

Internet Appendix

accompanying the paper:

“Do firms issue more equity when markets become more liquid?”

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Abstract

This internet appendix presents additional details on the procedure followed to distinguish main markets versus non-main markets and on the filters imposed on the issuance data. It includes an overview table containing all SDC market names in our sample with corresponding issuance activity, Market Identifier Codes (MICs), Operating MICs, and classification as main or non-main market; a table on all filters imposed in retrieving the equity issues data; and a figure showing the level of market liquidity and the number of issues over time for France, Japan, the NYSE, and NASDAQ.

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For each of the countries in our sample, we only include equity issues on the main stock market in that country in our analysis, for two reasons. First, there is a potential “apple and oranges” problem that is always present when using international data on security issuance: some markets have different regulations and issue sizes than others. This problem can be mitigated at least to some extent by screening out issues on non-main markets, which are often subject to different (lighter) sets of rules that are enforced by exchanges rather than by national regulators. Vismara, Paleari, and Ritter (2012) show that issues on such markets are closer to private placements than to public offerings, and that such issues tend to be smaller in size. By filtering out issues on non-main markets, we obtain a more homogeneous sample in terms of regulations and issue sizes.

Second, we construct our liquidity measure using stocks on the main market only, because the Amihud liquidity measure we use may not be comparable across different stock markets within a country due to differences in trading volume definitions. Although liquidity on the main market is likely related to liquidity on other stock markets within a country, it is cleanest to study the relation between equity issues on the main market and market liquidity on the main market.

We define a market to be non-main if:

- it is unclear to which market the SDC market name refers; or
- the market is exchange regulated or is otherwise not subject to national regulatory requirements for stock markets (for an extensive discussion of markets such as these in Europe, we refer to Vismara, Paleari, and Ritter, 2012); or
- the Market Identifier Code (MIC) of the market is part of an Operating Market Identifier Code (Operating MIC) that is not the Operating MIC with the largest issuance proceeds in the country.¹

Other markets are classified as main markets. Along these lines, markets operating under normal regulatory oversight for established but small- or mid-cap stocks are considered main markets as well.

¹ MICs are standardized market identifiers defined by ISO 10383 and they uniquely identify markets. Operating MICs can be thought of as “parent” MICs and may contain multiple individual MICs. Operating MICs are useful for identifying separate exchanges, as separate exchanges have separate Operating MICs. In case there is one exchange and one market in a country, the Operating MIC is often equal to the MIC of the main market.

To improve transparency and facilitate reproduction, we provide details on the choices made in identifying main markets below.

To identify main and non-main markets, there are a set of practical obstacles to overcome. First, rather than using MICs, SDC uses its own set of names to identify markets. Second, since the 1990s, there has been a wave of mergers and acquisitions in the exchange industry. Several of the SDC market names refer to markets that merged, were absorbed, or were dissolved during our sample period (for example, a current main market could be formed by the merger of multiple smaller markets). Third, some markets have changed names over time; this is reflected in the SDC market names.

We deal with these challenges as follows. We manually link the SDC market names to MICs. The SDC market names often contain enough information to identify the proper MIC; when this is not the case, we deem a market to be non-main and exclude the market from any further analysis. Multiple SDC market names that refer to the same market (e.g., due to name changes) are allocated to the MIC corresponding to the current SDC market name. SDC market names of markets that were previously separate but have merged are allocated to the MIC of the resulting merged market. As a result, our sample includes issues on the new markets as well as on all “predecessor” markets. SDC market names that refer to different segments within a market are allocated to the MIC of the overarching market.²

Table IA1 shows the results of our categorization into main and non-main markets for all SDC market names associated with our download of equity issues on all markets for the 37 countries in our sample. The table contains a list of all SDC market names in our sample, after imposing the filters on deal characteristics but prior to removing non-main markets. The SDC market names are grouped by country. The column “MIC” contains the MICs of the markets referred to by the SDC market names; the column “Allocated to MIC” contains the MICs of the markets to which we allocate the SDC market names. The MICs in this column can differ from those in the column “MIC” due to the reasons

² We use information on MICs obtained from <https://www.iso20022.org/10383/iso-10383-market-identifier-codes> on April 12, 2017, <http://www.iotafinance.com/Codes-MIC-Identification-Marches.html> on May 3, 2017 and additionally search the internet for information on name changes and mergers and acquisitions. We have also contacted Thomson Reuters (the provider of the SDC data) on whether they could provide additional information on their market names; unfortunately, they could not provide any additional information useful for the identification of the markets corresponding to the SDC market names.

mentioned above (e.g., name changes, mergers). The column “Operating MIC” contains the operating MICs belonging to the MICs in the column “Allocated to MIC”.

The column “Main market” in Table IA1 is an indicator variable that equals one if the MIC to which the SDC market name belongs can be considered a main market. In principle, each country has one MIC found in the column “Allocated to MIC” that is a main market. The U.S. and Japan are the exceptions to this rule. For Japan, we use issues on both Osaka and Tokyo and we lump them together, as trading volume definitions are the same for these exchanges. For the U.S., we keep issues on both the NYSE and NASDAQ, and we treat issues taking place on either of these markets as issues in separate countries due to differences in trading volume definitions. These choices are a reflection of the choices made in the construction of the liquidity measures as described in Section 2.2 of the paper.

To illustrate our procedure, consider how the SDC market names for France are processed. First, the markets corresponding to the SDC market names are identified. *AlterParis* likely refers to Alternext Paris; *Alternext* seems to refer to Alternext Paris as well, given that the domicile of firms listing here is almost exclusively France; *Euro P.M.L.* refers to Euronext Paris Marché Libre; *Euro P.P.M.* refers to Euronext Paris Premier Marché; *Euro P.S.M.* refers to Euronext Paris Second Marché; *Euro ParNM* refers to Euronext Paris Nouveau Marché; *Paris* refers to Bourse de Paris, the name for the Paris stock exchange prior to the rebranding as Euronext Paris; *Paris 2mkt* refers to Bourse de Paris Second Marché; *ParisNouv* refers to Bourse de Paris Nouveau Marché. The SDC market names *Paris OTC* and *Paris RM* are unidentifiable to us. In Table IA1, we fill out the MICs corresponding to the markets we have been able to identify.

Next, we classify each market as main or non-main. *Paris OTC* and *Paris RM* have not been identified and are thus deemed non-main. From Vismara, Paleari, and Ritter (2012) we know that the markets Marché Libre and Alternext are exchange regulated; these correspond to the SDC market names *AlterParis*, *Alternext*, and *Euro P.M.L.* which are hence also deemed non-main. Finally, the Operating MICs corresponding to the remaining markets are all XPAR, the Operating MIC with the largest issuance proceeds in France. So, all of the remaining SDC market names are considered to be main market.

When applying this procedure, all but one of the markets that are deemed “New Markets” listed in Franzke (2004, p. 11) are categorized as non-main markets. The exception is the Nouveau Marché; the Nouveau Marché is not excluded as it is a segment of the main Euronext Paris MIC and is not exchange regulated (Vismara, Paleari, and Ritter, 2012). Exchange regulated markets such as the Marché Libre, the Mercato Alternativo dei Capitali (MAC), and the London Alternative Investment Market (AIM) are all excluded.

To avoid discrepancies between the markets used for the liquidity variables and the markets used for the issuance variables, we also obtain information from Datastream on the Operating MICs for the stocks used in the construction of the market liquidity variable (and the other stock market variables), compare these to the Operating MICs used in the construction of the issuance variables, and assure that the operating MICs match for each country.

We note that it is impossible to rule out small discrepancies between the markets used to construct the equity issuance variables and the stock market variables such as liquidity. Because Datastream only provides information at the Operating MIC level rather than the MIC level, it is possible that stocks trading on non-main markets are included in the construction of our liquidity measure. We have explored other variables in Datastream that might allow us to better identify the market of the stocks for the construction of the stock market variables. The most promising variable that we came across is the “SEGN” variable, which identifies “segments” within an exchange. This variable uses non-standardized names, has only limited coverage, and is thus problematic for our purpose. As an illustration, it provides the following segment information for the Italian stocks in our sample: 53% of the stocks trade in the segment “MB1”, 6% of the stocks trade in either one of the segments “BC”, “EX1”, “MA1”, “MAC”, “MV1”, “S1”, “S2”, or “ST”, and for 41% of the stocks there is no information. The limited coverage is problematic in itself; but even if the coverage would be better, the fact that segments are non-standardized makes comparison to MICs difficult and, most likely, occasionally impossible.

The practical impact of these potential remaining discrepancies is likely to be small. Although the absence of more information on MICs may hamper our ability to initially filter out stocks trading on non-main markets, there is very little trading in stocks on non-main markets (Vismara, Paleari and

Ritter, 2012) and it is likely that such stocks would not pass the filters on trading activity that we impose (discussed in Section 2.2.1 of the paper). Furthermore, even if some do, their influence on the liquidity measures is likely to be small, as market liquidity is calculated using value-weighted aggregation (discussed in Section 2.2.4 of the paper) and any remaining stocks trading on non-main markets are likely to be small both in number and in size.

As explained in footnote 2 of the paper, we do not exclude rights issues. Rights issues are a common floatation method outside of the U.S.; it would be interesting to explore the effect of this floatation method in the context of our analysis. It could be that there is a difference in the effect of liquidity on the decision to do a plain vanilla SEO and the effect of liquidity on the decision to do a rights issue SEO.

Practically, however, identifying rights issues in SDC is problematic. Currently, we filter our issuance data on the variable “Security Type” to include only common stocks.³ “Rights” is a separate category within the variable “Security Type”. Filtering for rights issues based on this variable would thus leave us in the dark on what type of security is issued; moreover, it would flag only a limited number of issues as rights issues. An alternative variable is the “Rights Issue Flag” variable; this should indicate whether an SEO is a rights issue.⁴ We found this variable to be problematic for several reasons: first, it flags numerous deals as rights offerings despite them being classified as IPOs; however, a deal cannot be both an IPO and a rights offering. Second, many deals which the variable indicates to be rights offerings have a non-missing value for the “Offer Price” variable; while a right has a price at which it can be exercised, it is offered as a dividend to existing shareholders.⁵ Third, its definition suggests it is always followed by a standard SEO; however, in a plain vanilla rights offering, shares that are not taken up by existing shareholders are not necessarily offered to the public in an SEO afterwards.

³ Based on the names of the SDC security types as well as on conversations with SDC representatives, we use the following SDC security types to identify common stocks: “Common Shares”; “Ord/Common Shs”; “Class A Shares”; “Par Val Com Stk”; “Class A Ord Shs”; “Ordinary Shares”; “Equity Shares”; “Flow Through Sh”.

⁴ The variable “Rights Issue Flag (Y/N) – RIGHTS” is defined as: “A yes/no flag that is set to yes when the privilege is granted to existing shareholders of a corporation to buy additional shares of a new issue of common stock at a discount before it is offered to the public.”

⁵ The variable “Offer Price” is defined as: “Price per share or bond at which the security is offered to the public.”

We have contacted several authors of papers in major finance journals that focus on rights issues and use rights issue data from SDC to inquire how they dealt with identifying rights issues. The picture that emerges is that their assessment is that the data quality of the “Rights Issue Flag” variable in SDC is poor. Authors focusing on rights issues in the U.S. have been able to deal with the poor identifiability of rights issues in SDC by cross-checking the information from the “Rights Issue Flag” with information from other databases covering U.S. SEOs. Unfortunately, for our broad international sample that is virtually impossible, and we are not aware of any papers that do so.

Consequently, our current data filters likely filter out a limited number of rights issues by selecting only “common stocks” using the variable “Security Type”. If we were to investigate the difference in the effect of liquidity on plain vanilla SEOs and on rights issue SEOs, any conclusions we would be able to draw would be shaky, due to the poor quality of the distinction that we would be able to make. Excluding everything that is flagged to be a rights issue would provide no guarantee that all rights issues are removed and would imply that many false positives are removed; moreover, attempting to exclude rights issues from the analysis altogether would not be appropriate since liquidity is expected to affect rights issues as well.

Table IA2 shows the filters imposed on the issuance data obtained from SDC, with corresponding numbers of remaining observations. If information on a particular screening variable is missing for an observation, that observation is removed.

Figure IA1 shows the number of issues and the level of liquidity over time for select countries (France, Japan, the NYSE, and NASDAQ).

References

- Franzke, S., “Underpricing of venture-backed and non venture-backed IPOs: Germany’s Neuer Markt,”
in *The Rise and Fall of Europe’s New Stock Markets*, edited by G. Giudici and P. Roosenboom,
Elsevier.
- Vismara, S., S. Paleari, and J.R. Ritter, 2012, “Europe’s second markets for small companies,”
European Financial Management 18, 352-388.

Table IA1: Categorization of SDC market names into main and non-main markets

This table contains the classification into main markets and non-main markets for all SDC market names in our sample, after imposing the filters on deal characteristics. The SDC market names are listed in alphabetical order by country. For each SDC market name, the table shows the number of SEOs, the number of IPOs, and the total proceeds, obtained from SDC. The column “MIC” contains standardized Market Identifier Code (ISO 10383) corresponding to the SDC market name, wherever identification based on the SDC market names was possible and a MIC was retrievable. The column “Allocated to MIC” contains the Market Identifier Code of the market to which we allocate the SDC market name. The column “Operating MIC” contains the Operating Market Identifier Code belonging to the Market Identifier Code in the column “Allocated to MIC”. The column “Main market” is an indicator variable that equals one if the SDC market name can be considered a main market. The final column includes notes we made to aid us in the classification.

Country	SDC mkt. name	# SEO	# IPO	Proceeds	MIC	Allocated to MIC	Operating MIC	Main market	Notes
<i>Australia</i>	<i>Australia</i>	16478	1683	143921563	XASX	XASX	XASX	1	
	<i>Melbourne</i>	17	1	167503	NSXB	NSXB	NSXB	0	
	<i>Newcastle</i>	39	4	380237	XNEC	XNEC	XNEC	0	
<i>Austria</i>	<i>Vienna</i>	47	35	10595956	XWBO	XWBO	XWBO	1	
<i>Belgium</i>	<i>AlterBruss</i>	2	3	127764	ALXB	ALXB	XBRU	0	
	<i>Brussels</i>	19	23	5670573	XBRU	XBRU	XBRU	1	
	<i>EASDAQ</i>	1	6	94945	XEAS	XEAS	?	0	
	<i>Euronext B</i>	77	40	12352774	XBRU	XBRU	XBRU	1	
<i>Brazil</i>	<i>BMFBOVESPA</i>	157	47	82622987	BVMF	BVMF	BVMF	1	Result of merger between BMF and BOVESPA
	<i>BOVESPA</i>	39	26	9750079	XBSP	BVMF	BVMF	1	
	<i>Brazil</i>	4	1	205399	?	?	?	0	Same as main exchange?
	<i>Rio de Jan</i>	7	0	205671	XRIO	BVMF	BVMF	1	Acquired by main exchange
	<i>SOMA</i>	2	0	477638	XSOM	BVMF	BVMF	1	Acquired by main exchange
<i>Canada</i>	<i>Alberta</i>	134	248	1600181	XALB	XTSX	XTSX	0	Merged into Canadian Venture Exchange (CDNX) = TSX Venture (XTSX)
	<i>CA Comp</i>	1	3	0	?	?	?	0	
	<i>CA Dlr OTC</i>	4	8	15508	?	?	?	0	

Table IA1, continued

Country	SDC mkt. name	# SEO	# IPO	Proceeds	MIC	Allocated to MIC	Operating MIC	Main market	Notes
<i>Canada</i>	<i>CA Netwk</i>	6	9	53646	?	?	?	0	
	<i>CA Vent Ex</i>	56	129	250490	?	XTSX	XTSX	0	Seems to refer to Canadian Venture Exchange which changed into TSX Ventures
	<i>CNQ</i>	2	6	4607	XCNQ	XCNQ	XCNQ	0	
	<i>CNSX</i>	16	21	26432	XCNQ	XCNQ	XCNQ	0	
	<i>Can.Unlist</i>	3	1	33580	?	?	?	0	
	<i>Montreal</i>	39	20	1237581	XMOD	XMOD	XMOD	0	
	<i>NEX Board</i>	11	2	381369	XTNX	XTNX	XTSX	0	
	<i>TSX Venture</i>	1490	431	30639933	XTSX	XTSX	XTSX	0	
	<i>Toronto</i>	2172	398	130773010	XTSE	XTSE	XTSE	1	
	<i>Vancouver</i>	105	82	366807	XVSE	XTSX	XTSX	0	Bought by Canadian Venture Exchange (now TSX Venture)
<i>Winnipeg</i>	0	1	0	IFCA	IFCA	IFCA	0		
<i>Chile</i>	<i>Elec Chile</i>	3	0	87265	XBCL	XBCL	XBCL	0	
	<i>Santiago</i>	202	21	20835879	XSGO	XSGO	XSGO	1	
	<i>Val Chile</i>	1	0	0	BOVA	BOVA	BOVA	0	
<i>Colombia</i>	<i>Bogota</i>	58	0	2041157	XBOG	XBOG	XBOG	1	Merged with Medellin into Colombia stock exchange in 2001
	<i>Colombia</i>	19	3	6472863	XBOG	XBOG	XBOG	1	
	<i>Medellin</i>	5	0	19386	XMED	XBOG	XBOG	1	Merged with Bogota into Colombia stock exchange in 2001
<i>Denmark</i>	<i>Copenhagen</i>	49	36	2245874	XCSE	XCSE	XCSE	1	Acquired in 2005 by OMX to become OMX Copen
	<i>FirNoCopen</i>	4	5	38216	FNDK	FNDK	XCSE	0	Exchange for smaller companies started in 2005
	<i>OMX Copen</i>	84	27	14524073	XCSE	XCSE	XCSE	1	Acquired by NASDAQ in 2007 to become part of the NASDAQ Nordic

Table IA1, continued

Country	SDC mkt. name	# SEO	# IPO	Proceeds	MIC	Allocated to MIC	Operating MIC	Main market	Notes
<i>Egypt</i>									
	<i>Cairo</i>	24	5	461950	?	XCAI	XCAI	1	Governed using same systems together with Alexandria stock exchange. The combination was renamed into Egypt stock exchange (in 2009).
	<i>Egypt</i>	117	16	4958380	XCAI	XCAI	XCAI	1	
	<i>Nile</i>	7	0	6161	NILX	NILX	NILX	0	
<i>Finland</i>	<i>FinnFirNor</i>	0	5	132815	FNFI	FNFI	XHEL	0	
	<i>Helsinki</i>	41	45	4000153	XHEL	XHEL	XHEL	1	Acquired by OMX in 2003 and changed name into OMXHelsinki
	<i>OMXHelsinki</i>	78	9	6618394	XHEL	XHEL	XHEL	1	
<i>France</i>	<i>AlterParis</i>	240	91	2651002	ALXP	ALXP	XPAR	0	
	<i>Alternext</i>	12	8	166014	ALXP	ALXP	XPAR	0	Based on the domicile of the firms listing here being almost exclusively France, this seems to refer to Alternext Paris as well
	<i>Euro P.M.L</i>	132	42	353206	XMLI	XMLI	XPAR	0	Paris Marche Libre, non regulated market
	<i>Euro P.P.M</i>	27	42	19858986	XPAR	XPAR	XPAR	1	Paris Premier Marche, the largest firms
	<i>Euro P.S.M</i>	8	13	377741	XPAR	XPAR	XPAR	1	Paris Second Marche, the medium sized firms
	<i>Euro ParNM</i>	5	4	159160	XPAR	XPAR	XPAR	1	Paris Nouveau Marche, small growth firms
	<i>Euro Paris</i>	256	115	45768038	XPAR	XPAR	XPAR	1	
	<i>Paris</i>	67	70	18981060	XPAR	XPAR	XPAR	1	Merged into Euronext in 2000; changed name into Euronext Paris
	<i>Paris 2mkt</i>	17	68	1412720	XPAR	XPAR	XPAR	1	Paris Second Marche prior to Euronext rebranding
	<i>Paris OTC</i>	4	16	87335	?	?	?	0	
	<i>Paris RM</i>	0	1	0	?	?	?	0	
	<i>ParisNouv</i>	16	48	912202	XPAR	XPAR	XPAR	1	Paris Nouveau Marche prior to Euronext rebranding, small growth firms
<i>Germany</i>	<i>Berlin</i>	20	30	1877288	XBER	XBER	XBER	0	

Table IA1, continued

Country	SDC mkt. name	# SEO	# IPO	Proceeds	MIC	Allocated to MIC	Operating MIC	Main market	Notes
<i>Germany</i>	<i>DusselOTC</i>	0	5	92691	DUSB	DUSB	XDUS	0	
	<i>Dusseldorf</i>	9	9	435006	XDUS	XDUS	XDUS	0	
	<i>FrankNeuer</i>	14	41	1717459	?	FRAA	XFRA	1	
	<i>FrankftOTC</i>	0	1	40904	?	?	?	0	
	<i>Frankfurt</i>	430	246	86523366	FRAA	FRAA	XFRA	1	
	<i>Hamburg</i>	12	4	2894074	XHAM	XHAM	XHAM	0	
	<i>Munich</i>	10	13	564291	XMUN	XMUN	XMUN	0	
	<i>NeuerMarkt</i>	11	29	1533029	?	FRAA	XFRA	1	
	<i>Smax</i>	1	3	14953	?	?	?	0	
	<i>StuttFreiv</i>	0	1	403943	STUB	STUB	XSTU	0	
	<i>Stuttgart</i>	4	2	1916520	STUA	STUA	XSTU	0	
	<i>Xetra</i>	116	25	9285018	XETR	XETR	XETR	0	Trading venue operated by Frankfurt Exchange
<i>Greece</i>	<i>Athens</i>	60	106	6565438	ASEX	ASEX	ASEX	1	
	<i>ParallelMk</i>	0	1	3792	ENAX	ENAX	ASEX	0	This most likely refers to the Athens Exchange Alternative Market, as that is the only non-main market in Greece
<i>Hong Kong</i>	<i>HK GEM</i>	460	165	6347403	XGEM	XGEM	XHKG	0	
	<i>Hong Kong</i>	1555	607	72724206	XHKG	XHKG	XHKG	1	
<i>India</i>	<i>Ahmedabad</i>	19	466	429980	?	?	?	0	
	<i>Bangalore</i>	0	53	39120	XBAN	XBAN	XBAN	0	
	<i>Bhubaneswa</i>	0	5	5814	?	?	?	0	
	<i>Bombay</i>	1319	2026	52173248	XBOM	XBOM	XBOM	1	BSE SME only opened mid 2014, so almost all of these issues must be on main market identified by MIC XBOM
	<i>Calcutta</i>	19	110	122266	XCAL	XCAL	XCAL	0	
	<i>Cochin</i>	0	7	6434	?	?	?	0	

Table IA1, continued

Country	SDC mkt. name	# SEO	# IPO	Proceeds	MIC	Allocated to MIC	Operating MIC	Main market	Notes
<i>India</i>	<i>Coimbatore</i>	3	24	25912	?	?	?	0	
	<i>Delhi</i>	14	273	209299	XDES	XDES	XDES	0	
	<i>Gauhati</i>	1	0	10967	?	?	?	0	
	<i>Hyderabad</i>	9	212	145116	?	?	?	0	
	<i>Indian OTC</i>	5	39	35467	?	?	?	0	
	<i>Indore</i>	0	55	26897	?	?	?	0	
	<i>Jaipur</i>	3	24	8710	?	?	?	0	
	<i>Kanpur</i>	1	27	27259	?	?	?	0	
	<i>Ludhiana</i>	2	31	19580	?	?	?	0	
	<i>Madras</i>	11	179	75423	XMDS	XMDS	XMDS	0	
	<i>Magadh</i>	0	3	0	?	?	?	0	
	<i>Mangalore</i>	0	4	0	?	?	?	0	
	<i>Nacional</i>	0	1	0	?	?	?	0	
	<i>National</i>	71	82	5422429	XNSE	XNSE	XNSE	0	
	<i>Patna</i>	0	1	0	?	?	?	0	
	<i>Pune</i>	1	39	41844	?	?	?	0	
	<i>Rajkot</i>	0	12	0	?	?	?	0	
<i>Vadodara</i>	2	74	39166	?	?	?	0		
<i>Indonesia</i>	<i>Indon OTC</i>	1	1	5565	?	?	?	0	
	<i>Indonesia</i>	75	111	15624532	XIDX	XIDX	XIDX	1	Result of a merger between Jakarta Stock Exchange and Surabaya Stock Exchange in 2007
	<i>Jakarta</i>	63	127	14330594	XJKT	XIDX	XIDX	1	
	<i>Surabaya</i>	2	4	1488786	XSUR	XIDX	XIDX	1	
<i>Israel</i>	<i>Tel Aviv</i>	85	23	2368192	XTAE	XTAE	XTAE	1	
<i>Italy</i>	<i>MAC AltMkt</i>	2	6	56391	XAIM	XAIM	XMIL	0	This is an AIM market (AIM Italia - Mercato Alternativo del Capitale)

Table IA1, continued

Country	SDC mkt. name	# SEO	# IPO	Proceeds	MIC	Allocated to MIC	Operating MIC	Main market	Notes
<i>Italy</i>	<i>Milan</i>	117	99	47227406	XMIL	XMIL	XMIL	1	
	<i>Milan STAR</i>	5	11	1161646	XMIL	XMIL	XMIL	1	This is the set of largest firms trading at the Milan stock exchange
	<i>MilanExpan</i>	1	10	360275	?	XMIL	XMIL	1	Part of main market, for details see Vismara, Paleari, Ritter (2012)
	<i>Nuovo Merc</i>	3	4	170097	?	XMIL	XMIL	1	Part of main market, for details see Vismara, Paleari, Ritter (2012)
	<i>Rome</i>	1	4	179790	?	?	?	0	
	<i>Telematico</i>	1	4	4017899	?	?	?	0	Everything not trading as large, medium or small cap stocks on the Milan stock exchange
<i>Japan</i>	<i>Fukuoka</i>	7	16	446806	XFKA	XFKA	XFKA	0	
	<i>Fukuoka-QB</i>	7	9	58199	?	?	?	0	
	<i>Hiroshima</i>	0	2	134291	XHIR	XTKS	XJPX	1	Merged into Tokyo Stock Exchange
	<i>Japan Grth</i>	6	12	160569	?	?	?	0	
	<i>Japan OTC</i>	174	257	12738432	?	?	?	0	
	<i>Japan Std</i>	6	12	618058	?	?	?	0	
	<i>Jasdaq</i>	569	786	26083260	XJAS	XHER	?	0	OTC trading platform turned exchange in 2004; acquired by Osaka Securities Exchange, merged with OSE NEO and Nippon New Market-Hercules in 2010
	<i>Jasdaq Gr</i>	27	4	414882	?	XHER	?	0	
	<i>Jasdaq NEO</i>	4	7	181362	?	XHER	?	0	
	<i>Jasdaq Std</i>	105	43	1760299	?	XHER	?	0	
	<i>Kyoto</i>	0	1	7514	XKYO	XOSE	XJPX	1	Acquired by Osaka Securities Exchange in 2001
	<i>Mothers</i>	233	323	11649553	?	?	?	0	Part of Tokyo Stock Exchange; non-main
	<i>Nagoya</i>	11	1	968551	XNGO	XNGO	XNGO	0	

Table IA1, continued

Country	SDC mkt. name	# SEO	# IPO	Proceeds	MIC	Allocated to MIC	Operating MIC	Main market	Notes
<i>Japan</i>	<i>Nagoya 2</i>	36	31	1358943	XNGO	XNGO	XNGO	0	
	<i>NagoyaCenx</i>	34	28	398827	?	?	?	0	
	<i>Niigata</i>	0	1	60243	XNII	XTKS	XJPX	1	Merged into Tokyo Stock Exchange
	<i>Nip Her Gt</i>	56	76	932133	XHER	XHER	?	0	
	<i>Nip Her St</i>	67	73	2159807	?	?	?	0	
	<i>Osaka</i>	50	7	4063642	XOSE	XOSE	XJPX	1	
	<i>Osaka 2</i>	128	103	4264217	XOSE	XOSE	XJPX	1	
	<i>Osaka New</i>	0	1	3901	XOSE	XHER	?	0	Different reporting requirements; abolished in 2003 and issues transferred to Nippon New Market - Hercules
	<i>Sapporo</i>	3	5	110291	XSAP	XSAP	XSAP	0	
	<i>Sapporo Am</i>	12	14	39190	?	?	?	0	
	<i>Tokyo</i>	61	49	3996389	XTKS	XTKS	XJPX	1	
	<i>Tokyo 1</i>	768	109	147868567	XTK1	XTK1	XJPX	1	Large companies
	<i>Tokyo 2</i>	435	218	28040801	XTK2	XTK2	XJPX	1	Mid-size companies
<i>Malaysia</i>	<i>ACE Market</i>	53	16	233459	MESQ	MESQ	XKLS	0	
	<i>Kuala Lump</i>	664	484	26031774	XKLS	XKLS	XKLS	1	Renamed Bursa Malaysia Berhad in 2004
	<i>Kuala S/B</i>	31	76	490124	XKLS	XKLS	XKLS	1	Kuala Lumpur Second Board: mid-sized companies; merged into Main market in 2009
	<i>Mesdaq</i>	68	89	625211	MESQ	MESQ	XKLS	0	Revamped into ACE market in 2009; created in 1997 for small tech companies
<i>Mexico</i>	<i>Mexico</i>	54	31	10932731	XMEX	XMEX	XMEX	1	
<i>Netherlands</i>	<i>AmsterExch</i>	6	2	66637	XAMS	XAMS	XAMS	1	
	<i>Amsterdam</i>	42	27	9516131	XAMS	XAMS	XAMS	1	
	<i>EuronextAM</i>	101	15	20258624	XAMS	XAMS	XAMS	1	
<i>New Zealand</i>	<i>NZ Alt Mkt</i>	0	1	0	?	?	?	0	

Table IA1, continued

Country	SDC mkt. name	# SEO	# IPO	Proceeds	MIC	Allocated to MIC	Operating MIC	Main market	Notes
<i>New Zealand</i>	<i>NewZealand</i>	187	63	7147860	XNZE	XNZE	XNZE	1	
	<i>Wellington</i>	6	1	89117	?	?	?	0	
<i>Norway</i>	<i>Oslo</i>	368	120	26140965	XOSL	XOSL	XOSL	1	
	<i>Oslo Axess</i>	43	16	724339	XOAS	XOAS	XOSL	0	Exchange regulated market
	<i>Oslo-OTC</i>	5	2	322301	?	?	?	0	
<i>Philippines</i>	<i>Makati</i>	1	1	43607	?	XPHS	XPHS	1	
	<i>Manila</i>	9	11	420642	?	XPHS	XPHS	1	
	<i>Philippine</i>	155	73	8000104	XPHS	XPHS	XPHS	1	Created from merger of Makati and Manila stock exchanges in 1992
<i>Poland</i>	<i>NewConnect</i>	35	51	242706	XNCO	XNCO	XWAR	0	Exchange regulated market
	<i>Warsaw</i>	136	165	9361927	XWAR	XWAR	XWAR	1	
<i>Portugal</i>	<i>Euronxt L</i>	12	3	3007395	XLIS	XLIS	XLIS	1	
	<i>Lisbon</i>	20	5	2340754	XLIS	XLIS	XLIS	1	
	<i>Oporto</i>	0	1	0	?	XLIS	XLIS	1	Merged with Lisbon in 1990s
<i>Russia</i>	<i>MICEX</i>	24	3	4995530	XMIC	MISX	MISX	1	Merged with RTS in 2011 to form Moscow Exchange MICEX-RTS
	<i>MICEX-RTS</i>	41	4	10221084	MISX	MISX	MISX	1	Moscow Exchange
	<i>Moscow</i>	1	3	533206	XMOS	XMOS	XMOS	0	Seems to refer to Moscow Stock Exchange; which is different from the Moscow Exchange
	<i>Russian TS</i>	127	10	15872581	XRUS	MISX	MISX	1	Russian Trading System; merged with MICEX in 2011 to form Moscow Exchange MICEX-RTS
<i>Singapore</i>	<i>SG SESDAQ</i>	130	102	1052625	?	?	?	0	Exchange regulated market with less reporting requirements for smaller firms; replaced by SGCatalist
	<i>SGCatalist</i>	208	65	1862478	XSCA	XSCA	XSES	0	Replaces SG SESDAQ
	<i>Singapore</i>	621	314	28755840	XSES	XSES	XSES	1	

Table IA1, continued

Country	SDC mkt. name	# SEO	# IPO	Proceeds	MIC	Allocated to MIC	Operating MIC	Main market	Notes
<i>South Africa</i>	<i>Johannesbu</i>	131	25	13888759	XJSE	XJSE	XJSE	1	
<i>South Korea</i>	<i>KOSDAQ</i>	3309	690	31429216	XKOS	XKOS	XKRX	0	Merged in 2005; afterwards still catered to the smaller firms by having less reporting requirements
	<i>Korea</i>	1012	190	48587119	XKRX	XKRX	XKRX	1	Result of merger between Korea Stock Exchange, KOSDAQ, and Korea Futures Exchange in 2005. Separate boards are kept along the lines prior to merger
	<i>Seoul</i>	1	28	737535	?	?	?	0	
<i>Spain</i>	<i>Barcelona</i>	5	0	2107353	XBAR	XBAR	BMEX	0	Part of Bolsas y Mercados Espanol (BMEX) together with Madrid, Valencia and Bilbao
	<i>MAB</i>	20	11	177218	MABX	MABX	BMEX	0	Mercado Alternativo Bursatil; exchange regulated
	<i>Madrid</i>	101	32	24510039	XMAD	XMAD	BMEX	1	
	<i>Mercado Cn</i>	10	2	5482922	?	?	?	0	
<i>Sweden</i>	<i>Aktietorgt</i>	190	19	244913	XSAT	XSAT	XSAT	0	Exchange regulated with less stringent rules
	<i>FirNoStock</i>	165	10	1009866	FNSE	FNSE	XSTO	0	Exchange regulated with less stringent rules
	<i>NGM</i>	46	1	82644	XNGM	XNGM	XNGM	0	Exchange regulated
	<i>OMX Stock</i>	240	31	12310400	XSTO	XSTO	XSTO	1	The Stockholm stock exchange was acquired by OM in 1998; the combination merged with the Helsinki stock exchange after which the Stockholm stock exchange became OMX Stockholm; OMX Stock, Stockholm and Stockholm2 all refer to main markets
	<i>Stockholm</i>	118	41	5518428	XSTO	XSTO	XSTO	1	See above
	<i>Stockholm2</i>	1	2	18270	DSTO	DSTO	XSTO	1	See above

Table IA1, continued

Country	SDC mkt. name	# SEO	# IPO	Proceeds	MIC	Allocated to MIC	Operating MIC	Main market	Notes
<i>Switzerland</i>	<i>Berne</i>	2	0	114535	XBRN	XBRN	XBRN	0	
	<i>EBS</i>	1	3	331797	?	?	?	0	
	<i>Geneva</i>	0	2	449821	?	XSWX	XSWX	1	Main exchange as it was absorbed into Swiss Exchange
	<i>Swiss Exch</i>	81	29	15629345	XSWX	XSWX	XSWX	1	
	<i>Zurich</i>	14	11	6717225	?	XSWX	XSWX	1	Merger of Basel, Geneva, and Zurich stock exchanges in Switzerland into Swiss exchange in 1995
<i>Thailand</i>	<i>Bangkok</i>	0	2	11811	?	?	?	0	
	<i>TH MAI</i>	38	82	1051335	XMAI	XMAI	XBKK	0	Exchange regulated market for small firms with different listing requirements
	<i>Thailand</i>	386	317	24759877	XBKK	XBKK	XBKK	1	
<i>United Kingdom</i>	<i>FullyLondn</i>	0	1	7958	?	?	?	0	
	<i>London</i>	1416	448	182381581	XLON	XLON	XLON	1	
	<i>London AIM</i>	3152	749	39751732	AIMX	AIMX	?	0	
	<i>London Unl</i>	4	3	174580	?	?	?	0	London Unlisted
	<i>LondonTech</i>	63	13	12721514	?	XLON	XLON	1	Market for new (tech) companies for the LSE, based on Vismara, Paleari, Ritter (2012)
	<i>OFEX</i>	59	8	98639	?	?	?	0	
	<i>PLUS</i>	230	6	375974	?	?	?	0	
<i>U.S.</i>	<i>Amer Emerg</i>	1	1	0	?	?	?	0	
	<i>American</i>	255	123	6426483	XASE	XASE	XNYS	0	Seems to refer to American Stock Exchange, it was acquired by NYSE Euronext in 2008, renamed NYSE Alternext U.S., renamed NYSE Amex Equities in 2009, and renamed NYSE MKT LLC in 2012
	<i>Boston</i>	1	4	2914	?	?	?	0	Acquired by NASDAQ in 2007

Table IA1, continued

Country	SDC mkt. name	# SEO	# IPO	Proceeds	MIC	Allocated to MIC	Operating MIC	Main market	Notes
<i>U.S.</i>	<i>Chicago</i>	0	1	0	?	?	?	0	
	<i>NYSE Alter</i>	38	5	861191	XASE	XASE	XNYS	0	Seems to refer to American Stock Exchange, it was acquired by NYSE Euronext in 2008, renamed NYSE Alternext U.S., renamed NYSE Amex Equities in 2009, and renamed NYSE MKT LLC in 2012
	<i>NYSE Amex</i>	123	5	2319764	XASE	XASE	XNYS	0	Seems to refer to American Stock Exchange, it was acquired by NYSE Euronext in 2008, renamed NYSE Alternext U.S., renamed NYSE Amex Equities in 2009, and renamed NYSE MKT LLC in 2012
	<i>NYSE Arca</i>	2	0	2	ARCX	ARCX	XNYS	0	
	<i>NYSE MKT</i>	79	3	1100468	XASE	XASE	XNYS	0	Seems to refer to American Stock Exchange, it was acquired by NYSE Euronext in 2008, renamed NYSE Alternext U.S., renamed NYSE Amex Equities in 2009, and renamed NYSE MKT LLC in 2012
	<i>NASDAQ</i>	4452	3945	322394205	XNAS	XNAS	XNAS	1	
	<i>New York</i>	1960	805	332098004	XNYS	XNYS	XNYS	1	
	<i>Pacific</i>	0	2	11701	ARCX	ARCX	XNYS	0	Acquired by Archipelago Exchange, then the combination was acquired by NYSE to form NYSE ARCA
	<i>Pink Sheet</i>	90	44	2509652	?	?	?	0	
	<i>Sm Cap Mkt</i>	83	317	2327800	?	?	?	0	

Table IA2: Filters on issuance data

This table reports the filters that are imposed on our issuance data (obtained from SDC), the order in which they are imposed, and the number of equity issues that remain after each filter. The column “Filter” contains short descriptions of the filters. The column “Observations” contains the numbers of remaining observations after imposing that filter on top of the filters listed above it in the table. Observations with missing information on one or more of the filters are removed.

<i>Filter</i>	<i>Observations</i>
All IPOs and SEOs in SDC	230,471
Issue year between 1990 and 2014	194,164
Security issued is common stock	162,084
Primary shares are issued	135,128
Main SIC is not 49 or 6	109,302
Exclude non-main tranches	91,603
Remove foreign issues	81,388
Remove small issues	79,208
Select countries in sample	72,078
Select only main markets	51,834
Issue year between 1995 and 2014	45,840

Figure IA1: Market liquidity and issuance activity over time for France, Japan, the NYSE, and NASDAQ

This figure contains four graphs that show the level of market liquidity and the number of issues (IPOs and SEOs from SDC) over time for France, Japan, the NYSE, and NASDAQ. Market liquidity (solid blue line; left axis) is the value-weighted average of the average daily estimates of Amihud's (2002) price impact proxy for individual stocks – computed as the absolute stock return divided by local currency trading volume (and multiplied by -10,000 to obtain a measure that is increasing in liquidity). The number of issues (dash-dotted red line; right axis) is the sum of both IPOs and SEOs.

