrips. Column 4 drops the 14 CDs where the driving time to the border is 12 hours or more, Column 5 drops the 95 CDs for which the driving time is at least 3 hours. In both cases the estimated coefficients remain stable.

Finally, in Column 6 we drop the 14 census divisions where at least 10% of cross-border travelers identify as commuters. These are generally CDs that are very close to the border, and located near large US cities. Once again, the results are robust to dropping these observations.

In Table 8, we present the results of regressing mean and median expenditures reported by Canadians traveling in the US on the RER. Expenditures are expressed

Table 6: Nation-level regressions of log crossings

Length of stay:	Daytrip		Overnight		Daytrip		Overnight	
Residence:	US	CA	US	CA	US	CA	US	CA
$\ln e$	1.43^{a}	-1.71^{a}	0.33^{c}	-1.51^{a}	1.04^{a}	-2.14^{a}	0.12^{c}	-1.75^{a}
(CAD/USD)	(0.15)	(0.33)	(0.18)	(0.26)	(0.20)	(0.24)	(0.07)	(0.22)
ln US GDP					-2.05	-1.84^{c}	1.83^{a}	-2.40^{b}
					(2.58)	(1.07)	(0.42)	(1.18)
ln CA GDP					-1.77^{a}	-2.16^{a}	-1.47^{a}	-1.46^{a}
					(0.52)	(0.25)	(0.23)	(0.31)
ln US employment					2.40	0.27	-2.87^{a}	0.58
					(2.07)	(0.84)	(0.77)	(1.07)
ln CA employment					2.64	0.49	1.81^{a}	0.12
					(2.15)	(0.66)	(0.48)	(0.77)
N	408	408	408	408	408	408	408	408
R^2	0.80	0.89	0.95	0.93	0.86	0.94	0.96	0.94
RMSE	0.15	0.11	0.14	0.12	0.13	0.08	0.12	0.11

Newey-West standard errors in parentheses are robust to serial correlation out to 60 months. Significance indicated by ^{c} $p < 0.1$, ^{b} $p < 0.05$, ^{a} $p < 0.01$.

Table 7: Fractional Probit Regressions: Robustness Checks for Daytrips (x_{ct})

	(1)	(2)	(3)	(4)	(5)	(6)
θ_0: constant	4.42^a	4.34^a	4.39^a	4.50^a	5.38^a	5.32^a
	(1.52)	(1.53)	(1.53)	(1.55)	(1.79)	(1.51)
θ_1: $\ln e_t$ [RER]	-0.65^a	-0.65^a	-0.33	-0.65^a	-0.66^a	-0.69^a
	(0.13)	(0.13)	(0.39)	(0.13)	(0.14)	(0.13)
θ_2: $(\ln e_t)^2$	0.82^b	0.85^a	0.79^b	0.81^b	0.85^b	0.82^b
	(0.33)	(0.33)	(0.34)	(0.33)	(0.36)	(0.34)
θ_3: $\ln D_c$ [distance]	-0.52^a	-0.20	-0.51^a	-0.52^a	-0.52^a	-0.53^a
	(0.04)	(0.34)	(0.04)	(0.04)	(0.04)	(0.04)
$(\ln D_c)^2$		-0.04				
		(0.04)				
$(\ln e_t) * (\ln D_c)$			-0.08			
			(0.09)			
$\ln P(g)_{ct}$ [gas price]	-0.07	-0.06	-0.07	-0.07	-0.07	-0.08^c
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
$\ln W_{ct}$ [income]	-0.42^a	-0.46^a	-0.41^a	-0.42^a	-0.50^a	-0.49^a
	(0.14)	(0.14)	(0.14)	(0.14)	(0.17)	(0.14)
Post-911	-0.14^a	-0.14^a	-0.14^a	-0.14^a	-0.14^a	-0.15^a
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
N	63000	63000	63000	59472	39060	59472
R^2	0.53	0.56	0.53	0.53	0.53	0.54
AIC	1778.11	1777.81	1779.95	1765.00	1660.78	1681.54

Standard errors clustered by census-division. Regressions include month and province fixed-effects. ^{c} p<0.1, ^{b} p<0.05, ^{a} p<0.01.

in constant 2002 dollars. The first two columns report results for daytrips, and the next two for overnight trips.

Table 8: Regressions of Log Median and Average Real Expenditures

	Day trips		Overnight trips	
	median	average	median	average
$\ln e$	-0.30[a]	-0.95[a]	-0.14	0.17
(RER)	(0.10)	(0.28)	(0.14)	(0.10)
Constant	3.28[a]	3.86[a]	6.47[a]	7.08[a]
	(0.04)	(0.08)	(0.05)	(0.04)
# obs.	252	252	252	252
R^2	0.63	0.53	0.83	0.94

SEs clustered by year-month. Month dummies, trend and trend squared included but not reported. [a] p<0.01.

The estimated elasticities are negative and significant for daytrips, but statistically insignificant for overnight trips. The results show that Canadian daytrippers increase their spending in the US when the CAD appreciates, while overnight travelers do not. The results are robust to using both median as well as mean expenditures. This is corroborating evidence for the hypothesis that consumers making day trips expand the bundle of goods they purchase in the US, consistent with an explicit shopping motive, but that overnight travelers do not exhibit such behavior.

In Table 9, we present regressions showing the effect of weather on same day and overnight travel. The first specification is our preferred (column 3) specification in Table 5 in the paper. It includes all the month dummies but we only report July since it illustrates the main seasonal pattern. The second column replaces month dummies with data on temperature, snowfall, and precipitation. The positive impact of temperature almost completely explains the seasonal pattern. The mean temperature in July is 20°C, 28°C higher than the mean temperature in January. The coefficient on temperature implies a 0.14 difference for July, about what the month dummy in the first specification indicated. Weather has no significant effect on daytrips in the third regression that includes month fixed-effects. This means that deviations from average monthly weather do not affect same-day travel. The story is somewhat different for trips that last one or more nights. There we see stronger weather effects (but the seasonal pattern was also stronger in the dummies so that is not surprising). Deviations from weather means *do* affect overnight trips, especially snowfall.

Table 10 shows that different distributional assumptions do not affect the calculation of travel costs.

Tables 11 and 12 decompose the welfare changes generated a 10% appreciation of the Canadian dollar and increasing wait times at the border. The total welfare effects of the counterfactuals are explained and reported in Table 8 in the paper.

Table 9: Crossing fraction regressions including weather

	Daytrip			Overnight		
July vs January	0.159^a		0.133^a	0.337^a		0.420^a
	(0.021)		(0.039)	(0.018)		(0.038)
Temp (deg C, mo. mn)		0.005^a	0.001		0.008^a	-0.005^a
		(0.001)	(0.002)		(0.001)	(0.001)
Snow (m, mo. accum.)		-0.018	0.000		-0.073^a	-0.190^a
		(0.032)	(0.028)		(0.019)	(0.030)
Precip. (cm, mo. accum.)		-0.001	-0.001		-0.002^a	0.001
		(0.001)	(0.001)		(0.001)	(0.001)
Month effects	yes	no	yes	yes	no	yes
N	63000	62902	62902	63000	62902	62902
R^2	0.535	0.532	0.535	0.078	0.068	0.078
log-like	-865.1	-864.878	-864.439	-294.3	-295.7	-294.0

Standard errors in parentheses ^{c} $p < 0.1$, ^{b} $p < 0.05$, ^{a} $p < 0.01$

Table 10: Travel cost estimates

Distribution	$d\ln e/d\ln D$	US \$/mile		$d\ln e/d\ln T$	US \$/hour	
		median	average		median	average
$\zeta(i) \sim$ Normal	-0.611	0.87	1.66	-1.023	29.69	68.34
$\zeta(i) \sim$ Logistic	-0.618	0.88	1.68	-1.124	32.63	75.10
$\zeta(i) \sim$ Gumbel	-0.597	0.85	1.63	-0.946	27.47	63.23

Table 11: Impact of a 10% Canadian dollar appreciation on same-day travel

Year:	2002		2010	
	% Δ Trips (n_c)	% Δ Gains (G_c/n_c)	% Δ Trips	% Δ Gains
Canada	8.02	0.68	25.67	2.22
New Brunswick	6.33	0.80	19.92	2.59
Quebec	10.00	0.67	32.12	2.18
Ontario	7.94	0.69	25.47	2.24
Toronto (140 km)	10.78	0.67	34.35	2.19
Hamilton (75 km)	9.79	0.71	31.30	2.32
Niagara (24 km)	8.08	0.81	25.21	2.62
Manitoba	9.76	0.68	31.35	2.20
Saskatchewan	10.47	0.61	34.02	1.98
Alberta	11.41	0.58	37.81	1.86
British Columbia	8.31	0.76	25.88	2.47

Table 12: Impact of a doubling of border wait times on same day trips

Year:	2002		2010	
	% Δ Trips	% Δ Gains	% Δ Trips	% Δ Gains
Canada	-57.08	-4.51	-54.60	-4.61
New Brunswick	-52.29	-5.05	-49.10	-5.16
Quebec	-55.77	-4.44	-54.04	-4.58
Ontario	-60.37	-4.92	-57.33	-5.01
Toronto (140 km)	-44.74	-4.00	-42.84	-4.17
Hamilton (75 km)	-53.72	-6.01	-52.32	-6.17
Niagara (24 km)	-64.16	-9.49	-62.53	-9.74
Manitoba	-53.42	-3.89	-51.78	-4.03
Saskatchewan	-53.31	-2.20	-51.48	-2.22
Alberta	-50.75	-1.63	-49.23	-1.66
British Columbia	-55.38	-5.96	-53.48	-6.22

D Additional Figures

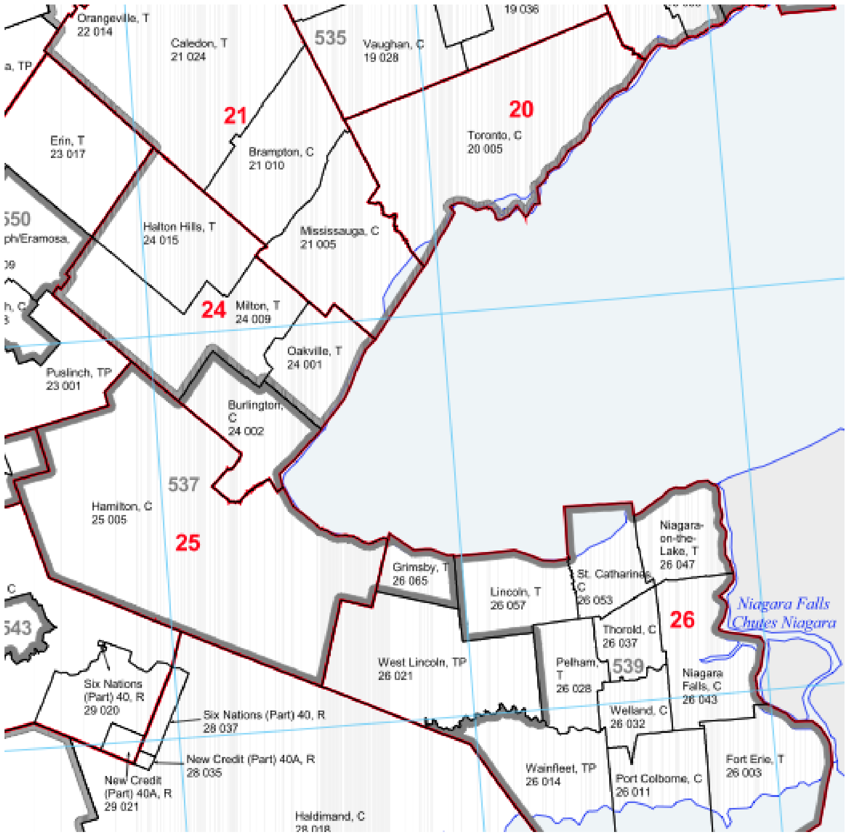

Figure D.1: Census Divisions in Southeastern Ontario

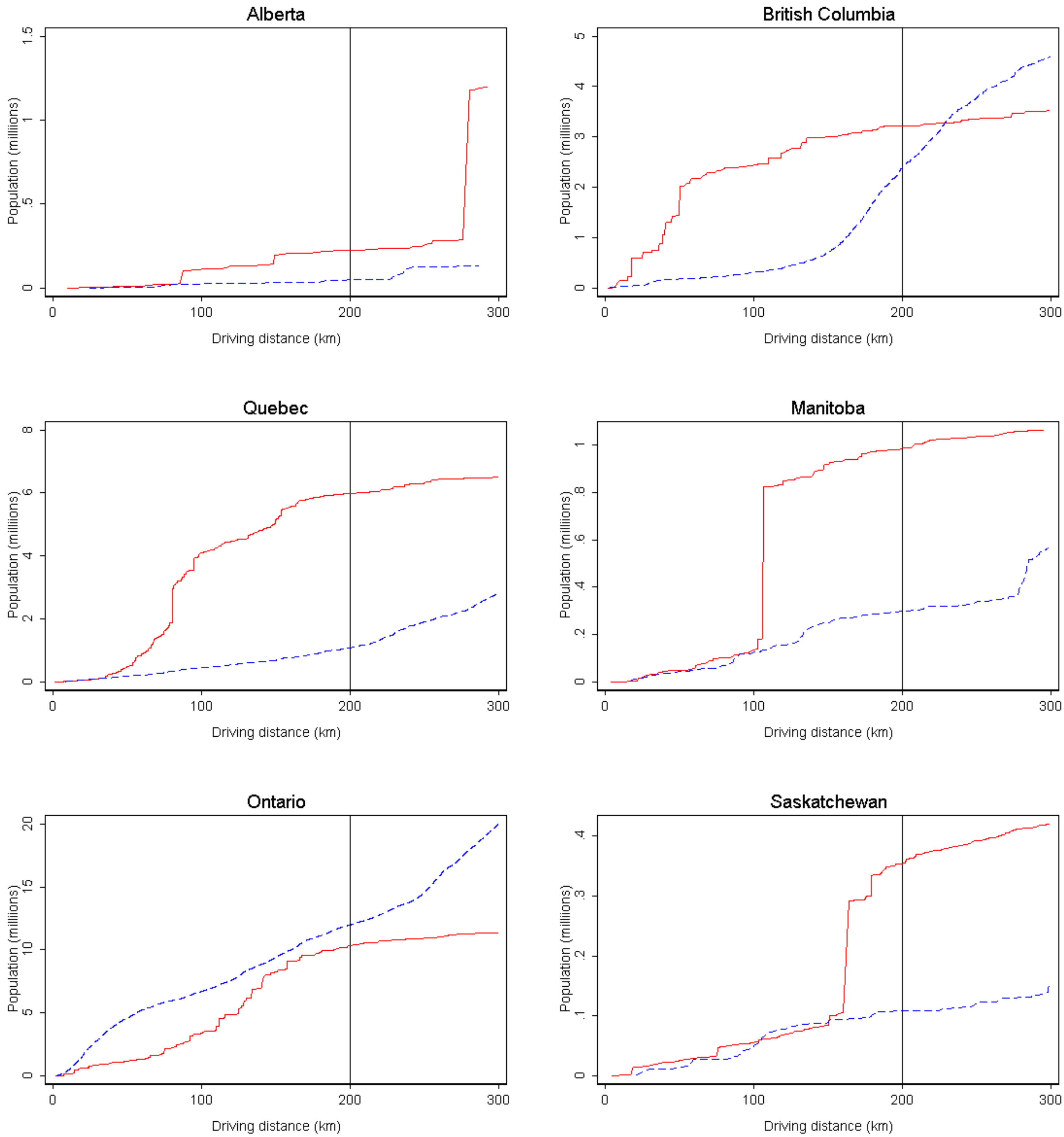

Figure D.2: Accumulated Population and Distance to the Border: Canada (solid) and US (dashed)