ASIAN EQUITY MARKETS REVIEW

Interim Report and Methodology for Discussion

OECD-ADBI Roundtable on Capital Market and Financial Reform in Asia

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Draft

About this report

Since the 2008 financial crisis, the OECD has been at the forefront of addressing public policy efforts to promote companies use of public equity markets to raise long term equity capital. The Organisation has provided extensive support to G20 work on growth companies access to capital markets and developed detailed analyses of public equity market structures in several countries. Building on this extensive experience and with the financial support of the Government of Japan, the OECD is in the process of developing a new annual publication, *the Asian Equity Markets Review,* which will follow and analyse the trends in public equity markets in Asian economies.

The *Review* will be based on a unique dataset on public equity markets in Asia, which will use transaction and/or firm-level data gathered from several financial databases. This dataset will include information about all initial public offerings (IPO) and secondary public offerings (SPO or follow-on offerings) by Asian financial and non-financial companies for each year since 2000. Different data sources will be checked against each other and, whenever necessary, the information will be verified against original sources, including regulator, stock exchange and company websites and financial statements.

The firm-level character of the dataset will allow analysis and comparisons in several different dimensions when it comes to trends in corporate use of public equity markets, for example comparisons across countries, across industries and across companies of different size. Characteristics with respect to corporate use of stock markets can also be combined with firm level financial information, such as total assets, cash holdings, CAPEX, R&D expenditures and corporate liability structure.

The *Asian Equity Markets Review* will include a summary of the trends in initial and secondary public equity offerings, industry analysis and country comparisons. It will also highlight some key changes in equity market structures and market institutions as well as trends in institutional ownership of public equity.

This interim report provides detailed description of the methodology for data collection and analysis for discussion. It also provides examples of the numerous ways in which the dataset can be used and exhibited. The content included and the methodologies will be further refined in discussions with the participants of the OECD's Roundtable meetings in Asia and other relevant experts. For this purpose, the OECD Secretariat welcomes any comments and suggestions on the methodology and content. Please send your comments to Serdar.Celik@oecd.org.

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Introduction

During the last decades, the global economy has been characterized by an extensive shift of economic activity towards Asian economies. Their share of global GDP has increased considerably together with high levels of corporate investment as a percentage of gross national income, in both private and state-owned sectors. However, in many Asian economies the fast growing corporate sector is not always matched by developed capital markets. As a result, companies in some Asian emerging market have been forced to rely too much on debt financing compared to equity capital, which has raised concerns about the sustainability of the growth in private sector.

In a high corporate investment, high growth context, equity capital plays a unique role. Since there is no pre-defined rate of return on the equity investment and the shareholder can only be paid after all other stakeholder, equity is well suited to support long-term investment with uncertain outcomes. In addition, public equity markets allow for a separation between the investment horizon of an individual saver and the investment horizon of the corporation, so that a long-term project can be financed with shorter term savings (Isaksson and Celik, 2013).

From a firm-level perspective, the *OECD Business and Finance Outlook 2016* (OECD, 2016) demonstrated that rising debt-to-equity ratios after the financial crisis were associated with the weaker productivity growth companies. Therefore, greater equity financing is essential to promote the long-term focus that is needed for productivity growth. In addition, from a macroeconomic perspective it was also shown that an increase in outstanding bank credit was associated with a reduction in long-term growth across OECD countries, further expansion of equity financing was likely to promote economic growth (Cournède *et al.*, 2015).

Part I. Primary Equity Market Trends in Asian Economies

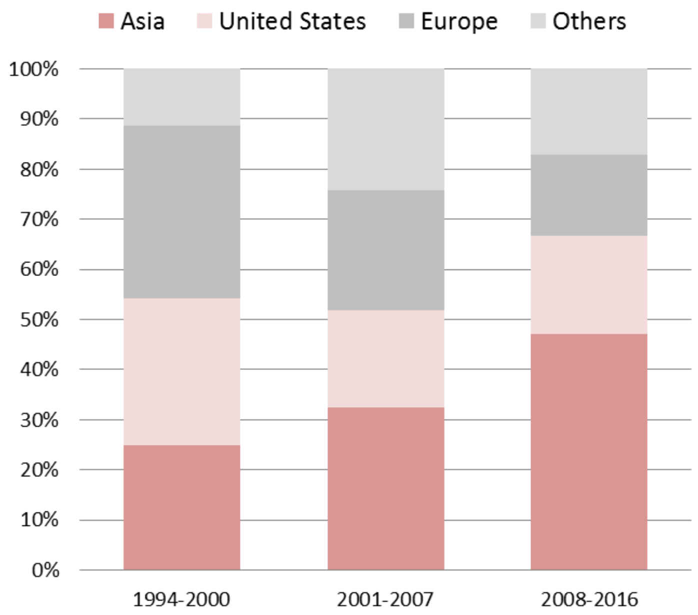
There are two main ways in which a company can raise capital by using the primary public equity market. The first way is through an initial public offering (IPO), which is done when a company is first introduced and listed on the stock market. The second way is through a secondary public offering (SPO) when an already publicly listed company turns to the public equity market to raise additional equity. This part of the report provides an overview of primary public equity markets as a source of funding in Asian economies during the last two decades. It also provides cross-country and cross-industry comparisons with respect to amount of equity raised through initial public offerings and secondary public offerings.

1.1. Initial public offering trends in Asia

Figure 1 shows the total amount of equity raised through IPOs by companies domiciled in Asia, United States, Europe and other countries. Companies from the United States and Europe dominated the global IPO market throughout the 1990s by raising 64% of the equity capital that was raised in public equity markets worldwide. Their combined shared first declined to 43% during the period 2001-2007 and then to 36% in the aftermath of the financial crisis. At the same time, the share of companies from Asian economies increased from 25% to 32% between the first and second period and reached 47% in the third period, 2008-2016.

Figure 1. Global shift of IPOs towards Asia

Distribution of global IPO proceeds, by non-financial and financial companies



Note: Asia includes 18 economies listed in the methodology.

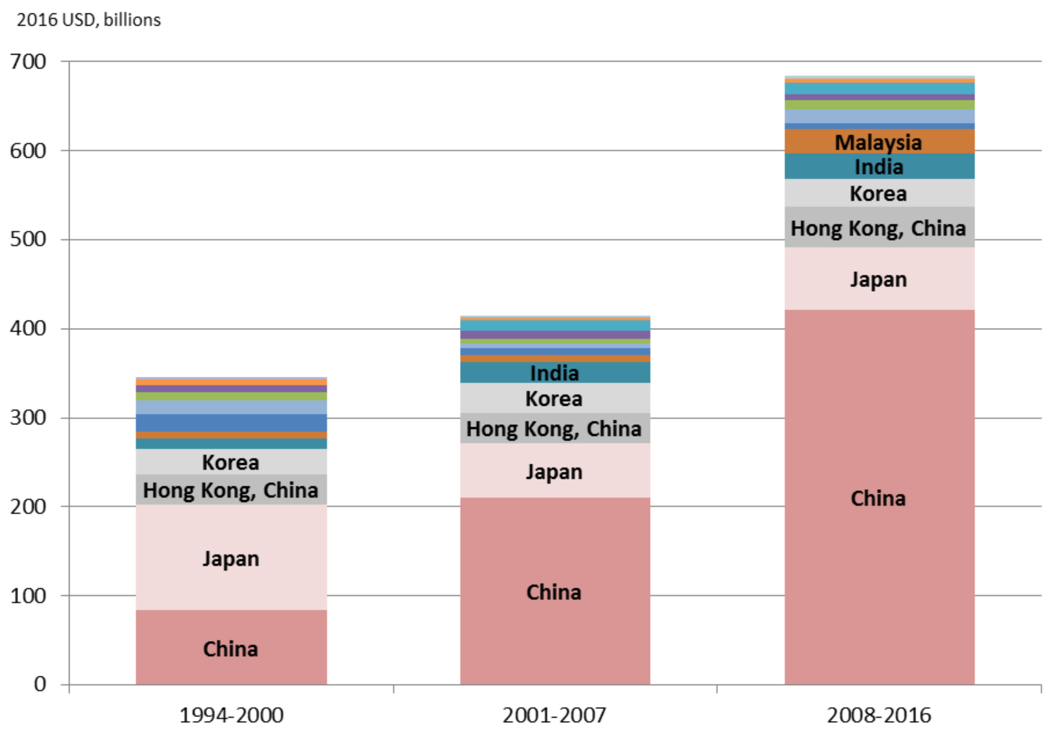
Source: Asian Equity Markets Review Database, see Methodology for details.

When discussing the shift of IPOs towards Asian companies, it is also of interest to look at the relative importance of different Asian economies. Figure 2 shows that the shift towards Asian markets is mainly driven by companies from People's Republic of China (China). China has traditionally been the largest IPO venue among emerging markets, however, in seven out of the last ten years Chinese companies have ranked first in the world in terms of total money raised through IPOs.

Figure 2 also shows that the significant increase in Asian IPOs was in the aftermath of the financial crisis and a total amount of USD 715 billion was raised by Asian companies. The single largest market was China with 62% of the total proceedings followed by Japan, Hong Kong, China, Korea and India.

Figure 2. IPOs by companies from Asian economies

Amount of capital raised by Asian companies, (2016 USD, billions)

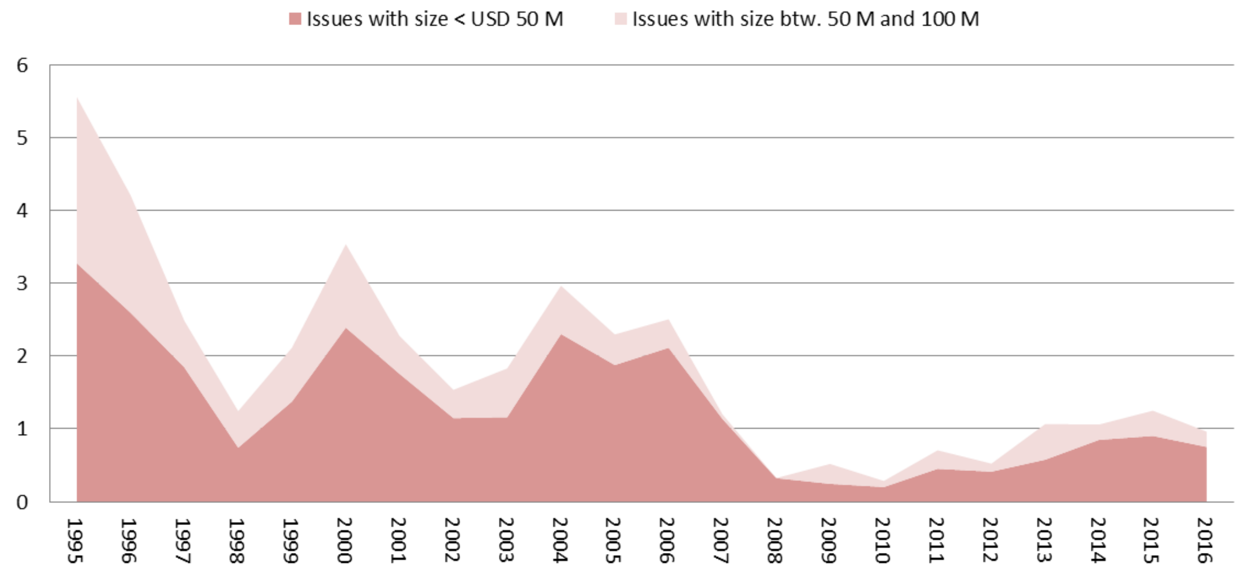


Source: Asian Equity Markets Review Database, see Methodology for details.

Despite the relative decline in their share of the total amount of equity capital raised in Asia, the absolute amounts raised by companies from other countries than China have not changed significantly during the pre- and after crisis periods. An important development, however, has been the decline in smaller, growth company IPOs. There has been a steep decline in growth company IPOs, particularly in the United States and Europe over the last decade (OECD, 2015b). Figure 3 indicates that this is also true in Japan. In the period from 2000 to 2007, IPOs smaller than USD 100 million represented 28% of all equity capital raised. For the period starting in 2008, this proportion has declined to just 14%.

Figure 3. The decline in growth company IPOs in Japan

Amount of capital raised by non-financial Japanese companies, (2016 USD, billions)



Source: Asian Equity Markets Review Database, see Methodology for details.

Table 1 provides a comparison between the growth company IPOs in Asia and some traditionally important advanced markets. It shows that, despite the dominance of Chinese companies, the shift in global IPOs towards Asia is not limited to large companies. Smaller companies in many Asian markets, including Korea, Chinese Taipei and Vietnam, have raised capital in the public equity market. Korea remains one of the few advanced economies with high level of small company listings.

Table 1. Number of IPOs smaller than USD 100 M, in real terms

	1994-2000	2001-2007	2008-2016
Australia	478	804	481
Canada	960	394	233
China	559	577	1,195
Hong Kong, China	242	298	261
India		230	364
Indonesia	83	71	114
Japan	858	864	398
Korea	153	498	424
Malaysia	294	292	120
Philippines	41	16	18
Singapore	197	206	136
Chinese Taipei	219	446	412
Thailand	78	149	147
UK	601	649	190
US	2,358	370	471
Vietnam	4	110	227

Source: Asian Equity Markets Review Database, see Methodology for details.

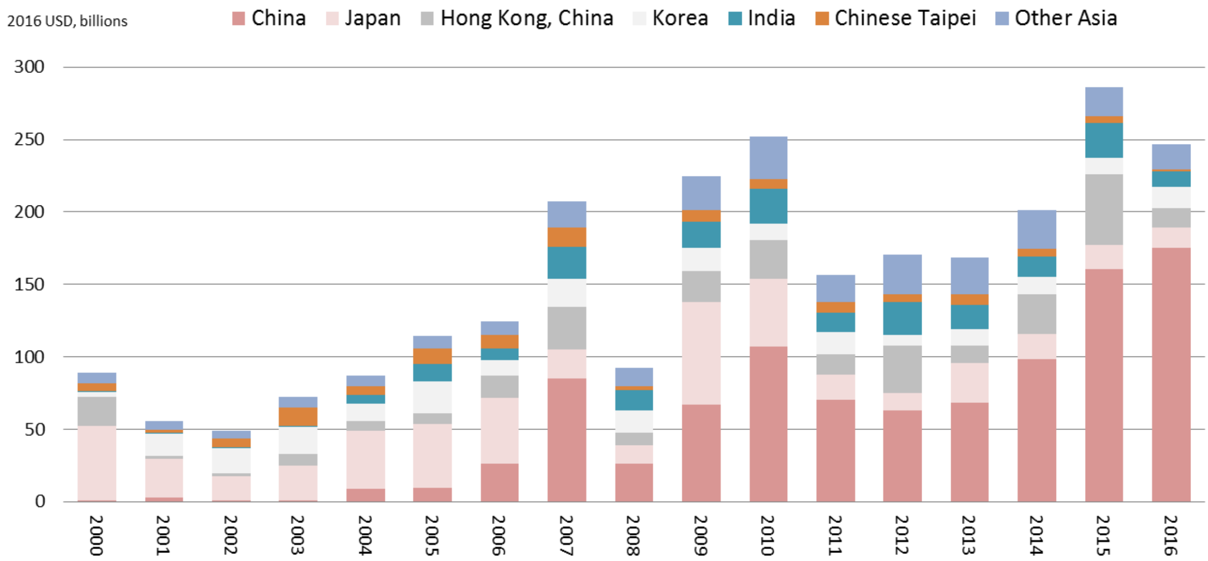
1.2. Secondary public offering trends in Asia

As mentioned above, companies' fund raising through public equity markets is not limited to initial offerings. Already listed companies also tap public market for additional capital through a so-called secondary public offering (SPO or follow-on offering). In fact, following the surge in SPOs in Asian markets after 2006, Asian companies on average raised three times the amount of equity through SPOs that they raised through IPOs. Similar to the IPO market, Chinese companies also dominated the SPO activity. However, in every year since 2008 SPO proceed of non-Chinese Asian companies exceed USD 100 billion. That is four times the amount they on average raised through IPOs in the same period.

Another important observation from Figure 4 is that the two years following the 2008 financial crisis, a period when there was a general tightening of corporate credits, listed companies use of primary equity markets as a source of funding increased considerably. In particular, Japanese companies raised a record level of USD 70 billion in 2009. In the same year, the total IPO proceeds in Japan were below USD 1 billion.

Figure 4. Secondary public offerings by Asian companies

Amount of capital raised by listed companies via public offerings, (2016 USD, billions)

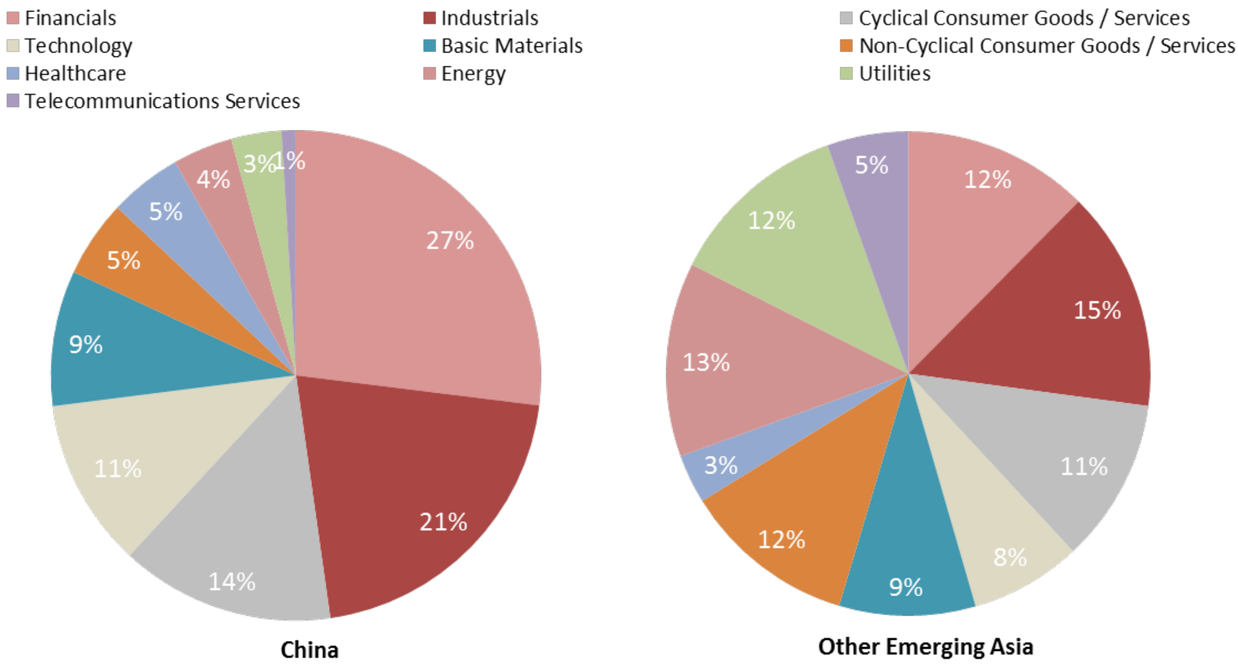


Source: Asian Equity Markets Review Database, see Methodology for details.

1.3. Industry breakdown of public equity offerings

In Figure 5, all IPOs in Emerging Asian Economies since 2000 have been broken down with respect to their industry. The figure shows that there are large differences between China and other emerging markets in the region. Financial industry firms are the largest user of public equity market in China, followed by industrials. In other economies, total proceeds from IPOs were more evenly distributed among industries with the shares of Finance, Industrials, Energy, Cyclical Consumer Goods/Services and Utilities between 12% and 15% of the total.

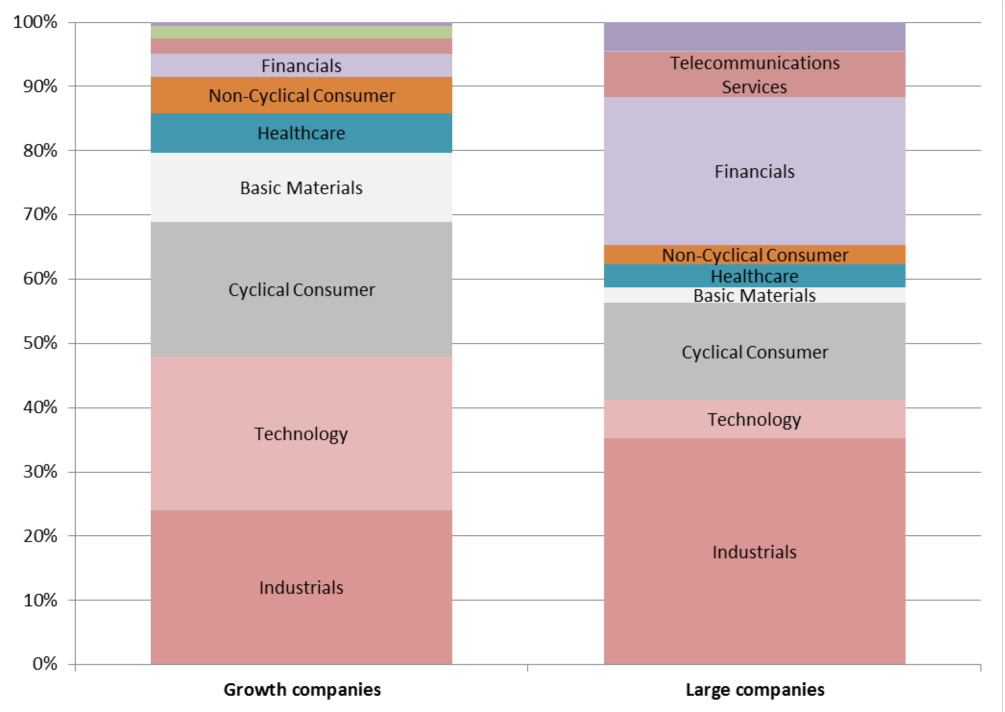
Figure 5. Industry breakdown of Asian IPOs between 2000 and 2016



Source: Asian Equity Markets Review Database, see Methodology for industry breakdown details.

Figure 6 below looks at Korea, where growth company IPOs have been strong compared to most other advanced economies over the last decade. Not surprisingly, one notable difference between large and growth company IPOs is the increasing share of companies in the technology industry largely at the expense of Financials. Their share was 24% on average throughout the period. The share of healthcare industry, which mainly consists of pharmaceuticals, biotechnology and healthcare equipment and supplies, is around 6% of total growth company IPOs. This is quite low compared to other advanced economies, most notably US where healthcare industry represents almost 50% of all growth company IPOs in terms of total public equity raised (OECD, 2015a)

Figure 6. Industry breakdown of Korean growth vs. large company IPOs, 2000-2016



Source: Asian Equity Markets Review Database, see Methodology for industry breakdown details.

Part II. Methodology for Data Collection and Classification

The dataset is based on transaction and/or firm-level data gathered from several financial databases, such as Thomson Reuters Eikon, Thomson Reuters Datastream, FactSet and Bloomberg.

Considerable resources have been committed to ensure the consistency and quality of the dataset. Different data sources are checked against each other and whenever necessary, the information is also controlled against original sources, including regulator, stock exchange and company websites and financial statements. The dataset will be continuously updated following a strict protocol in terms of definitions provided below.

This part describes the coverage of the dataset and methodology for data collection and classification.

2.1. Country coverage and classification

The dataset includes information about all initial public offerings (IPO) and secondary public offerings (SPO or follow-on offering) by financial and non-financial companies from 18 Asian economies. This currently amounts to 19,498 IPOs for the period from January 1990 to December 2016, and 25,984 SPOs for the period January 2000 to December 2016.

All public equity listings following an IPO, including the first time listings in an exchange other than the primary exchange, are classified as a SPO. If a company is listed in more than one exchange within 180 days, that transactions are consolidated under one IPO.

The country breakdown provided in the tables below is carried out based on the domicile country of the issuer. In the dataset, country of issue classification is also made based on the stock exchange location of the issuer.

It is possible that a company becomes listed in more than one country when going public. The financial databases record a dual listing as multiple transactions for each country where the company is listed. However, there are also significant number of cases that dual listings are reported as one transaction only based on the primary market of the listing. For this reason, the country breakdown based on the stock exchange is currently carried out based on the primary market of the issuer. Going forward, the objective is to allocate proceeds from an IPO to respective markets where the issue is listed at the same time.

Table 2. Number of IPOs by domicile nation of the companies

	1990-1999		2000-2007		2008-2016	
	Non-financial	Financial	Non-financial	Financial	Non-financial	Financial
Bangladesh	3	4	17	41	77	17
Cambodia	0	0	1	0	2	0
China	833	30	934	27	2,044	78
Hong Kong, China	357	57	431	43	306	33
India	3,642	675	386	31	404	49
Indonesia	145	49	93	42	144	30
Japan	931	66	1,122	104	437	42
Korea	183	27	558	38	471	7
Malaysia	373	73	338	42	146	11
Mongolia	0	0	0	0	1	0
Nepal	0	0	0	0	1	1
Pakistan	194	52	11	9	22	5
Philippines	73	17	28	9	29	5
Singapore	187	33	287	21	154	11
Sri Lanka	9	4	7	2	22	17
Chinese Taipei	281	36	499	16	422	6
Thailand	210	32	166	24	167	9
Vietnam	0	0	133	13	239	39
Total	**7,421**	**1,155**	**5,011**	**462**	**5,088**	**360**
					Grand total	**19,497**

Table 3. Number of SPOs by domicile nation of the companies

	2000-2007		2008-2016	
	Non-financial	Financial	Non-financial	Financial
Bangladesh	0	0	1	0
Cambodia	0	0	4	0
China	318	20	3,007	178
Hong Kong, China	1,593	90	2,721	240
India	290	69	1,841	440
Indonesia	67	41	183	57
Japan	2,047	167	1,348	80
Korea	1,838	103	3,722	129
Malaysia	402	31	780	40
Mongolia	0	0	2	1
Pakistan	0	1	45	19
Philippines	49	17	207	23
Singapore	467	21	846	30
Sri Lanka	0	0	74	52
Chinese Taipei	275	33	525	57
Thailand	240	42	453	37
Vietnam	5	0	574	42
Total	**7,591**	**635**	**16,333**	**1,425**
			Grand total	**25,984**

The OECD does not have an official country classification. However, there are several country classification methods adopted by international organisations or credit rating and index companies. The *Review* will follow the IMF country classification, which takes into account multiple criteria, including per capita income level, export diversification, and degree of integration into the global financial system.

The classification of Asian economies based on IMF methodology is presented in Table *.

Table 4. IMF Country classifications

	Advanced economies	Major advanced economies (G7)	Other advanced economies	Emerging market and developing economies	Emerging and developing Asia	ASEAN-5
Bangladesh				X	X	
Cambodia				X	X	
China				X	X	
Hong Kong, China	X		X			
India				X	X	
Indonesia				X	X	X
Japan	X	X				
Korea	X		X			
Malaysia				X	X	X
Mongolia				X	X	
Pakistan				X		
Philippines				X	X	X
Singapore	X		X			
Sri Lanka				X	X	
Chinese Taipei	X		X			
Thailand				X	X	X
Vietnam				X	X	X

2.2. Currency conversion and inflation adjustment

The IPO and SPO data, and related financial statement data such as total assets before offering, are collected on a deal basis via commercial database in current USD values. The information is aggregated at the annual level and in some tables presented at the year-industry level.

Inflation adjustment, or "deflation", is the result of dividing a monetary time series by a price index, such as the Consumer Price Index (CPI), GDP deflator, Producer Price Index (PPI) among others. The deflated series are said to be expressed in constant USD values whereas the original series was measured in nominal USD or current USD. Inflation is often a significant component of apparent growth in any series measured in USD or any other currency. By adjusting for inflation the real growth in the series in uncovered.

The issuance amounts in this report are presented in 2016 USD adjusted by US CPI. For the *Review*, the recommended deflator is CPI for following reasons: (1) Simple and clear methodology, (2) Availability on a monthly basis (GDP deflator can be computed only on a quarterly basis), and (3) Seasonal adjustment is implicit in annual average inflation by computing a 12-month moving average value.

2.3. Industry classification

Financial data providers usually provide multiple industry classifications for each company. However, in general only one or a few classifications are available for most companies. For example, Thomson Reuters provides SIC (Standard Industry Classification) and Thomson Reuters Industry Classification (TRIC), but SIC is sometimes missing and TRIC is fully available. For this reason, the data presented in this report uses Thomson Reuters Industry Classification. For a limited number of companies, for whom TR classification is not available, SIC classification was used.

The main economic sectors and their industry groups are the following:

Economic Sector	Industry Group
Basic Materials	Chemicals
	Construction Materials
	Containers / Packaging
	Metal / Mining
	Paper / Forest Products
Cyclical Consumer Goods / Services	Automobiles / Auto Parts
	Homebuilding / Construction Supplies
	Hotels / Entertainment Services
	Household Goods
	Leisure Products
	Media / Publishing
	Retailers - Diversified
	Retailers - Specialty
	Textiles / Apparel
Energy	Coal
	Energy Related Equipment / Services
	Oil / Gas
	Renewable Energy
Financials	Banking Services
	Insurance
	Investment Banking / Investment Services
	Real Estate Operations
Healthcare	Biotechnology / Medical Research
	Healthcare Equipment / Supplies
	Healthcare Providers / Services
	Pharmaceuticals
Industrials	Aerospace / Defense
	Air Freight / Courier Services
	Airline Services
	Commercial Services / Supplies
	Construction / Engineering / Materials
	Machinery / Equipment / Components
	Marine Services
	Rails / Roads Transportation
Non-Cyclical Consumer Goods / Services	Beverages
	Food / Drug Retailing
	Food / Tobacco
	Personal / Household Products / Services

Technology	Communications Equipment
	Computers / Office Equipment
	Semiconductors / Semiconductor Equipment
	Software / IT Services
Telecommunications Services	Telecommunications Services
Utilities	Electric Utilities
	Gas Utilities
	Utilities - Multiline
	Utilities - Water / Others

2.4. Exclusion criteria

With the aim of excluding IPOs and SPOs by trusts, funds and special purpose acquisition companies the following industry categories are excluded:

- Financial companies that conduct trust, fiduciary and custody activities
- Asset management companies such as health and welfare funds, pension funds and their third-party administration as well as other financial vehicles
- Companies that are open-end investment funds
- Companies that are other financial vehicles
- Companies that are grant-making foundations
- Asset management companies that deal with trusts, estates and agency accounts
- Special Purpose Acquisition Companies (SPACs)
- Closed-end funds

Real Estate Investment Trusts are also excluded from the data presented in this report, but they are followed separately from other financial companies.

In terms of security types, the public offerings of “units” and “trust” are also excluded.

Transactions without any proceeds (such as market/segment/stock exchange changes and admissions to trading without any fund raising) are excluded.

References

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