

Online Appendix for
“The illiquidity premium: International evidence”
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This document provides tables that supplement the main results presented in “The illiquidity premium: International evidence”. The order of the tables follows the presentation in the manuscript.

Table A.1

Returns on liquidity quintile portfolios

The table presents the stock returns on liquidity quintile portfolios. For each country, at the beginning of month t , stocks are first sorted into three portfolios by the volatility (standard deviation) of their daily return over the three-month period from month $t-3$ to $t-1$. Within each volatility portfolio, stocks are further grouped into five equal portfolios based on their Amihud illiquidity ratio constructed from their daily returns and volume over the same three-month period from month $t-3$ to $t-1$. We calculate the monthly portfolio return for each of these double-sorted portfolios by three methods of averaging the returns: return weighting [a modification of equally weighted method following Asparouhova, Bessembinder, and Kalcheva (2010, 2013)], value weighting (using in each month the stock’s market capitalization at the end of the previous month), and volume weighting (using in each month the stock’s monetary value of trading volume over the portfolio formation period from $t-3$ to $t-1$). All returns are adjusted to be in terms of US dollars. After the portfolio construction, returns are observed for months $t+1$, $t+2$ and $t+3$, and the portfolio formation is repeated every three months. The liquid (illiquid) stock portfolio return is the average of the returns on the three most (least) liquid portfolios across the three volatility-sorted portfolios. The figures in the table are monthly returns in percent. The markets below are ordered as first 19 emerging markets and then 26 developed markets.

Panel A: Return weighted

Market	Liquid (1)	Quintile 2	Quintile 3	Quintile 4	Illiquid (5)
Argentina	0.793	1.291	0.970	0.910	1.847
Bangladesh	2.017	1.475	1.881	1.961	2.447
Brazil	1.646	1.994	2.274	2.442	2.875
Chile	1.313	1.847	1.784	1.938	2.375
China	1.143	1.396	1.627	1.757	2.021
Egypt	0.396	0.970	1.304	1.192	2.323
India	0.377	1.161	1.720	1.753	2.299
Indonesia	1.230	1.620	1.930	2.587	2.919
Malaysia	0.783	1.137	1.061	1.419	1.721
Mexico	1.105	0.885	1.473	1.445	1.325
Pakistan	1.010	1.099	1.136	1.195	1.183
Peru	1.292	1.438	1.910	2.246	3.298
Philippines	0.993	1.333	1.578	2.420	2.139
Poland	1.043	1.245	0.975	1.475	1.472
Romania	0.401	0.639	1.364	1.565	1.438
South Africa	0.955	1.016	0.992	1.139	2.175
Sri Lanka	1.481	1.929	1.556	2.217	2.628
Thailand	0.945	1.212	1.452	1.696	1.718
Turkey	1.788	1.813	2.352	2.516	3.500
Average	1.090	1.342	1.544	1.783	2.195
Australia	0.627	1.117	1.551	1.793	2.236
Austria	0.513	0.505	0.542	0.315	0.036
Belgium	0.832	0.901	0.649	0.520	0.510
Canada	0.899	1.477	1.601	1.870	2.291
Cyprus	-0.747	-0.597	-0.402	-0.037	0.391
Denmark	0.850	0.392	0.970	0.445	0.544
Finland	1.135	0.840	0.935	0.794	0.775
France	0.715	0.772	0.737	0.677	0.901
Germany	-0.212	-0.175	0.239	0.332	0.512
Greece	0.234	0.577	0.952	1.225	2.021
Hong Kong	0.624	0.719	1.511	1.951	2.773
Israel	0.560	0.692	1.010	1.078	1.791
Italy	0.563	0.476	0.377	0.557	0.812
Japan	0.189	0.278	0.388	0.476	0.628
Netherlands	0.785	0.640	0.567	0.462	0.851
New Zealand	0.681	0.915	1.221	0.831	1.187
Norway	0.851	1.070	0.865	0.843	0.913
Portugal	0.810	1.163	0.780	1.243	0.975
Singapore	0.812	1.016	1.176	1.294	1.538
South Korea	0.452	0.470	1.077	1.708	2.519
Spain	0.491	0.963	0.583	0.662	0.950
Sweden	0.814	0.800	0.672	0.758	0.704
Switzerland	0.802	0.828	0.827	0.944	0.737
Taiwan	0.455	0.663	0.670	0.911	1.252
UK	1.099	1.005	1.452	1.477	1.862
US	0.925	1.020	0.954	0.955	1.111
Average	0.606	0.713	0.843	0.926	1.185
World	0.810	0.978	1.139	1.288	1.612

Panel B: Value weighted

Market	Liquid (1)	Quintile 2	Quintile 3	Quintile 4	Illiquid (5)
Argentina	0.636	1.069	1.175	0.984	1.881
Bangladesh	2.216	1.666	1.952	1.814	2.096
Brazil	1.693	2.106	2.007	2.377	2.727
Chile	1.441	1.499	1.541	1.518	2.143
China	0.937	1.315	1.302	1.323	1.666
Egypt	0.698	0.420	0.860	0.940	1.146
India	0.073	1.190	1.635	1.231	2.175
Indonesia	1.256	1.518	1.607	1.793	2.366
Malaysia	0.784	1.107	0.960	1.183	1.362
Mexico	1.297	0.955	1.569	1.179	1.316
Pakistan	0.913	1.023	1.100	1.142	1.052
Peru	1.317	1.205	2.322	1.742	3.129
Philippines	0.601	1.416	0.971	1.892	1.921
Poland	0.797	1.342	0.416	0.817	1.705
Romania	0.188	0.479	1.192	0.270	1.010
South Africa	0.748	1.132	0.798	0.807	1.554
Sri Lanka	1.237	1.581	1.234	2.216	1.961
Thailand	0.850	0.965	1.104	1.176	1.182
Turkey	1.816	1.653	2.019	2.056	2.722
Average	1.026	1.244	1.356	1.393	1.848
Australia	0.635	1.148	1.310	1.454	1.344
Austria	0.694	0.324	0.759	0.573	0.228
Belgium	0.639	0.988	0.795	0.499	0.661
Canada	0.738	1.313	1.330	1.406	1.704
Cyprus	-1.414	-0.995	-0.943	-0.407	-0.399
Denmark	0.858	0.620	0.788	0.431	0.299
Finland	1.350	0.564	0.767	0.881	0.425
France	0.694	0.971	0.554	0.878	0.997
Germany	0.241	0.204	0.345	-0.024	0.598
Greece	0.513	0.319	0.752	0.995	1.269
Hong Kong	1.013	0.731	1.329	1.129	2.009
Israel	0.490	0.362	0.657	0.691	1.195
Italy	0.488	0.588	0.415	0.618	0.459
Japan	0.211	0.230	0.340	0.456	0.364
Netherlands	0.791	0.840	0.576	0.694	0.612
New Zealand	0.672	1.215	1.319	0.731	0.945
Norway	0.870	1.214	0.905	0.872	0.564
Portugal	0.969	0.999	0.937	1.266	1.282
Singapore	0.877	1.015	1.080	1.228	1.383
South Korea	0.580	0.621	0.696	1.110	1.382
Spain	0.299	0.940	0.504	0.523	0.746
Sweden	1.214	0.821	0.752	0.530	0.667
Switzerland	0.672	0.913	1.063	0.794	0.679
Taiwan	0.508	0.684	0.585	0.833	0.928
UK	0.954	1.111	1.260	1.311	1.483
US	0.763	1.022	0.967	1.008	1.085
Average	0.628	0.722	0.763	0.788	0.881
World	0.796	0.942	1.013	1.043	1.289

Panel C: Volume weighted

Market	Liquid (1)	Quintile 2	Quintile 3	Quintile 4	Illiquid (5)
Argentina	0.634	1.107	0.874	0.638	2.042
Bangladesh	2.057	1.551	1.715	2.221	2.252
Brazil	1.796	2.182	2.643	2.646	2.368
Chile	1.269	1.937	1.839	1.733	2.029
China	1.162	1.491	1.719	1.782	2.038
Egypt	0.701	0.611	1.075	0.970	2.048
India	-0.430	0.687	2.152	1.592	1.983
Indonesia	1.031	1.449	1.282	2.361	2.810
Malaysia	0.642	0.971	0.931	0.988	1.537
Mexico	1.349	0.639	1.421	1.149	1.422
Pakistan	1.274	1.147	1.202	1.177	1.275
Peru	1.326	1.262	1.721	1.800	2.930
Philippines	1.145	0.811	1.293	1.274	1.723
Poland	0.456	0.952	0.870	1.628	1.230
Romania	0.492	0.491	1.264	0.643	1.178
South Africa	0.824	0.912	1.088	1.129	2.263
Sri Lanka	1.358	1.870	1.458	2.264	2.469
Thailand	0.820	0.981	1.636	1.575	1.434
Turkey	2.101	1.838	2.106	2.260	3.052
Average	1.053	1.205	1.489	1.570	2.004
Australia	0.320	1.045	1.415	1.580	2.183
Austria	0.496	0.425	0.697	0.369	-0.025
Belgium	0.598	0.876	0.572	0.467	0.769
Canada	0.608	1.299	1.478	1.613	2.090
Cyprus	-1.390	-0.789	-0.535	-0.072	0.420
Denmark	0.782	0.462	0.969	0.344	0.501
Finland	1.185	0.618	1.053	1.021	0.510
France	0.698	0.880	0.711	0.718	0.931
Germany	-0.018	-0.217	-0.026	0.034	0.456
Greece	0.399	0.481	0.809	1.064	1.766
Hong Kong	0.551	0.336	0.964	1.538	2.297
Israel	0.438	0.583	0.955	1.066	1.624
Italy	0.435	0.476	0.392	0.533	0.582
Japan	0.153	0.148	0.283	0.409	0.635
Netherlands	0.735	0.645	0.332	0.530	0.996
New Zealand	0.784	0.915	1.143	0.806	1.341
Norway	0.626	1.065	0.562	0.565	1.129
Portugal	0.808	1.067	0.660	1.104	1.346
Singapore	0.728	0.947	1.147	1.149	1.502
South Korea	0.501	0.330	0.986	1.772	2.043
Spain	0.306	1.191	0.653	0.568	0.958
Sweden	1.079	0.782	0.568	0.721	1.066
Switzerland	0.685	0.780	1.039	0.816	0.686
Taiwan	0.470	0.638	0.545	0.842	1.092
UK	0.985	1.022	1.290	1.329	1.588
US	0.804	1.010	0.939	0.989	0.986
Average	0.530	0.654	0.754	0.841	1.133
World	0.751	0.887	1.064	1.149	1.501

Table A.2

Country-level illiquidity return premium

The table presents the average monthly return on illiquid-minus-liquid stock portfolios (*IML*). For each country, stocks are first sorted at the beginning of month t into three portfolios by the standard deviation of their daily return over the three-month period from month $t-3$ to $t-1$. Within each volatility portfolio, stocks are further sorted into five equal portfolios based on their Amihud illiquidity measure calculated over the same three-month period from month $t-3$ to $t-1$. For each of the double-sorted portfolios we calculate the monthly portfolio average return using three averaging methods: return weighting [a modification of equally weighted returns following Asparouhova, Bessembinder, and Kalcheva (2010, 2013)], value weighting (using in each month the stock's market capitalization at the end of the previous month), and volume weighting (using in each month the monetary value of stock's trading volume over the portfolio formation period from $t-3$ to $t-1$). All returns are adjusted to be in terms of US dollars. After portfolio construction, returns are observed for months $t+1$, $t+2$ and $t+3$, and the portfolio formation is repeated every three months. The liquid (illiquid) stock portfolio return is the average of the portfolio returns on the three most (least) liquid portfolios across the three volatility-sorted portfolios. "*IML*" is the illiquid-minus-liquid portfolio return. We report the average of the monthly $IML_{c,t}$ for each country c , and the risk-adjusted returns, $\alpha_{IML,c}$, as the intercept from a regression of $IML_{c,t}$ on global and regional common risk factors, following the spirit of Fama and French (1993) as below.

$$IML_{c,t} = \alpha_{IML,c} + \beta 1_c RMg_t + \beta 2_c SMBg_t + \beta 3_c HMLg_t \\ + \beta 4_c RMreg_{c,t} + \beta 5_c SMBreg_{c,t} + \beta 6_c HMLreg_{c,t} + e_{c,t}.$$

RMg_t is the return on the Morgan Stanley Capital International global index in excess of US one-month Treasury bill rate, $SMBg_t$ is the value-weighted average return (the weights are the country's market capitalization) of the size factor over all sample markets, and $HMLg_t$ is the value-weighted average return of the value factor for all sample markets. The regional factors $RMreg_{c,t}$, $SMBreg_{c,t}$, and $HMLreg_{c,t}$ are constructed in the same way for each region and then we use the residuals (plus intercept) from regressing each regional factor on its corresponding global factor. There are three regions — America, Asia-Pacific, and Europe (extended), with each region being divided into emerging and developed markets.

The figures in the table are monthly returns in percent. The markets below are ordered as first 19 emerging markets and then 26 developed markets. The returns are indicated in bold if they are significant at the 10 percent level.

Market	Return weighted		Value weighted		Volume weighted	
	IML_c	$\alpha_{IML,c}$	IML_c	$\alpha_{IML,c}$	IML_c	$\alpha_{IML,c}$
Argentina	1.054	1.019	1.245	1.296	1.408	1.490
Bangladesh	0.430	0.395	-0.120	-0.203	0.195	0.285
Brazil	1.229	1.812	1.034	1.247	0.571	1.325
Chile	1.062	0.994	0.702	0.652	0.761	0.397
China	0.878	0.972	0.729	0.693	0.876	0.880
Egypt	1.926	2.386	0.448	1.273	1.346	1.781
India	1.922	1.773	2.102	1.816	2.413	2.603
Indonesia	1.689	1.261	1.110	0.331	1.779	0.823
Malaysia	0.938	1.186	0.578	0.508	0.895	1.044
Mexico	0.220	0.172	0.019	-0.319	0.073	-0.195
Pakistan	0.173	0.106	0.140	-0.077	0.001	-0.100
Peru	2.007	1.708	1.813	1.755	1.603	1.507
Philippines	1.145	0.899	1.320	0.890	0.579	0.259
Poland	0.429	0.742	0.908	1.101	0.774	1.219
Romania	1.036	2.312	0.822	1.163	0.687	1.319
South	1.220	1.116	0.806	0.690	1.439	1.312
Sri Lanka	1.146	0.953	0.725	0.871	1.111	1.169
Thailand	0.773	0.384	0.332	-0.401	0.615	-0.084
Turkey	1.712	1.870	0.906	0.786	0.951	0.667
Australia	1.609	1.495	0.708	0.582	1.862	1.701
Austria	-0.477	-0.141	-0.467	-0.159	-0.521	-0.231
Belgium	-0.322	-0.171	0.023	0.096	0.171	0.157
Canada	1.392	1.292	0.966	0.932	1.482	1.516
Cyprus	1.138	0.633	1.015	1.649	1.809	2.103
Denmark	-0.306	-0.093	-0.559	-0.267	-0.282	-0.253
Finland	-0.360	-0.551	-0.926	-1.027	-0.675	-0.752
France	0.187	-0.012	0.304	-0.065	0.233	-0.100
Germany	0.724	0.222	0.357	0.119	0.474	-0.099
Greece	1.787	2.520	0.756	1.545	1.368	2.273
Hong Kong	2.149	1.963	0.995	0.532	1.746	1.123
Israel	1.232	1.211	0.705	0.663	1.186	1.048
Italy	0.250	0.145	-0.029	-0.053	0.147	0.102
Japan	0.438	0.426	0.153	-0.007	0.481	0.492
Netherlands	0.066	0.304	-0.179	0.113	0.261	0.547
N. Zealand	0.507	0.760	0.272	0.402	0.557	0.692
Norway	0.062	0.406	-0.305	-0.070	0.504	0.755
Portugal	0.165	-0.113	0.313	-0.287	0.538	0.131
Singapore	0.726	0.863	0.506	0.558	0.774	0.976
South	2.067	1.877	0.801	0.618	1.542	1.393
Spain	0.459	0.517	0.446	0.376	0.651	0.730
Sweden	-0.110	0.152	-0.548	-0.352	-0.013	0.225
Switzerland	-0.065	-0.075	0.008	-0.029	0.001	0.052
Taiwan	0.797	0.096	0.420	-0.301	0.621	-0.019
UK	0.763	0.878	0.529	0.562	0.603	0.704
US	0.187	0.110	0.322	0.191	0.181	0.079

Table A.3

Using dollar volume as an alternative measure of liquidity

This table presents the results on illiquidity premiums similar to Table 2 Panel A, but using the dollar trading volume as the measure of stock liquidity. For each country, stocks are sorted at the beginning of month t into three portfolios by the standard deviation of their daily return over months $t-3$ to $t-1$. Within each volatility portfolio, stocks are sorted and grouped into five equal portfolios based on their average dollar trading volume over months $t-3$ to $t-1$. For each of the double-sorted portfolios we calculate the monthly portfolio average return using the return-weighting and value-weighting methods. All returns are adjusted to be in terms of US dollars. The returns are monthly in percent. IML_c is the mean monthly excess return on the illiquid-minus-liquid portfolio of country c . $\alpha_{IML,c}$ is the risk-adjusted excess return on the illiquid-minus-liquid portfolio of country c , obtained as the intercept from a regression of $IML_{c,t}$ on six risk (return) factors; see Model (2). IML_c and $\alpha_{IML,c}$ are estimated for each country and then averaged across countries. The t -statistics are in parentheses. The p -value is the significance level of the test that the values of IML_c or $\alpha_{IML,c}$ are equally likely to be positive or negative (i.e., probability of 50%).

	Return weighted		Value weighted	
	IML_c	$\alpha_{IML,c}$	IML_c	$\alpha_{IML,c}$
Global Markets (all 45 countries)				
Mean	0.895	0.899	0.568	0.525
(t -statistic)	(7.38)	(7.14)	(5.12)	(4.36)
Median	0.838	0.829	0.567	0.431
Percent positive	86.7	88.9	82.2	73.3
p -value	0.000	0.000	0.000	0.001
Emerging Markets (19 countries)				
Mean	1.187	1.218	0.877	0.812
(t -statistic)	(8.54)	(7.22)	(5.45)	(4.51)
Median	1.166	1.053	0.689	0.587
Percent positive	100.0	100.0	100.0	89.5
p -value	0.000	0.000	0.000	0.000
Developed Markets (26 countries)				
Mean	0.682	0.666	0.343	0.315
(t -statistic)	(3.92)	(3.97)	(2.47)	(2.08)
Median	0.498	0.264	0.217	0.228
Percent positive	76.9	80.8	69.2	61.5
p -value	0.005	0.001	0.038	0.163

Table A.4

The Fama-MacBeth regression results in each market

This table presents the coefficients from country-by-country estimations, whose summary statistics are presented in Table 3. We use the following cross-sectional model, for each country c :

$$R_{c,j,t} = b0_{c,t} + b1_{c,t} * Illiqma_{c,j,t-2} + b2_{c,t} * logSIZE_{c,j,t-2} + b3_{c,t} * B/M_{c,j,t-n} \\ + b4_{c,t} * logSTDEV_{c,j,t-2} + b5_{c,t} * R_{c,j,t-2-4} + b6_{c,t} * R_{c,j,t-5-13} + e_{c,j,t}$$

$R_{j,t}$ is the return of stock j in month t ; $Illiqma_{j,t-2}$ is the mean-adjusted Amihud illiquidity measure; $logSIZE_{j,t-2}$ is the log value of the market capitalization of firm j ; $B/M_{j,t-n}$ is the book-to-market ratio for firm j ; $logSTDEV_{j,t-2}$ is the stock j 's daily return standard deviation; $R_{j,t-2-4}$ and $R_{j,t-5-13}$ are the stock's lagged returns during $t-2$ to $t-4$ and $t-5$ to $t-13$, respectively. $Illiq$ and $STDEV$ are those calculated over the previous three-month period from $t-2$ to $t-4$; the model is estimated for each month. All variables are in US dollars. The regressions are estimated for each of the 43 countries, and are return weighted to reduce potential bias, following Asparouhova, Bessembinder, and Kalcheva (2010, 2013). The mean coefficient is calculated for each country c following the Fama-MacBeth (1973) procedure. The associated t -statistics are included in parenthesis.

Market	b_0	b_1	b_2	b_3	b_4	b_5	b_6	R^2
Argentina	0.923	0.181	-0.149	-0.018	-0.392	4.035	0.482	0.196
	0.69	0.80	-0.97	-0.05	-0.49	3.01	0.79	
Brazil	3.173	0.068	-0.250	0.301	-0.260	1.216	0.090	0.145
	3.36	0.85	-2.13	1.76	-0.56	1.29	0.17	
Chile	2.172	0.016	-0.207	0.111	-0.693	3.550	0.398	0.158
	3.22	0.30	-2.41	0.95	-2.47	3.82	0.92	
China	3.989	0.034	-0.396	2.325	-1.491	-0.198	0.272	0.120
	2.87	0.31	-2.24	3.84	-2.44	-0.26	0.74	
Egypt	7.277	0.472	-0.992	-0.281	-2.178	0.806	0.675	0.255
	2.65	2.71	-2.90	-0.50	-1.79	0.53	0.91	
India	2.991	-0.078	-0.357	0.046	-0.425	-0.124	0.861	0.124
	3.06	-1.00	-2.35	0.64	-0.74	-0.14	1.85	
Indonesia	3.187	0.074	-0.359	0.321	-0.314	0.508	-0.105	0.106
	2.91	0.99	-2.67	3.21	-0.64	0.70	-0.22	
Malaysia	1.255	0.121	-0.085	0.446	-0.800	0.856	-0.006	0.094
	1.65	2.78	-0.78	2.91	-2.14	1.57	-0.01	
Mexico	-0.211	0.088	0.106	0.321	-0.519	1.049	0.466	0.186
	-0.23	1.18	0.88	1.74	-1.41	1.14	0.77	
Pakistan	3.302	0.044	-0.132	0.221	-1.792	1.239	0.434	0.153
	3.85	0.37	-0.81	1.30	-3.04	1.22	0.92	
Peru	2.898	0.077	-0.116	0.022	0.165	-0.865	0.313	0.184
	2.04	0.33	-0.78	0.45	0.24	-0.58	0.53	
Philippines	1.332	0.389	-0.070	0.198	-1.263	-1.694	-0.262	0.144
	1.58	2.99	-0.55	2.31	-3.20	-1.77	-0.41	
Poland	3.122	-0.194	-0.635	1.709	-1.066	2.871	-0.288	0.112
	1.49	-2.98	-2.53	2.49	-1.15	2.09	-0.34	
South Africa	1.646	0.062	-0.137	0.335	-0.436	1.346	0.978	0.115
	2.92	1.37	-2.02	2.76	-1.74	2.30	3.50	
Sri Lanka	4.854	-0.154	-0.611	-0.015	-0.641	0.517	0.675	0.106
	3.17	-0.92	-2.70	-0.08	-0.99	0.44	1.10	
Thailand	1.079	0.003	-0.145	0.595	-0.461	1.527	0.109	0.107
	1.72	0.05	-1.28	5.46	-1.13	2.51	0.29	
Turkey	0.612	0.082	0.069	0.441	-0.021	-1.820	-0.409	0.105
	0.39	1.29	0.54	2.30	-0.03	-2.19	-1.09	
Australia	3.149	0.030	-0.399	0.210	-0.385	2.284	0.515	0.071
	6.39	1.13	-5.75	1.90	-1.32	5.11	2.35	
Austria	-0.086	-0.021	0.039	0.170	-0.391	3.122	0.701	0.166
	-0.15	-0.39	0.51	1.43	-1.90	3.81	1.16	
Belgium	0.319	0.004	0.029	0.251	-0.702	3.570	1.430	0.146
	0.79	0.11	0.51	2.91	-2.74	4.82	3.67	
Canada	2.477	0.106	-0.290	0.226	-0.312	2.969	0.736	0.074
	6.28	2.80	-5.46	2.37	-1.01	7.30	3.05	
Cyprus	2.098	0.155	-0.103	0.354	-1.077	-0.340	0.238	0.156

	1.17	0.82	-0.31	1.41	-1.19	-0.23	0.27	
Denmark	0.403	-0.002	-0.034	0.444	-0.607	2.540	1.355	0.123
	0.76	-0.03	-0.50	2.18	-2.44	4.17	3.47	
Finland	1.223	0.074	-0.085	0.528	-1.083	1.564	0.338	0.143
	1.79	1.03	-0.93	2.03	-2.80	1.85	0.68	
France	0.318	0.062	0.024	0.591	-0.626	1.766	0.674	0.080
	0.71	1.22	0.46	4.70	-2.67	3.32	2.60	
Germany	1.710	0.116	-0.060	0.094	-1.413	1.709	0.299	0.064
	3.77	3.01	-0.96	1.56	-4.56	3.05	1.11	
Greece	2.750	0.161	-0.369	0.429	-1.184	0.684	0.287	0.131
	2.91	2.64	-2.53	2.19	-2.44	0.84	0.66	
Hong Kong	2.284	0.165	-0.217	0.243	-0.611	1.246	0.185	0.080
	3.34	4.55	-1.91	2.58	-1.86	2.72	0.68	
Israel	0.778	0.104	-0.090	0.793	-0.721	1.035	0.716	0.121
	0.84	1.37	-0.72	2.99	-1.63	1.04	1.51	
Italy	0.542	0.060	-0.032	0.479	-0.581	2.309	1.158	0.103
	1.15	1.66	-0.54	3.27	-1.70	3.45	3.27	
Japan	0.262	0.025	-0.039	0.653	-0.539	-0.035	0.020	0.074
	0.50	0.70	-0.63	6.33	-1.94	-0.07	0.07	
Netherlands	0.612	0.076	0.053	-0.002	-1.094	4.075	1.106	0.148
	1.35	2.26	1.04	-0.02	-4.19	5.97	2.74	
New Zealand	2.318	0.081	-0.197	0.547	-1.466	2.980	1.792	0.185
	3.00	0.93	-1.88	2.14	-3.15	3.12	3.23	
Norway	2.052	-0.041	-0.227	-0.123	-0.247	2.602	1.085	0.134
	3.39	-0.53	-2.31	-0.67	-0.67	3.84	2.44	
Portugal	-0.522	-0.060	0.141	0.459	-0.014	2.078	0.707	0.165
	-0.51	-0.73	0.87	1.84	-0.03	1.78	0.89	
Singapore	1.086	0.079	-0.101	0.323	-0.913	1.236	-0.006	0.107
	1.67	1.96	-1.12	2.58	-3.59	1.50	-0.01	
South Korea	3.680	0.057	-0.358	0.370	-1.579	0.869	-0.279	0.107
	2.94	2.18	-2.61	3.57	-2.45	1.40	-0.73	
Spain	1.292	0.000	-0.053	0.204	-0.470	1.489	0.969	0.159
	2.08	-0.01	-0.71	1.32	-1.51	2.13	1.79	
Sweden	1.938	0.170	-0.057	0.158	-1.004	2.797	0.978	0.113
	3.41	3.41	-0.86	1.41	-2.38	4.51	3.04	
Switzerland	1.167	-0.016	-0.046	0.047	-0.380	2.902	1.363	0.103
	3.27	-0.52	-1.03	1.47	-1.69	4.58	4.18	
Taiwan	0.186	0.020	-0.081	1.352	-0.647	-0.251	0.320	0.131
	0.21	0.58	-0.73	3.21	-1.20	-0.34	0.82	
UK	2.835	0.008	-0.231	0.432	0.192	1.908	0.865	0.106
	3.22	0.23	-3.29	2.49	0.73	3.72	2.56	
US	1.204	0.027	-0.041	0.008	-0.513	1.032	0.465	0.049
	4.11	1.71	-0.96	0.16	-2.15	2.85	2.42	

Table A.5

Illiquidity return premiums after excluding the smallest size-decile of firms

The sample for this table excludes firms whose market value is in the bottom 10th percentile in each market in each period. Panel A presents the mean of the country's average of the illiquidity premium, IML_c , the return on illiquid-minus-liquid stock portfolios, and of $a_{IML,c}$, the risk-adjusted illiquidity premium for each country c from a global six-factor model (see Table 2). Panel B reports the respective results for $RIML$, which is IML scaled by the difference in the illiquidity level of the illiquid and liquid portfolios divided by average illiquidity. Panel C reports the statistics across countries of the countries' average illiquidity premium $b1$ from the Fama-MacBeth monthly cross section regression of individual stock returns on mean-adjusted Amihud's (2002) illiquidity ($Illiqma_{c,j,t-1}$). $wb1$ is the precision-weighted average of the estimated coefficient $b1$ (we omit the coefficients of the other firm specific variables in the regression). The associated t -statistics are included in parentheses. The p -value is the significance level of the test for the null hypothesis that the values of the corresponding variables are equally likely to be positive or negative (i.e., probability of 50%).

<i>Panel A: IML</i>						
	Return weighted		Value weighted		Volume weighted	
	IML_c	$a_{IML,c}$	IML_c	$a_{IML,c}$	IML_c	$a_{IML,c}$
Mean	0.537	0.563	0.377	0.352	0.582	0.588
(t -statistic)	(5.84)	(4.87)	(4.36)	(3.35)	(5.80)	(4.64)
Median	0.544	0.513	0.360	0.248	0.519	0.513
Percent positive	80.0	77.8	80.0	66.7	80.0	73.3
p -value	0.000	0.000	0.000	0.018	0.000	0.001

<i>Panel B: RIML</i>						
	Return weighted		Value weighted		Volume weighted	
	$RIML_c$	$a_{RIML,c}$	$RIML_c$	$a_{RIML,c}$	$RIML_c$	$a_{RIML,c}$
Mean	0.187	0.186	0.151	0.133	0.206	0.210
(t -statistic)	(4.75)	(3.90)	(3.61)	(2.74)	(4.51)	(3.66)
Median	0.144	0.152	0.093	0.031	0.147	0.138
Percent positive	75.6	68.9	71.1	62.2	77.8	66.7
p -value	0.001	0.008	0.003	0.068	0.000	0.018

Panel C: b1 and wb1

	$b1$	$wb1$	R^2
Mean	0.038	0.054	13.2%
(t -statistic)	(2.65)	(4.06)	
Median	0.015	0.038	12.2%
Percent positive	62.8	79.1	
p -value	0.063	0.000	

Table A.6

Illiquidity return premiums after excluding the lowest price-decile of firms

The sample for this table excludes stocks whose price is in the bottom 10th percentile in each market in each period. Panel A presents the mean of the country's average of the illiquidity premium, IML_c , the return on illiquid-minus-liquid stock portfolios, and of $a_{IML,c}$, the risk-adjusted illiquidity premium for each country c from a global six-factor model (see Table 2). Panel B reports the respective results for $RIML$, which is IML scaled by the difference in the illiquidity level of the illiquid and liquid portfolios divided by average illiquidity. Panel C reports the statistics across countries of the countries' average illiquidity premium $b1$ from the Fama-MacBeth monthly cross section regression of individual stock returns on mean-adjusted Amihud's (2002) illiquidity ($Illiqma_{c,j,t-1}$). $wb1$ is the precision-weighted average of the estimated coefficient $b1$ (we omit the coefficients of the other firm specific variables in the regression). The associated t -statistics are included in parentheses. The p -value is the significance level of the test for the null hypothesis that the values of the corresponding variables are equally likely to be positive or negative (i.e., probability of 50%).

<i>Panel A: IML</i>						
	Return weighted		Value weighted		Volume weighted	
	IML_c	$a_{IML,c}$	IML_c	$a_{IML,c}$	IML_c	$a_{IML,c}$
Mean	0.637	0.688	0.364	0.356	0.566	0.587
(t -statistic)	(6.91)	(6.32)	(3.92)	(3.34)	(5.86)	(4.80)
Median	0.547	0.561	0.296	0.283	0.454	0.350
Percent positive	82.2	91.1	73.3	68.9	84.4%	77.8
p -value	0.000	0.000	0.001	0.008	0.000	0.000

<i>Panel B: RIML</i>						
	Return weighted		Value weighted		Volume weighted	
	$RIML_c$	$a_{RIML,c}$	$RIML_c$	$a_{RIML,c}$	$RIML_c$	$a_{RIML,c}$
Mean	0.195	0.187	0.140	0.118	0.190	0.185
(t -statistic)	(5.13)	(4.43)	(2.87)	(2.51)	(5.16)	(4.53)
Median	0.156	0.155	0.069	0.073	0.149	0.111
Percent positive	75.6	75.6	68.9	64.4	75.6	71.1
p -value	0.001	0.001	0.008	0.036	0.001	0.003

<i>Panel C: b1 and wb1</i>			
	$b1$	$wb1$	R^2
Mean	0.037	0.059	14.8%
(t -statistic)	(2.08)	(3.82)	
Median	0.024	0.043	13.1%
Percent positive	53.5	76.7	
p -value	0.380	0.000	

Table A.7

Co-movement in illiquidity return premium — volume-weighted method

This table is identical to Table 4 except that here the portfolio returns are volume weighted. The table reports the coefficients from country-by-country time series regressions of volume-weighted monthly illiquidity premium $IML_{c,t}$ on the corresponding global and regional average illiquidity premium ($IML^c_{g,t}$ and $IML^c_{reg,t}$), and on six global and regional common risk factors (See Table 2 for details). The regression model is

$$IML_{c,t} = \varphi_0^c + \varphi_1^c IML^c_{g,t} + \varphi_2^c IML^c_{reg,t} + \beta_1^c RM_{g,t} + \beta_2^c SMB_{g,t} + \beta_3^c HML_{g,t} + \beta_4^c RM_{reg,t} + \beta_5^c SMB_{reg,t} + \beta_6^c HML_{reg,t} + e_{c,t}$$

$IML^c_{g,t}$ is the average of $IML_{c,t}$ across all countries, excluding country c itself; $IML^c_{reg,t}$ is the residual (plus intercept) of equally weighted average $IML_{c,t}$ in the region (excluding country c) from a regression on $IML^c_{g,t}$. The model is estimated for each country and we report the cross-country statistics of coefficient estimates for all sample markets. The t -statistics for the cross-country averages are in parentheses below the mean value. The $(t\text{-statistics})^*$ indicates t -statistic of the test that the ratio Pos/Neg $\neq 0.5$.

$IPrem_{c,t}$	$IML^c_{g,t}$	$IML^c_{reg,t}$	$RM_{g,t}$	$SMB_{g,t}$	$HML_{g,t}$	$RM_{reg,t}$	$SMB_{reg,t}$	$HML_{reg,t}$	R^2
$IPrem_{c,t} = IML_{c,t}$, Volume-weighted									
Mean	0.419	0.243	-0.181	0.176	0.036	-0.128	0.324	-0.005	22.3%
(t -statistic)	(4.48)	(4.13)	(5.57)	(2.60)	(0.61)	(4.68)	(5.02)	(0.11)	
Median	0.459	0.235	-0.156	0.163	0.113	-0.142	0.273	0.014	20.8%
Positive/negative	34/11	32/13	8/37	32/13	27/18	11/34	37/8	24/21	
(t -statistic)*	(3.43)	(2.83)	(4.32)	(2.83)	(1.34)	(3.43)	(4.32)	(0.45)	
$IPrem_{c,t} = RIML_{c,t}$, Volume-weighted									
Mean	0.392	0.239	-0.065	0.047	0.003	-0.038	0.112	0.010	21.4%
(t -statistic)	(4.03)	(3.47)	(5.14)	(1.91)	(0.11)	(4.16)	(5.97)	(0.56)	
Median	0.399	0.199	-0.054	0.090	0.029	-0.039	0.085	0.017	18.4%
Positive/negative	33/12	31/14	7/38	32/13	29/16	10/35	39/6	24/21	
(t -statistic)*	(3.13)	(2.53)	(4.62)	(2.83)	(1.94)	(3.73)	(4.92)	(0.45)	

Table A.8

Decomposition of *IML* commonality into component covariance terms — volume-weighted method

This table is identical to Table 5 except that here, *IML* is calculated using volume-weighted portfolio returns. The commonality $\text{Cov}(\log RP_c, \log RP_m)$ is decomposed into four covariance terms. It is assumed that $RP = k \cdot x$, where RP is the risk (or illiquidity) premium, k is the per-unit price, and x is the level of risk or illiquidity:

$$\begin{aligned} \text{Cov}(\log RP_c, \log RP_m) &= \text{Cov}(\log k_c + \log x_c, \log k_m + \log x_m) \\ &= \text{Cov}(\log k_c, \log k_m) + \text{Cov}(\log k_c, \log x_m) + \text{Cov}(\log x_c, \log k_m) + \text{Cov}(\log x_c, \log x_m) \end{aligned}$$

Here, $RP = IML$, $k = RIML$, defined in Table 2 Panel C, and $x = RIlliq = [(Illiq_{Hi} - Illiq_{Lo}) / avr(Illiq)]$, the relative illiquidity spread between the high-*Illiq* and low-*Illiq* portfolios. Observations are monthly and contemporaneous. The global indexes exclude country c for which the commonality is estimated, and the returns *IML* and *RIML* are replaced by 1+return because of the logarithmic transformation (the returns, which include negative values, are in decimals). The covariance values are calculated from the time series of the respective variables for each country c . The mean is calculated across the 45 countries and is multiplied by one hundred. Under the mean covariance, in brackets, is the mean correlation, calculated across the 45 countries for the respective countries' covariance values. (It is the covariance, standardized by dividing it by the product of the standard deviations of the variables.) In parentheses are t -statistics.

Covariances	Mean [Mean corr.]	Correlation			
		$\text{Cov}(\log RIML_c, \log RIML^c_g)$	$\text{Cov}(\log RIML_c, \log RIlliq^c_g)$	$\text{Cov}(\log RIlliq_c, \log RIML^c_g)$	$\text{Cov}(\log RIlliq_c, \log RIlliq^c_g)$
$\text{Cov}(\log IML_c, \log IML^c_g)$	0.050 (11.75) [0.278]	0.892 (12.94)	-0.321 (2.22)	0.309 (2.13)	-0.067 (0.44)
$\text{Cov}(\log RIML_c, \log RIML^c_g)$	0.005 (10.58) [0.258]	1.000	-0.383 (2.72)	0.387 (2.75)	-0.110 (0.73)
$\text{Cov}(\log RIML_c, \log RIlliq^c_g)$	-0.000 (0.13) [-0.006]		1.000	-0.042 (0.28)	0.198 (1.32)
$\text{Cov}(\log RIlliq_c, \log RIML^c_g)$	-0.000 (0.17) [-0.001]			1.000	0.015 (0.10)
$\text{Cov}(\log RIlliq_c, \log RIlliq^c_g)$	0.638 (7.05) [0.318]				1.000

Table A.9

Market openness and commonality in illiquidity premium — volume-weighted method

This table is identical to Table 7 except that here, *IML* is calculated using volume-weighted portfolio returns. In Panel A, we augment the commonality regression model in Table 4 as

$$IPrem_{c,t} = \varphi 0_c + \varphi 1_c IPrem^c_{g,t} + \psi 11_c IPrem^c_{g,t} * Open_{c,t} + \psi 12_c RMg_t * Open_{c,t} + \psi 13_c Open_{c,t} + \varphi 2_c IPrem^c_{reg_{c,t}} + \text{six return factors as in Model (2)} + e_{c,t}.$$

The illiquidity premium for country *c* in month *t*, $IPrem_{c,t}$, is represented by $IML_{c,t}$ (volume weighted), the return on illiquid stock portfolio minus the return on liquid stock portfolio. The dummy variable $Open_{c,t}$ equals one if the ratio of foreign investors' holdings in country *c* to the total market capitalization is at or above the median value of this ratio among all countries at the beginning of each year. All other variables are defined in Table 2.

In Panel B, we modify the regression model as

$$IPrem_{c,t} = \varphi 0_c + \varphi 1_c IPrem^c_{g,t} + \varphi 2_c IPrem^c_{reg_{c,t}} + \lambda 11_c Euro_{c,t} * IPrem^c_{reg_{c,t}} + \lambda 12_c Euro_{c,t} * RMreg_{c,t} + \lambda 13_c Euro_{c,t} + \text{six return factors as in Model (2)} + e_{c,t},$$

The dummy variable $Euro_{c,t}$ equals one after country *c* has adopted the euro in that year and thereafter, and it is zero otherwise. The estimation is by panel regressions with year and country fixed effects. This table excludes Germany. The table presents the estimated coefficients and their *t*-statistics (in parentheses). Standard errors are clustered by country and year. The coefficients associated with the six common factors (global and regional) are not reported to save space.

<i>Panel A: The effect of open markets</i>						
$IPrem_{c,t}$	$IML^c_{g,t}$	$IML^c_{g,t} * Open_{c,t}$	$RMg_t * Open_{c,t}$	$IML^c_{reg_{c,t}}$	$Open_{c,t}$	R^2
<i>IML</i> , volume weighted	0.069 (0.83)	0.547 (3.70)	0.149 (2.34)	0.098 (2.37)	-0.287 (0.91)	12%

<i>Panel B: The adoption of the Euro</i>						
$IPrem_{c,t}$	$IML^c_{g,t}$	$IML^c_{reg_{c,t}}$	$Euro_{c,t} * IML^c_{reg_{c,t}}$	$Euro_{c,t} * RMreg_{c,t}$	$Euro_{c,t}$	R^2
<i>IML</i> , volume weighted	0.308 (5.12)	0.152 (3.90)	0.207 (2.21)	0.023 (0.22)	0.016 (0.04)	11%