

Dissecting The Canada Discount Puzzle

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Canadian listed firms' market-to-book ratios are ten percent or more below those of similarly sized US-listed firms in the same industries.^{1 2 3} Similar discounts are present in Canadian firms' P/E ratios, Q ratios, and other valuation measures. Given the close similarity and integration of the two economies, this is an intriguing anomaly dubbed "the Canada discount puzzle."

My research is about why shareholders value Canadian firms less highly than they value similar US firms? Previous work confirms the existence of a Canada discount, but remains ambiguous about what causes the discount. One line of previous work argues that many Canadian firms have corporate governance problems associated with entrenched controlling shareholders – often politically powerful business families.⁴ Current issues surrounding the governance of the family-controlled Bombardier Corp. may fit under this heading. Other implicated factors include dual class shares, voting caps, or intercorporate equity block holdings. Other possibilities, also related to possible corporate governance shortcomings in Canadian firms, include lower R&D spending, the deadweight cost of exchange rate unpredictability, different regulatory burdens, different tax burdens, and others.

My doctoral thesis is to use an unprecedentedly comprehensive (in number of years and number of firms covered) panel database of Canadian firms to explain why the Canada discount exists. I am connecting firms' accounting items from the *Globe and Mail* Report on Business (ROB) database with stock prices from the Canadian Financial Markets Research Centre (CFMRC), macroeconomic data from Thomson Reuters Datastream and the Bank of Canada, and information about controlling shareholders from Statistics Canada's *Directory of Intercorporate Ownership* and historical editions of the *Financial Post 500* listings.

This will let me explore how the Canada discount varies across years, industries, and firms' varied corporate governance regimes. If the discount changes abruptly when different regulations come into effect, this would implicate regulatory differences between the two countries. If the discount varies in synch with macroeconomic factors, for example exchange rate volatility, the macroeconomic environment would be implicated. If the discount is larger for family-controlled firms, this would suggest that shareholders devalue firms whose directors are less free to act independently.

Preliminary results show the discount has worsened since previous studies looked at it, and suggest governance shortfalls, some possibly made worse by macro-economic factors. My further work should help isolate the causes of the Canada discount. This would help directors (or shareholder activists groups) better identify and correct genuinely important governance problems. Correcting these problems would increase Canadian share prices, thereby increasing investors' portfolio values and, by increasing IPO valuations, making Canadian stock markets better places for entrepreneurs to list.

¹ King, Michael & Dan Segal. 2003. Corporate Governance, International Cross-Listing and Home Bias. *Canadian Investment Review* 16: 8–19.

² King, Michael & Dan Segal. 2008. Market Segmentation and Equity Valuation: Comparing Canada and the United States. *Journal of International Financial Markets, Institutions and Money* 18: 245–258.

³ King, Michael & Dan Segal. 2009. The Long-Term Effects of Cross-Listing, Investor Recognition, and Ownership Structure on Valuation. *Review of Financial Studies* 22: 2393-2421.

⁴ Morck, Randall, David Stangeland & Bernard Yeung. 2000. Inherited Wealth, Corporate Control & Economic Growth: The Canadian Disease? In Randall Morck, ed. *Concentrated Corporate Ownership*. National Bureau of Economic Research & University of Chicago Press, 319-69.

Appendix: Selected Results

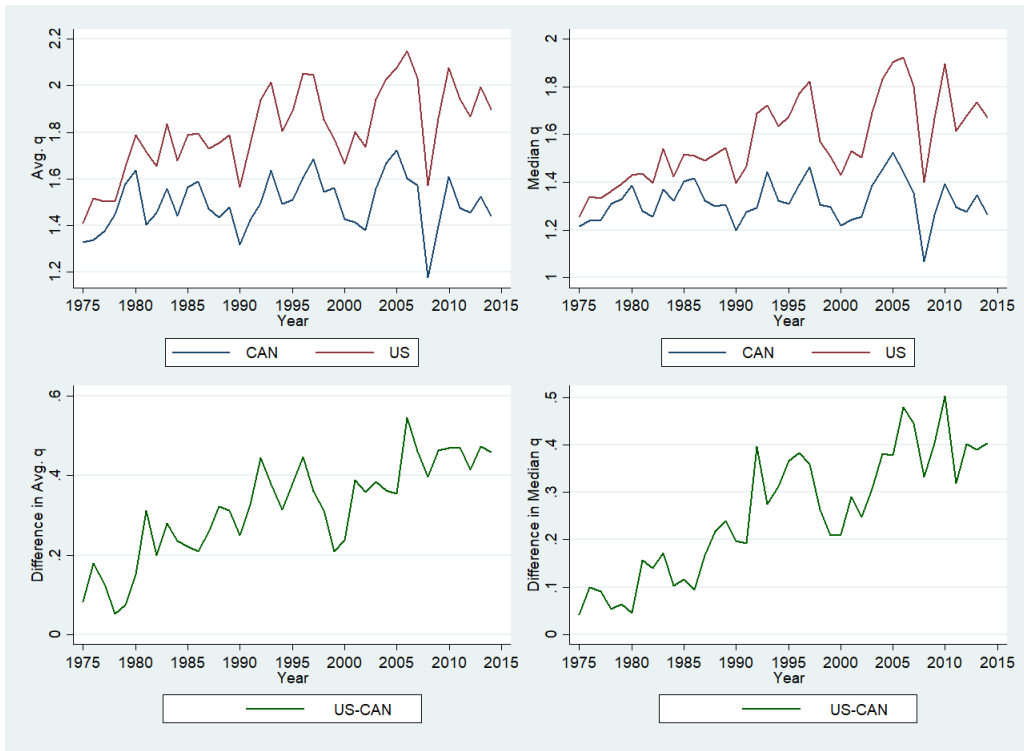


Figure A1. The Widening Valuation Gap

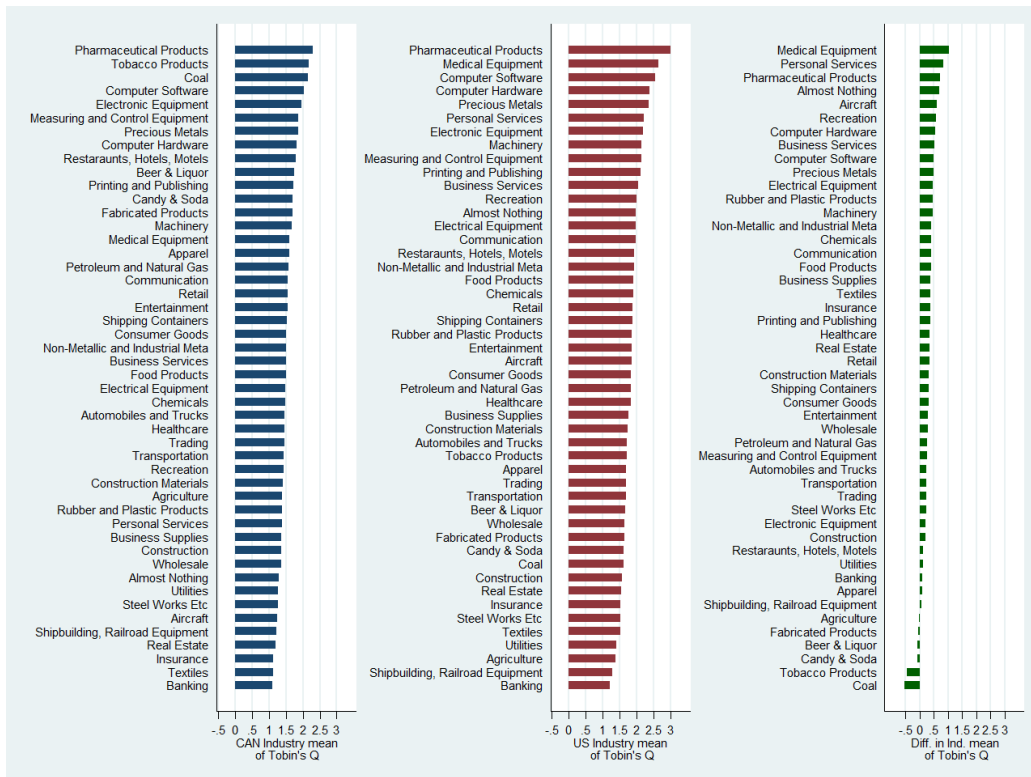


Figure A2. The Industry-Varying Valuation Gap

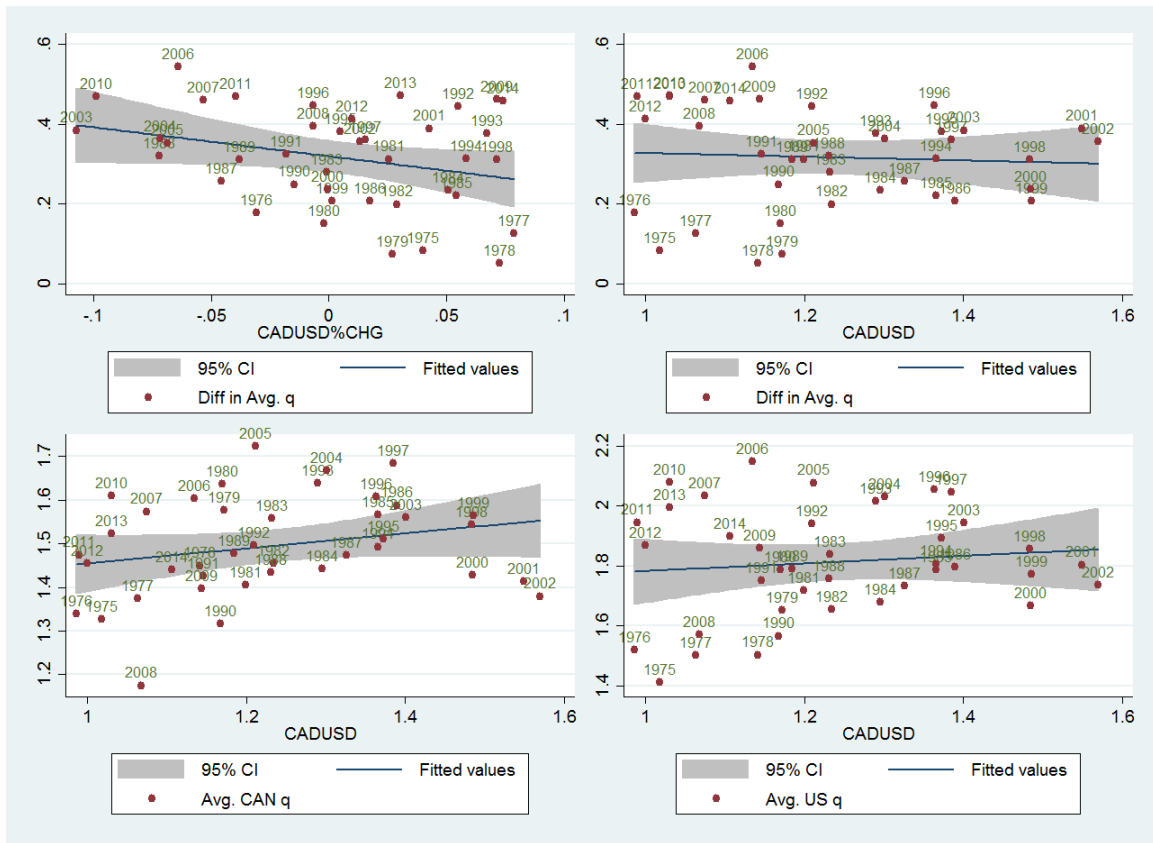


Figure A3. Exchange Rate and The Valuation Gap

variable	CAN						US					
	mean	sd	p25	p50	p75	N	mean	sd	p25	p50	p75	N
Firm Level												
q	1.49851	0.716762	1.084175	1.316945	1.70002	16167	1.827777	0.8379877	1.269422	1.579372	2.09667	16002
asset	1947.053	6275.85	95.43278	318.4724	1198.529	16456	1959.691	6662.196	88.412	283.94	1084.229	16417
revenue	950.3556	2120.447	90.31365	231.3172	737.155	16437	947.9069	2121.21	90.536	231.121	735.153	16435
mktcap	952.2351	2436.815	49.12336	187.3957	699.1769	16255	1018.55	2591.471	41.55275	188.7874	786.891	15914
cash	0.075832	0.108956	0.003504	0.029418	0.1025142	16648	0.099303	0.1223984	0.0162878	0.049374	0.135606	16539
leverage	0.538161	0.210771	0.396345	0.53798	0.668256	16426	0.559805	0.2365945	0.3968261	0.552376	0.704597	16410
dividend	0.014727	0.024606	0	0.004987	0.0191738	16511	0.010675	0.0198869	0	0	0.014719	16560
rand	0.029158	0.049251	0	0.007015	0.0320583	3679	0.028691	0.0487162	0	0.008249	0.032138	6157
roa	0.118648	0.089085	0.069529	0.117954	0.1680844	16187	0.11699	0.0991599	0.0630192	0.117303	0.173411	15946
revgrowth	0.144798	0.304532	-0.00805	0.09095	0.2247299	14934	0.147655	0.3312978	-0.0157602	0.087226	0.226764	15446
Country Level												
cadusd	1.234023	0.161964	1.12025	1.21025	1.36555	40						
uscanbot	-28622.2	23260.89	-35625	-22228.2	-11210	40						
compi	85.12639	10.56511	75.99615	85.05665	94.29495	40	115.8012	13.83496	104.0906	112.7656	123.252	40
gdpg	0.026024	0.020141	0.018126	0.026665	0.0391765	40	0.027682	0.0203268	0.0178248	0.02991	0.041481	40
gdppc	39242.68	6859.21	33721.28	37274.03	46355.68	40	39126.24	8248.158	31787.9	38391.34	47594.94	40
inf	0.038962	0.03097	0.017014	0.03249	0.0473719	40	0.034101	0.0234465	0.0190188	0.024653	0.037935	40
pnfip	0.09912	0.017516	0.083528	0.093787	0.1081676	40	0.103924	0.018791	0.0884976	0.098102	0.12032	40
re	0.425	0.500641	0	0	1	40	0.35	0.4830459	0	0	1	40
tbill	6.34675	4.25229	2.8	5.515	9.14	40	4.95875	3.444974	2.315	5.01	6.945	40
tbond	7.6485	3.351367	4.735	8.065	9.935	40	6.7685	3.035185	4.45	6.51	8.455	40
ulc	71.60433	22.31843	54.52225	74.26545	86.62045	40	74.34156	21.82661	57.46895	75.9377	91.65615	40
unemp	8.359624	1.615578	7.192085	7.7178	9.54849	40	6.525869	1.564915	5.451075	6.121255	7.50771	40

Table A1. Summary Statistics of Key Variables

CAN											
	q	qdif	asset	revenue	mktcap	cash	leverage	dividend	rand	roa	revgrowth
q	1										
qdif	-0.5889	1									
asset	-0.0635	0.0079	1								
revenue	-0.0218	-0.0068	0.74	1							
mktcap	0.2204	-0.1338	0.6782	0.6922	1						
cash	0.3451	-0.1334	-0.1089	-0.1111	-0.0042	1					
leverage	-0.3488	0.2032	0.1439	0.1393	0.0085	-0.4186	1				
dividend	0.1587	-0.1546	0.0508	0.0625	0.0867	0.0046	-0.1044	1			
rand	0.2602	-0.0558	-0.102	-0.1245	-0.0294	0.3552	-0.2178	-0.1567	1		
roa	0.4394	-0.322	-0.0155	0.0606	0.1233	0.0136	-0.1513	0.2999	-0.0891	1	
revgrowth	0.2247	-0.1055	-0.0137	-0.0416	0.0458	0.0711	-0.0342	-0.0693	0.0368	0.1758	1

US											
	q	qdif	asset	revenue	mktcap	cash	leverage	dividend	rand	roa	revgrowth
q	1										
qdif	0.7173	1									
asset	-0.0223	-0.0234	1								
revenue	0.0139	0.0034	0.8335	1							
mktcap	0.2822	0.1895	0.7394	0.7096	1						
cash	0.3985	0.2637	-0.068	-0.0656	0.057	1					
leverage	-0.3945	-0.2846	0.1803	0.1584	0.0201	-0.3653	1				
dividend	0.1519	0.1648	0.0883	0.089	0.1453	-0.0229	-0.1866	1			
rand	0.2606	0.1318	-0.0785	-0.112	0.0011	0.4035	-0.212	-0.0863	1		
roa	0.3921	0.324	0.0006	0.0795	0.152	-0.0213	-0.1864	0.3058	-0.1282	1	
revgrowth	0.2123	0.1567	-0.0217	-0.0563	0.0117	0.0526	-0.0554	-0.0777	0.0304	0.1404	1

Table A2. Correlation Matrix of Firm-Level Key Variables

CAN														
	ymq	ymqd	cadusd	uscanbot	compi	gdpq	gdppc	inf	pnrfip	re	tbill	tbond	ulc	unemp
ymq	1													
ymqd	0.1094	1												
cadusd	0.1427	-0.503	1											
uscanbot	-0.1199	-0.3819	-0.0049	1										
compi	-0.1951	0.4208	-0.976	0.0489	1									
gdpq	0.3013	-0.2128	0.3559	-0.1002	-0.3785	1								
gdppc	0.0098	0.6827	-0.3349	-0.7462	0.2932	-0.0086	1							
inf	-0.1649	-0.4245	-0.123	0.1537	0.1231	0.0225	-0.441	1						
pnrfip	-0.0532	0.6375	-0.5062	-0.6247	0.4583	-0.0582	0.9097	-0.2128	1					
re	-0.3837	-0.0649	-0.1018	0.0834	0.1091	-0.6239	-0.1294	0.1752	-0.0912	1				
tbill	-0.2197	-0.6681	0.1316	0.5699	-0.0871	-0.0195	-0.8412	0.7267	-0.6621	0.2654	1			
tbond	-0.1432	-0.6858	0.2275	0.6386	-0.1831	-0.0168	-0.9406	0.6573	-0.8187	0.1972	0.9485	1		
ulc	-0.0184	0.7718	-0.4617	-0.5457	0.4174	-0.1577	0.9389	-0.5689	0.8663	-0.0874	-0.8776	-0.9471	1	
unemp	0.1443	-0.4115	0.2059	0.6853	-0.1514	-0.103	-0.8063	0.0715	-0.8131	-0.0022	0.4327	0.6492	-0.634	1

US														
	ymq	ymqd	cadusd	uscanbot	compi	gdpq	gdppc	inf	pnrfip	re	tbill	tbond	ulc	unemp
ymq	1													
ymqd	0.7899	1												
cadusd	0.112	-0.0608	1											
uscanbot	-0.4821	-0.5467	-0.1727	1										
compi	-0.3232	-0.4717	0.537	0.046	1									
gdpq	0.0061	-0.2376	0.2634	0.1077	0.308	1								
gdppc	0.654	0.808	0.0425	-0.7969	-0.4228	-0.2128	1							
inf	-0.5742	-0.6993	-0.3307	0.4815	0.1671	-0.0684	-0.7472	1						
pnrfip	0.5292	0.6369	0.1486	-0.806	-0.2107	-0.1672	0.9167	-0.6026	1					
re	-0.316	-0.1641	0.1742	0.0303	0.0706	-0.3759	-0.1086	0.2216	0.0018	1				
tbill	-0.4355	-0.6377	0.1203	0.5112	0.4773	0.1734	-0.7841	0.7265	-0.5881	0.3383	1			
tbond	-0.4791	-0.6427	0.1152	0.5984	0.5576	0.1807	-0.8634	0.6821	-0.7174	0.2464	0.9485	1		
ulc	0.6796	0.8595	0.0474	-0.7192	-0.435	-0.2654	0.9812	-0.7922	0.8833	-0.0742	-0.767	-0.8179	1	
unemp	-0.1388	-0.0504	-0.5139	0.4412	-0.0109	-0.3301	-0.3048	0.2366	-0.3749	-0.1434	0.0171	0.2071	-0.2094	1

Table A3. Correlation Matrix of Key Macroeconomic Variables

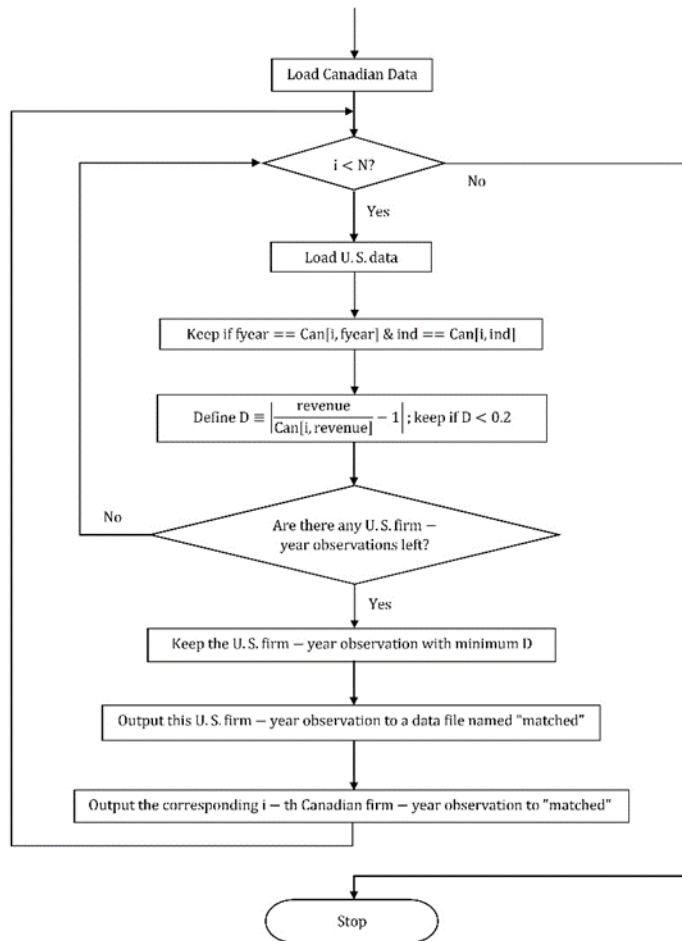


Figure A4. Firm-Pairing Algorithm