Table 2. Empirical Size for the GPH Test for Cointegration

Percentile	Dimension of the System											
	2			3			4			5		
	$\mu=0.55$	$\mu=0.575$	$\mu=0.60$	$\mu=0.55$	$\mu=0.575$	$\mu=0.60$	$\mu=0.55$	$\mu=0.575$	$\mu=0.60$	$\mu=0.55$	$\mu=0.575$	$\mu=0.60$
0.005	-3.190	-3.081	-3.152	-3.611	-3.560	-3.513	-4.064	-4.016	-4.003	-4.438	-4.425	-4.377
0.010	-2.840	-2.778	-2.845	-3.235	-3.194	-3.185	-3.670	-3.641	-3.624	-4.098	-4.048	-4.012
0.025	-2.350	-2.324	-2.346	-2.719	-2.703	-2.698	-3.129	-3.114	-3.100	-3.542	-3.504	-3.507
0.050	-1.956	-1.950	-1.955	-2.306	-2.304	-2.290	-2.705	-2.703	-2.691	-3.093	-3.064	-3.076
0.100	-1.520	-1.528	-1.525	-1.857	-1.862	-1.841	-2.260	-2.244	-2.237	-2.626	-2.595	-2.604
0.200	-1.034	-1.040	-1.034	-1.352	-1.347	-1.342	-1.722	-1.708	-1.709	-2.074	-2.043	-2.055
0.300	-0.692	-0.693	-0.692	-0.999	-0.994	-0.994	-1.353	-1.344	-1.346	-1.685	-1.662	-1.674
0.400	-0.415	-0.415	-0.412	-0.706	-0.700	-0.700	-1.046	-1.038	-1.040	-1.367	-1.352	-1.357
0.500	-0.160	-0.163	-0.152	-0.445	-0.453	-0.434	-0.766	-0.761	-0.764	-1.067	-1.065	-1.065
0.600	0.083	0.081	0.096	-0.190	-0.188	-0.171	-0.495	-0.484	-0.493	-0.798	-0.787	-0.782
0.700	0.339	0.343	0.361	0.075	0.086	0.092	-0.216	-0.208	-0.207	-0.506	-0.491	-0.486
0.800	0.637	0.646	0.664	0.383	0.394	0.406	0.104	0.110	0.121	-0.175	-0.166	-0.147
0.900	1.048	1.043	1.062	0.812	0.816	0.837	0.543	0.546	0.561	0.276	0.282	0.302
0.950	1.385	1.378	1.401	1.147	1.168	1.179	0.903	0.909	0.921	0.641	0.650	0.681
0.975	1.669	1.674	1.702	1.461	1.452	1.477	1.210	1.205	1.235	0.945	0.962	0.997
0.990	2.010	2.021	2.027	1.798	1.780	1.832	1.555	1.564	1.582	1.326	1.329	1.362
0.995	2.249	2.254	2.273	2.031	2.036	2.065	1.810	1.815	1.807	1.570	1.570	1.619
Mean	-0.208	-0.207	-0.198	-0.497	-0.491	-0.479	-0.820	-0.812	-0.808	-1.135	-1.118	-1.115
Skewness	-0.284	-0.268	-0.278	-0.295	-0.285	-0.272	-0.295	-0.292	-0.269	-0.297	-0.293	-0.259
Excess Kurtosis	0.383	0.348	0.329	0.400	0.335	0.342	0.316	0.308	0.278	0.293	0.277	0.237

Notes: The sample size for the GPH spectral regression is given by $v = T^{\mu}$, where T equals 288, the number of observations in our sample, and $\mu = 0.55, 0.575,$ and 0.60. Dimension of the system refers to the number of variables in the system. The empirical size is based on 50,000 replications, assuming that the true system consists of an appropriate number of non-cointegrated random-walk processes, where the number of variables corresponds to the dimension of the system.

Table 3: Empirical Estimates for the Cointegration Fractional-Differencing Parameter $\tilde{d}$

System of Interest Rate Series	Cointegrating Vector	$\bar{R}^2$	$\tilde{d}(0.55)$	$\tilde{d}(0.575)$	$\tilde{d}(0.60)$
Canada-U.S.	(1.000, 0.971, 1.341)	0.945	-0.316 (-1.856)‡	-0.384 (-2.447)**,‡‡	-0.412 (-2.878)**,‡‡‡
Canada-U.S.-Germany	(1.000, 0.968, 0.015, 1.250)	0.945	-0.329 (-1.934)‡	-0.396 (-2.523)*,‡‡	-0.425 (-2.973)**,‡‡
Canada-U.S.-U.K.	(1.000, 0.939, 0.062, 0.925)	0.948	-0.384 (-2.255)‡	-0.459 (-2.927)**,‡‡	-0.488 (-3.414)**,‡‡‡
Canada-U.S.-Japan	(1.000, 0.974, -0.026, 1.499)	0.945	-0.288 (-1.694)	-0.359 (-2.288)‡	-0.386 (-2.699)**,‡‡
Canada-U.S.-Germany-U.K.	(1.000, 0.941, -0.030, 0.070)	0.948	-0.363 (-2.133)	-0.364 (-2.815)*,‡‡	-0.398 (-3.266)**,‡‡
Canada-U.S.-Germany-Japan	(1.000, 0.965, 0.073, 0.072, 1.349)	0.946	-0.296 (-1.740)	-0.442 (-2.699)**,‡‡	-0.467 (-2.783)*,‡‡
Canada-U.S.-U.K.-Japan	(1.000, 0.924, 0.121, -0.135, 1.357)	0.952	-0.310 (-1.821)	-0.398 (-2.535)‡	-0.415 (-2.902)*,‡‡
Canada-U.S.-Germany-U.K.-Japan	(1.000, 0.912, 0.088, 0.125, -0.195, 1.170)	0.953	-0.348 (-2.047)	-0.428 (-2.728)‡	-0.447 (-3.126)*,‡‡

Notes: The first column gives the countries for which the interest rate series enter the cointegrated system. The second column gives the cointegrating vector for the corresponding cointegrated system: The normalizing variable, that is, the regressand has a coefficient value of unity while the last term in the cointegrating vector gives the coefficient value for the constant term. $\bar{R}^2$ is the adjusted coefficient of determination in the corresponding cointegrating regression. $\tilde{d}(0.55)$, $\tilde{d}(0.575)$, and $\tilde{d}(0.60)$ give the d estimates corresponding to the GPH spectral regression of corresponding cointegrating regression with sample size $\nu = T^{0.55}$, $\nu = T^{0.575}$, and $\nu = T^{0.60}$, respectively, for the error correction term obtained from the corresponding cointegrating regression. The t-statistics are given in parentheses and are constructed imposing the known theoretical error variance of $\pi^2/6$. The superscripts ***, **, * indicate statistical significance for the null hypothesis $\tilde{d} = 0 (d=1)$ against the alternative $\tilde{d} \neq 0 (d \neq 1)$ at the 1, 5, and 10 per cent levels, respectively. The superscripts ‡‡‡, ‡‡, ‡ indicate statistical significance for the null hypothesis $\tilde{d} = 0 (d=1)$ against the one-sided alternative $\tilde{d} < 0 (d<1)$ at the 1, 5, and 10 per cent levels, respectively. Critical values are based on the simulated values presented in Table 2.