

Appendix Canadian Results

Table 1: Summary statistics Equally weighted DB, DC and Mutual Fund Canadian equity performance

The different panels in this table display summary statistics on the NVA for the complete sample of DB pension funds "DB" and a subsample starting in 1996 "DB96" and for the complete mutual fund sample "MF96" (starting in 1996). NVA is computed as: R - BMR - C, with R denoting gross returns, BMR fund-specific benchmark returns and C fund-specific costs. NVA is reported in basis points. "NT" represents the number of unique time-fund combinations in the series. "Mean" displays an equally weighted cross-sectional average of time-series mean NVA. "s.d." displays the equally weighted cross-sectional standard deviation of the time-series mean NVA. "Max" and "Min" are respectively the maximum and minimum NVA of the series. "Cons. Yrs" is an average across funds of the maximum number of consecutive years a fund is in the database. "Costs" are equally weighted across fund averages of time-series means of costs. "Size Eq. hold." is an across fund equally weighted average of time-series means of equity holdings. All numbers are domestic investments by Canadian institutions.

DB										
	NT	Mean	s.d.	t-stat	Max	Min	Cons. Yrs	Size hold.	Costs	
All	968.00	76.18	188.16	5.70	796.45	-601.05	3.56	550.45	25.23	
Act	967.00	79.58	210.68	5.30	918.75	-681.14	3.59	411.70	27.34	
Pas	278.00	19.00	62.83	2.40	228.57	-202.87	3.71	138.75	6.03	
Int	247.00	62.11	206.44	1.95	1048.30	-961.75	5.14	251.23	12.54	
Ext	907.00	71.98	194.75	5.12	796.00	-581.52	3.38	299.22	27.24	
DB96										
All	636.00	122.52	191.84	8.05	796.00	-599.54	2.93	701.03	24.82	
Act	633.00	132.98	220.42	7.61	918.75	-663.08	2.84	509.31	27.61	
Pas	229.00	19.23	61.64	2.42	228.25	-202.87	3.15	191.72	5.79	
Int	157.00	82.67	241.03	1.94	1048.30	-929.32	4.47	337.61	10.14	
Ext	607.00	115.20	201.54	7.07	796.00	-577.47	2.86	363.42	27.22	
MF96										
All	2781.00	-259.81	495.30	-15.19	1998.00	-1616.12	2.49	219.05	274.79	
LC	2141.00	-241.26	415.50	-15.95	1610.55	-1383.12	2.09	231.15	275.20	
SC	379.00	627.99	745.62	7.81	3580.00	-1897.00	3.27	109.22	271.30	
Act	2721.00	-266.05	504.56	-15.01	2029.31	-1637.12	2.53	212.64	277.44	
Pas	39.00	-43.53	194.16	-1.21	331.82	-565.60	1.03	399.33	197.93	

Table 2: **Summary statistics Specified Canada**

The different panels in this table display summary statistics, on aggregation level 2, on the NVA for the complete sample of DB pension funds "DB" and a subsample starting in 1996 "DB96" and for the complete mutual fund sample "MF96" (starting in 1996). NVA is computed as: $R - BMR - C$, with R denoting gross returns, BMR fund-specific benchmark returns and C fund-specific costs. NVA is reported in basis points. "NT" represents the number of unique time-fund combinations in the series. "Mean" displays an equally weighted cross-sectional average time-series means of net value added (NVA). "s.d." displays the standard deviation across funds of the time-series averages of NVA. "Max" and "Min" are respectively the maximum and minimum NVA of the series. "Costs" is the cross-sectional mean of time-series average costs. Costs are reported in basis points. All numbers are domestic investments by Canadian institutions and are displayed in basis points.

	NT	Mean	s.d.	t-stat	Max	Min	Costs
DB							
Int Pas	69.00	13.57	90.69	0.52	221.02	-195.49	6.01
Int Act	230.00	115.36	468.95	1.50	1400.49	-1210.45	14.50
Ext Pas	230.00	14.29	61.79	1.73	190.00	-263.78	6.20
Ext Act	891.00	68.38	330.95	2.86	863.46	-634.57	29.25
DB96							
Int Pas	56.00	15.05	97.35	0.49	221.02	-195.49	4.20
Int Act	148.00	184.26	507.49	1.99	1400.49	-1210.45	12.06
Ext Pas	187.00	18.91	62.92	2.19	190.00	-263.78	6.13
Ext Act	595.00	119.23	340.35	4.33	863.46	-634.57	29.77
MF96							
LC Act	2073.00	-308.96	720.68	-11.56	1610.55	-1383.12	278.18
LC Pas	68.00	-259.48	595.97	-2.30	1575.55	-1360.71	195.11
SC Act	374.00	541.67	1262.93	3.95	3580.00	-1897.00	271.26
SC Pas	5.00	209.40	1004.87	0.21	1397.00	-1359.00	274.00

Table 3: Persistence tests DB Pension and Mutual Fund NVA Canada

This table presents persistence test results for pension funds and mutual funds, based on their NVA. NVA is computed as $R - BMR - C$, with R denoting gross return, BMR is the benchmark return and C are the fund-specific costs. The columns indicating "W" and "L" show transition probabilities for winners and losers of previous period. The columns "P-value" displays p-values for two different persistence tests. The first row shows the transition probabilities for previous period winners and the p-value of the Chi-squared test proposed by ?. The second row shows the transition probabilities of previous period losers and the p-value of a portfolio test. Each period 10 decile portfolios are formed. Next period, differences in performance between the previously best and worst performing portfolios are computed. Then a t-test on the differences is conducted.

	DB			DB96			MF96		
	W	L	P-value	W	L	P-value	W	L	P-value
All	0.51	0.49	0.79	0.53	0.47	0.72	0.57	0.43	0.18
	0.47	0.53	0.42	0.46	0.54	0.45	0.43	0.57	0.32
Act	0.53	0.47	0.67	0.54	0.46	0.66	0.56	0.44	0.21
	0.46	0.54	0.33	0.45	0.55	0.35	0.43	0.57	0.31
Pas	0.54	0.46	0.61	0.60	0.40	0.47	-	-	-
	0.41	0.59	0.30	0.37	0.63	0.26	-	-	-
Int/LC	0.56	0.44	0.62	0.57	0.43	0.65	0.55	0.45	0.45
	0.42	0.58	0.26	0.41	0.59	0.32	0.45	0.55	0.29
Ext/SC	0.50	0.50	0.90	0.53	0.47	0.71	0.51	0.49	0.86
	0.49	0.51	0.33	0.45	0.55	0.31	0.47	0.53	0.33

Table 4: Persistence tests DB Pension and Mutual Fund GVA Canada

This table presents persistence test results for pension funds and mutual funds, based on their GVA. GVA is computed as $R - BMR$, with R denoting gross return and BMR the fund-specific benchmark return. The columns indicating "W" and "L" show transition probabilities for winners and losers of previous period. The columns "P-value" displays p-values for two different persistence tests. The first row shows the transition probabilities for previous period winners and the p-value of the Chi-squared test proposed by ?. The second row shows the transition probabilities of previous period losers and the p-value of a portfolio test. Each period 10 decile portfolios are formed. Next period, differences in performance between the previously best and worst performing portfolios are computed. Then a t-test on the differences is conducted.

	DB			DB96			MF96		
	W	L	P-value	W	L	P-value	W	L	P-value
All	0.54	0.46	0.56	0.55	0.45	0.54	0.53	0.47	0.59
	0.45	0.55	0.42	0.43	0.57	0.46	0.47	0.53	0.31
Act	0.55	0.45	0.53	0.56	0.44	0.53	0.54	0.46	0.41
	0.45	0.55	0.35	0.43	0.57	0.35	0.45	0.55	0.33
Pas	0.51	0.49	0.66	0.56	0.44	0.62	-	-	-
	0.43	0.57	0.50	0.42	0.58	0.25	-	-	-
Int/LC	0.55	0.45	0.62	0.57	0.43	0.63	0.50	0.50	0.94
	0.42	0.58	0.28	0.40	0.60	0.32	0.49	0.51	0.36
Ext/SC	0.52	0.48	0.70	0.55	0.45	0.54	0.48	0.52	0.91
	0.46	0.54	0.35	0.42	0.58	0.34	0.50	0.50	0.30

Table 5: **Single Level Panel Performance Analysis NVA DB-MF Canada**

This table reports single level panel performance parameter estimates with their accompanying p-values, based on funds' NVA. NVA is computed as $R - BMR - C$, with R denoting gross return, BMR the fund-specific benchmark return and C the fund-specific costs. NVA is reported in basis points and FF-factors are reported in percentages. Results are displayed for both the complete sample of DB pension funds "DB" and a subsample of DB funds starting in 1996 "DB96" and for the complete mutual fund sample "MF96" (starting in 1996). a_0 represents the net performance after risk-adjustment. b_M , b_{SMB} , b_{HML} and b_{UMD} are risk loadings on their corresponding FF-factors. All parameters are weighted cross-sectional averages, estimated using FGLS. Each pair of rows displays results for a different stock classification. "All" concerns the complete sample, "LC" and "SC" display respectively large and small cap stock investments. "Act" and "Pas" describe respectively the active and passive stocks investments and "Int" and "Ext" the internally and externally managed equities. All estimates are restricted to domestic stock investments by Canadian institutions.

	DB						MF96						
	a_0	b_M	b_{SMB}	b_{HML}	b_{UMD}	a_0	b_{SMB}	b_{HML}	b_{UMD}	a_0	b_{SMB}	b_{HML}	b_{UMD}
All	102.86	-4.33	1.73	4.16	0.39	-240.31	-1.59	-10.91	-8.34	-11.10	-8.34	-11.10	-11.10
	0.00	0.01	0.24	0.01	0.38	0.29	0.34	0.13	0.12	0.02	0.12	0.02	0.02
Act	103.55	-4.96	2.57	5.78	1.76	-232.19	-1.72	-11.79	-9.08	-11.30	-9.08	-11.30	-11.30
	0.00	0.01	0.17	0.00	0.10	0.29	0.33	0.11	0.11	0.02	0.11	0.02	0.02
Pas	24.95	-0.89	0.53	0.10	-0.23	-	-	-	-	-	-	-	-
	0.00	0.02	0.16	0.41	0.21	-	-	-	-	-	-	-	-
Int/LC	113.29	-5.00	3.41	3.15	0.92	-358.20	-1.02	-4.12	-2.08	-11.20	-2.08	-11.20	-11.20
	0.00	0.02	0.13	0.09	0.26	0.16	0.38	0.29	0.36	0.01	0.36	0.01	0.01
Ext/SC	96.36	-3.90	1.61	3.96	0.25	936.37	-3.21	-62.97	-51.92	6.46	-51.92	6.46	6.46
	0.00	0.02	0.26	0.02	0.42	0.06	0.29	0.00	0.00	0.17	0.00	0.00	0.17

Table 6: **Multi Level Panel Performance Analysis NVA DB-MF Canada**

This table reports single level panel performance parameter estimates with their accompanying p-values, based on funds' NVA. NVA is computed as $R - BMR - C$, with R denoting gross return, BMR is the fund-specific benchmark return and C are the fund-specific costs. NVA is reported in basis points and FF-factors in percentages. Results are displayed for the complete DB pension fund sample "DB", a subsample of the DB sample starting in 1996 "DB96" and for the complete mutual fund sample "MF96" (starting in 1996). a_0 represents the net performance after risk-adjustment. b_M , b_{SMB} , b_{HML} and b_{UMD} are risk loadings on their corresponding FF-factors. All parameters are weighted cross-sectional averages, estimated using FGLS. Each pair of rows displays results for a different stock classification. "All" concerns the complete sample, "LC" and "SC" display respectively large and small cap stock investments. "Act" and "Pas" describe respectively the active and passive stocks investments and "Int" and "Ext" respectively represent internally and externally managed equities. All estimates are restricted to domestic stock investments by Canadian institutions.

DB							
	a_0	a_{int}	a_{Pub}	b_M	b_{SMB}	b_{HML}	b_{UMD}
All	97.48	7.80	15.30	-4.32	1.73	4.15	0.37
	0.01	0.45	0.38	0.01	0.24	0.01	0.38
Act	92.43	38.64	18.02	-4.95	2.58	5.76	1.72
	0.02	0.30	0.37	0.01	0.17	0.00	0.10
Pas	25.50	9.88	-5.93	-0.88	0.55	0.12	-0.24
	0.01	0.32	0.33	0.02	0.15	0.40	0.20
Int	91.06	60.77	-38.87	-5.01	3.46	3.23	0.91
	0.10	0.24	0.23	0.02	0.13	0.08	0.27
Ext	94.41	-93.88	40.29	-3.85	1.53	3.91	0.23
	0.01	0.18	0.22	0.02	0.27	0.02	0.43
MF96							
	a_0	$a_{turnover}$	b_{SMB}	b_{HML}	b_{UMD}		
All	-240.31	-1.59	-10.91	-8.34	-11.10		
	0.29	0.34	0.13	0.12	0.02		
Act	-232.19	-1.72	-11.79	-9.08	-11.30		
	0.29	0.33	0.11	0.11	0.02		
Pas	-	-	-	-			
	-	-	-	-			
LC	-358.20	-1.02	-4.127	-2.08	-11.20		
	0.16	0.38	0.29	0.36	0.01		
SC	936.37	-3.21	-62.97	-51.92	6.46		
	0.06	0.29	0.00	0.00	0.17		