Internet Appendix for "Information acquisition costs and price informativeness: global evidence"

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IA-1. Case Study: Hong Kong Stock Exchange

In this section, we discuss the case of HKEX News, the CEDS for stocks listed in the Stock Exchange of Hong Kong (HKEX). HKEX News is operated by the Stock Exchange of Hong Kong Limited.

IA-1.1. History

Upon the suggestion of the Securities of Futures Commission of Hong Kong, the HKEX proposed having all announcements of listed issuers released through HKEX's website in April 2000. Under HKEX's listing rules, all issuers must disclose information to the market in various circumstances. Prior to the CEDS adoption, the requirement was for these announcements to be published as a paid advertisement in at least one English-language newspaper and at least one Chinese-language newspaper.

The proposal of CEDS was motivated by the *monetary costs* involved for listed issuers to make paid announcements and the *information costs* for the investing public to access corporate disclosures. Specifically, the exchange mentioned that cost appeared to be the main consideration when listed issuers select in which newspaper to make a paid announcement. As a result, newspapers with more paid announcements were not necessarily the most widely read, which contradicted the purpose of making corporate disclosures readily available to the "entire investing public." Moreover, HKEX recognized that local newspapers were not widely circulated outside Hong Kong, disadvantaging international investors. Recognizing the emergence of a global investing community, HKEX wanted to cater to international investors.

HKEX received 140 public opinions, including listed issuers, institutional investors, and retail investors. According to HKEX, the respondents generally liked the proposal. Many agreed with the need for a central repository for all corporate announcements, which could be the most cost-effective way to disseminate news in Hong Kong. Most of the respondents also believed HKEX should operate this central repository. The main concerns were the convenience and accessibility of newspapers. Small investors were concerned those with limited access to the internet might be disadvantaged.

On March 14, 2000, HKEX sent the proposal to all listed issuers, which were asked to help run a trial implementation. During the trial period, all results-related announcements were still disseminated through local newspapers, whereas all other types of disclosures had to be posted on HKEX's website. On April 24, 2001, HKEX amended the listing rules to formally reflect the electronic dissemination requirements. All listed firms had to:

- provide an electronic copy of any announcement required under the Listing Rules to be published by them in the newspapers to the Exchange for dissemination on the HKEX's website;
- deliver a press release on the subject matter of any announcement required to be published on the exchange's website, with a copy of the relevant announcement

attached to the press release, to at least a majority of the publishers of English-language newspapers and Chinese-language newspapers published daily and circulating generally in Hong Kong.

Until 2006, corporate disclosures continued to also be disseminated through local newspapers.[1] However, recognizing the substantial costs of publishing paid announcements, HKEX allowed listed firms to publish a short-form announcement in newspapers. The full version of the announcement had to be posted on HKEX News and the issuer's own website.

IA-1.2. Features of HKEX News

In this section, we discuss the various features of HKEX News. We use one of the largest firms listed in HKEX, Tencent Holdings (00700), as an example.

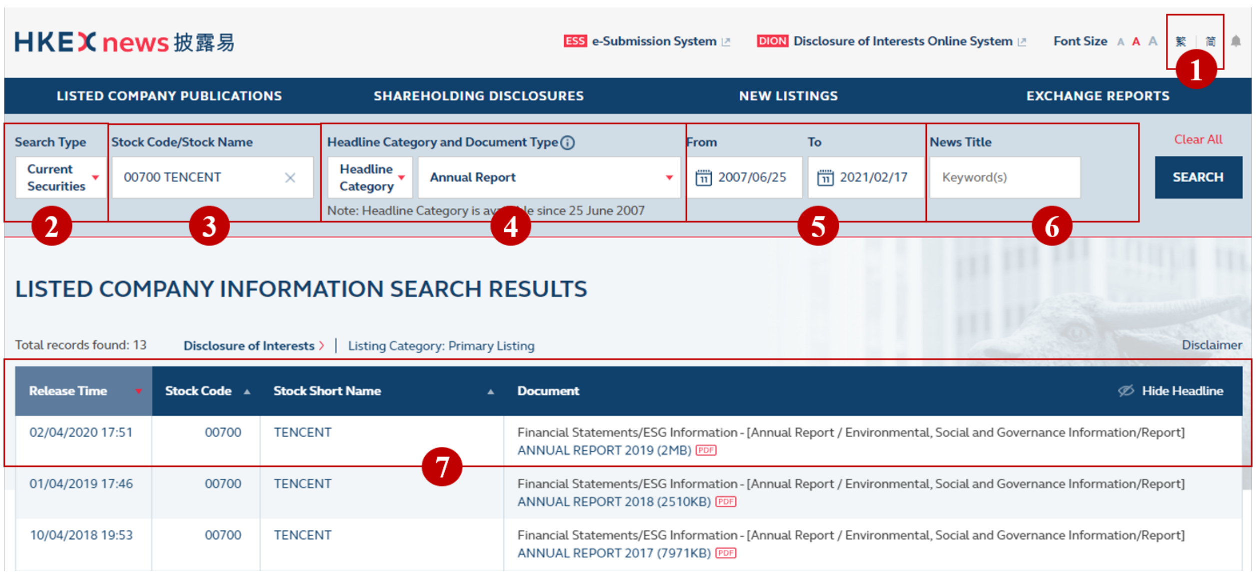

Fig. IA-1 CEDS Example: HKEX News

1. **Language.** HKEX News offers three languages, English, traditional Chinese, and simplified Chinese. The platform looks identical in all three languages.

2. **Search Type.** Users can filter on either current or delisted securities.

3. **Stock Code/Stock Name.** One can search for listed companies using either the stock code or stock name.

4. **Headline Category and Document Type.** Users can choose to view all categories of documents. Alternatively, users can choose according to either headline category or document type. Headline categories include announcements and notices,

[1] The main reason for not abolishing paid announcements in newspapers is that HKEX was implementing a website upgrade, aiming to enhance the security and user friendliness of both the dissemination and electronic submission systems.

listed documents, financial statements, ESG information, next-day disclosure returns, monthly returns, proxy forms, company information sheets, regulatory announcements, and share-buyback information, and takeover disclosures. Document types include announcements, financial statements, securities buyback, IPO allotment results, changes in directorship, notice of general meetings, and proxy forms.

5. **Date Range.** Users can search for documents disclosed during specific date ranges.

6. **News Title.** Users can also search for keywords in headline news.

7. **Search Results.** Search results include the exact release time, stock code and name, headline category, and document title. All announcements and documents are in PDF format and most are machine-readable. However, HKEX has not implemented XBRL reporting. Although all disclosures are offered in both English and Chinese, users can only view documents in one language at a time. To locate the same document in another language, the user must switch the language and redo the search.

IA-2. Characteristics of CEDS

In this section, we tabulate the various characteristics of the CEDS. This information was collected separately by a research assistant and independently verified by the coauthors. In Table B-1, we characterize various design features of CEDS. Importantly, the CEDS in our sample share a lot of similarities, which we discuss in our main text and below. We focus on tabulating the differences, including languages available, heterogeneity of CEDS design in different languages, search functions, and other information. In Table B-2, we focus on how CEDS disseminate annual and periodic (quarterly or semi-annual) reports. In Table IA-1, we document additional information available on CEDS.

Although the features we summarize are useful in characterizing the similarities and differences in CEDS, they are not comprehensive. Both the coauthors and our research assistants believe CEDS with more modern designs, more search functions, and more languages are not necessarily more user friendly. However, this is a subjective assessment, and we invite our readers to explore these systems themselves. Nonetheless, we highlight a few points below.

- **Convergence in Design.** Exchanges and securities regulators regularly seek to improve CEDS. For example, the European Commission requested the Committee of European Securities Regulators (CESR) to draw up guidelines for how E.U. member countries should improve their CEDS. Specific requests include (i) harmonized search functions, (ii) common input formats and standards, and (iii) a common list of types of regulated information.[2] In another example, Israel's CEDS (MAYA) introduced its English version in July 2020. Although we have tried to uncover the historical CEDS designs by contacting securities regulators and using the Internet Archive's Wayback Machine, we could not collect this information systematically. Therefore, although these systems are relatively homogeneous today, they may not have been when they were introduced.

- **Content.** Most CEDS include not only financial reports but also earnings announcements, ESG reports, dividend payments, mergers and acquisitions, shareholder meetings, large short positions, insider trades, and changes in directors and executives, among other things.

- **Fee and Batch Downloading.** As of 2021, all CEDS in our sample, except for Italy, make their filings free to the public. Meanwhile, CEDS generally do not support batch downloading of corporate filings, except for short positions in some E.U. countries and XBRL filings in Japan.

- **Format.** Files are usually in PDF format. Although many of them are machine readable, a sizable portion are scanned pictures. However, we cannot discern a systematic pattern for which filings, firms, or countries have scanned versus machine-readable PDFs. Additional filing formats include plain text, Excel, and Word.

[2] See, e.g., European Union Commission Recommendation 2007/657/EC and CESR Consultation Paper CESR/10-719c.

- **Registration.** Some CEDS allow users to create an account. However, users can download documents without registration.

- **Language Options of CEDS.** Many platforms are multilingual. As of 2021, an English version is available for all countries in our sample, except for Poland. The design of a CEDS is generally the same in different languages, although the native-language versions in some countries are better designed and contain more information.

- **Language Options of Corporate Filings.** The language in specific filings depends on regulatory requirements. Among those disclosures, annual reports are more likely to be multilingual. Periodic reports and especially other disclosures tend to be available only in the home country's official language.

- **Functions.** All CEDS have some elements of indexing, including search functions. The search function of some is more powerful than in others. Common search functions include document types, date intervals, language, and firm type. In many cases, CEDS in different languages contain the same information. In some cases, the English version contains less disclosure information.

- **XBRL.** A few countries in our sample adopted mandatory/voluntary XBRL reporting and have incorporated XBRL into CEDS. Readers interested in the XBRL adoptions can find information from the "XBRL Project Directory," available on the website of XBRL US.

Table IA-1
Additional Disclosure Information on CEDS

Jurisdiction	Full List
Australia	Director's Interest Notice, Director Appointment/Resignation, Progress Report, Independent Audit Review, Proforma Balance Sheet, Distribution Schedule, Results of Meeting, Security Purchase Plan, Corporate Governance, Ceasing to be a substantial holder, Conversion of Performance Rights, Exercise of Options
Austria	Universal registration document, payments to governments, inside information, managers' transactions, disclosure on buyback programs, disclosure on stabilization measures, total number of voting rights and capital, major shareholder notifications, acquisition or disposal of the issuer's own shares, changes in the rights attaching to the classes of shares of securities, home member state, interim announcement of the board of executives or quarterly report, bond issue, announcement of general meeting, results of general meeting, interest rate adjustment, distribution, capital increase, split, other corporate action, mutual fund and hedge fund disclosures
Belgium	Sustainability report, notice of general meeting, minutes of general meeting, announcement of notification of major shareholding, announcement of dividend or payment of interest, inside information, announcement of notification of major shareholding, announcement of change in denominator or in thresholds, special report draw-up in relation to authorized capital, announcement of disposal of own shares, home member state, changes in the rights of holders of securities
Canada	Annual statement of payments, certificate of the annual statement of payments, code of conduct, directors' circular, disclosure document, disclosure for oil and gas activities, documents affecting rights of securityholders, early-warning report, exemptive relief applications, XBRL, issuer bid circular, listing application, management report of fund performance, management's discussion and analysis, marketing materials, material change report, material contracts, news releases, various IPO documents, proxy circular, proxy solicitation by third parties, report of exempt distribution, statement of executive compensation, take-over bid circular, technical report
China	board members, daily operations, initial public offerings, allotment, convertible bond, supplementary errata, special treatment and delisting, earnings announcements, corporate governance, additional issuance, other types of fundraising, clarifications and apologies, delisting period, rights allocation, shareholder meetings, research reports, equity incentive, corporate debt, changes in shareholder rights, risk disclosure
Cyprus	choice of home member state, prospectuses, CySEC announcements, test category, CSE circulars, alteration of capital/debt, alteration of business plan, material change of the financial state/capital structure/co-operations/acquisitions/mergers, profit/loss warning, dividend/interest, issue of new/additional securities, submission of takeover bid, change of composition of the directors/senior directors, announcement related to takeover bids, other inside information, list of securities, delisting of securities, change of market, name change, suspension of trading, interim management statement, indicative results, investment portfolio/investment portfolio manager, corporate governance code, annual bulletin, net asset value, daily prices of collective investment schemes, transaction announcements, (Article 137 & Paragraph 5.2.6.1) disclosure of transactions, (Article 23 (g)) disclosure of transactions in excess of 170,000 made outside the CSE, (Article 171) information on the acquisition or disposal of a significant holding by the acquirer or holder, (Article 172) notification by the issuer of the acquisition or disposal of major holdings by the shareholder, (Article 18 - Law 116 (I) / 2005) disclosure of transactions of persons exercising managerial duties to the issuer/transactions of shareholders holding more than 5% to the issuer, (L.41 (j) / 2007) declaration of possession and announcement of transactions in accordance with Article 26 (1) (a) of the law on public takeover bids of 2007,

	acquisition or disposal of major holdings in an issuer (5%, 10%, 15%, 20%, 25%, 30%, 50% or 75%), acquisition or disposal of own shares (5% or 10%), information regarding the program for acquisition of own shares (up to 10%), total number of voting rights and capital of issuer, changes in rights attaching to securities, new loan issue, meeting of the board of directors, general meeting, report of dispersion of share capital.
Denmark	Insider information, management statement, information about shareholders, own shares, supplemental information, voting rights, house member state, related-party transactions, payments to governments, prospectus, rights attached to securities, short selling, takeover bid, net asset value (insider information)
Finland	Acquisition or disposal of a block of shares, changes board/management/auditors, changes in company's own shares, company announcement, corporate action, decisions of extraordinary general meeting, financial calendar, financial statement release, general meeting of shareholders, inside information, interim information, major shareholder announcements, managers' transactions, net asset value, notice to convene extraordinary general meeting, notice to general meeting, notification on material event, notifications on transactions concluded by managers of the companies, other information, prospectus and other IPO-related materials, tender offer, total number of voting rights and capital
France	Inside information, total number of voting rights and capital, acquisition or disposal of the issuer's own shares, home member state, changes in the rights attaching to the classes of shares or securities, additional regulated information required to be disclosed, payments to governments, audit reports
Germany	Stock corporations, shareholder's forum, association limited by shares, limited liability companies, cooperatives, general commercial and limited partnerships, mutual insurance association, securities, securities acquisition and takeover, country of origin, insider information, voting rights announcements, prospectuses/references, miscellaneous
Greece	Company profile (including information on their activity, the board of directors and contact details), voting rights, acquisition or disposal of own shares, change of composition of board of directors-senior directors, corporate actions, dividends, financial calendar, general meeting, presentations, prospectuses and reports, trade acknowledgments and change rates, other announcements, corporate actions, the companies' factsheets that participate in the indexes FTSE/ATHEX Mid & Small Cap Factor-Weighted, FTSE/ATHEX Global Traders Plus and FTSE/ATHEX Global Traders, information on the raised capital tables disclosed by ATHEX-listed companies, information regarding prospectuses, with specific information regarding corporate events, information on the notifications of the liable persons according to the Regulation (EU) 596/2014, corporate presentations of ATHEX-listed companies, cash distributions per company and per fiscal year, etc.
Hong Kong	Announcements and notice, circulars, listing documents, ESG information, next day disclosure returns, monthly returns, proxy forms, company information sheet, constitutional documents, debt and structured products, trading information of exchange traded funds, regulatory announcement and news, share buyback reports, takeovers, application proofs and post-hearing information, trading information of leveraged and inverse products
Iceland	Acquisition or disposal of a block of shares, annual information, changes board/management/auditors, changes in company's own shares, company announcement, corporate action, decisions of extraordinary general meeting, decisions of general meeting, financial calendar, financial-statement release, general meeting of shareholders, inside information, major shareholder announcements, managers' transactions, notice to convene extraordinary general meeting, notice to general meeting, notification on material event, notifications on transactions concluded by manager, other information, IPO information, tender offer, total number of voting rights and capital
Ireland	dividend payment, tender offer, price reporting, corporate change

Israel	Announcements and transactions, prospectuses, capital raising, listings, distribution of earnings and payments, tender offers, legal proceedings, trading/maintenance/illiquid securities/market maker, corporation profile, company management, security terms, company equity, management decisions and general assemblies, transactions with controlling party or executive officers, interested parties/executive/foreign
Italy	(Translated from Italian) Payment to governments, member state of origin, privileged information, notifications of significant holdings, acquisition or sale of the issuer's own shares, total voting rights and share capital, changes to the rights inherent in the categories of shares or securities, additional regulated information that the laws of a member state require to be disclosed, the additional periodic information referred to in article 82-ter of Consob Regulation 11971/1999, the information to be published pursuant to the regulations of the market management companies with the methods envisaged for regulated information
Japan	Extraordinary report, securities registration statement, shelf registration statement, shelf registration supplements, status report of parent company, confirmation letter, internal control report, report of possession of large volume, share buyback report, tender offer notification, subject company's position statement, tender offerer's answer, tender offer report, written withdrawal of tender offer
Korea	Organization of investor relations event, contract for sales or supply, new facilities investment, 30% or more change in sales or profit/loss, change in business objectives, outcomes of annual meeting of shareholders, submission of audit report, forecast or estimation on business performance, prior notice on disclosure of final earnings, decision on cash dividend
Latvia	Interim management statements, home member state, inside information, major shareholder notifications, acquisition or disposal of the issuer's own shares, total number of voting rights and capital, changes in the rights attaching to the classes of shares or securities, additional regulated information
Lithuania	Acquisition or disposal of a block of shares, annual information, changes board/management/auditors, changes in company's own shares, company announcement, corporate action, decisions of extraordinary general meeting, decisions of general meeting, financial calendar, financial-statement release, general meeting of shareholders, inside information, major shareholder announcements, managers' transactions, notice to convene extraordinary general meeting, notice to general meeting, notification on material event, notifications on transactions concluded by manager, other information, IPO information, tender offer, total number of voting rights and capital
Netherlands	Directors and members of the supervisory board, financial reporting approved prospectuses, notified prospectuses, issued capital, home member state, publication of inside information, offering securities, substantial holdings and gross short positions, managers' transactions
Norway	Acquisition or disposal of the issuer's own shares, additional regulated information required to be disclosed, adjustment of interest rate, announcement from Norges bank, announcement from Oslo BØRS, announcement from other participants, announcement from the FSA, changes in the rights of shares and securities, closing prices derivatives, derivative notice, ex date, home member state, inside information, listing/admission of securities, major shareholding notification, notification of trading primary insiders, matching halt, nonregulatory press release, payments to governments, prospectus document, special observation, total number of voting rights and capital, trading halts
Philippines	Company announcements (material information/transactions, daily trading information, share buyback transactions, declaration of cash dividends, stock rights offerings, changes in directors, changes in executives, changes in shareholding of directors and executives, creation of shares, notice of annual shareholder meeting, quasi-reorganization, acquisition or disposition of shares or assets, amendments to bylaws, postponement of shareholder meetings); other reports (statement of changes in beneficial ownership of securities, other SEC forms, reports and requirements, information statement, public ownership reports)

Poland	Buyback, change in board members, list of shareholders, change in share capital, information on the rules of dividend payment, notification of the intention to merge, etc.
Portugal	Admission to trading of securities/technical fact sheet, annual summary of information disclosed, board members and functions, changes/conversion/reconstitution and extinction of securities/dividends/interest/redemption/exercise of other rights, financial information, holdings in public companies, loss of public company status and compulsory takeover, notice of meeting, other operations, prospectus, public offers, securities markets liaison representations, short positions, transactions of own shares, home member state, corporate governance, nonfinancial information
Singapore	Amendment to articles, announcement in relation to regulatory actions by SGX and/or other authorities, announcement of appointment, announcement of cessation, annual general meeting, annual reports and related documents, asset acquisitions and disposals, asset securitization, bond holder's meeting, change in capital, change in corporate information, change in issuer name, change in trading currency, change of catalyst sponsor, court meeting, disclosure of interest, employee stock option, extraordinary/special general meeting, financial statements, general announcement, interested person transaction, moratorium, notice of three consecutive years' losses, notice of valuation of real assets, placements, regulatory actions by SGX, response to SGX queries, share buyback on market, share repurchase mandate, tender/acquisition/takeover, waiver
Spain	Insider information (profit and loss, strategic plans and profit forecasts, asset transactions/valuations/borrowing, bankruptcy proceedings, corporate transactions, corporate governance, securitization funds, periodic public information), other relevant information (audit reports, management report, corporate governance report, report on directors' remunerations, report on payments to governments, home member state, total number of voting rights and capital, changes in the rights attaching to classes of shares or other securities, announcement of general shareholders' meetings, other relevant information, financial instruments, public offerings, takeover bids for shares, takeover bids for other financial instruments, share buybacks/stablization/treasury stock programs, liquidity and counterparty agreements, business and financial situation, corporate transactions, shareholders' areements, board of directors regulation, general shareholders' meeting regulations, securitization funds, suspensions/lifting of suspensions/delisting), short positions, shareholder disclosure and own shares, corporate governance information
Sweden	Year-end release, major shareholder notifications, payments to governments, ongoing regulated information (insider information, additional regulated information, total number of rights, etc.)
Taiwan	Status of dividend distribution, corporate governance structure, information of directors and supervisors, information relating to corporate social responsibility, material information today, advanced search, investor conference, operating statements, information for treasury stocks, information of other domestic securities, basic information of overseas securities, securities issued abroad by listed companies summary.
Thailand	Management discussion and analysis, board of directors meeting, dividend payment, shareholder meeting, auditor appointment, etc.
Turkey	Material event disclosure, regulatory authority announcement
United Kingdom.	Change in company name, change of registered office address, newly appointing or terminating the appointment of a director changes to details of a director, secretary or person with significant control, a second filing of a previously delivered document, reorganization of the company's share capital (various), updates to the company's articles of association, allotment of new shares

IA-3. Institutional History of CEDS

In this section, we provide additional information on the history, operations, regulatory intentions, and rule-making process related to CEDS. A detailed summary of the functions and features of CEDS can be found in Internet Appendix section IA-2 and Tables B-1 and B-2.

IA-3.1. Australia

The Australian Securities Exchange (ASX) is Australia's primary securities exchange. Although it posted announcements for selected companies starting in 1998, starting in February 2000, it required all ASX-listed firms to post announcements and financial information on its website. The ASX made this information freely available, on a 20-minute delayed basis, to ensure the growing number of Australian retail investors had timely access to important market information. This requirement was part of a larger push toward educating investors, and within one year of this requirement, the ASX repository became one of the 10 most visited Australian websites. Since the initial requirement, the ASX has continued to upgrade its CEDS and improve access for investors, including changes to its website in August 2000 and fiscal year 2015.

Sources: ASX Annual Reports; Correspondence with the Australian Securities Exchange.

IA-3.2. Canada

Canada's central repository for public firms' disclosure information is the System for Electronic Document Analysis and Retrieval (SEDAR) and is administered by the Canadian Securities Administrators. SEDAR was implemented on January 1, 1997, pursuant to the National Instrument 13-101 - System For Electronic Document Analysis And Retrieval. The phase-in was six months. Mutual funds and issuers that participate in the Prompt Offering Qualification System (POP) had to file electronically no later than January 1, 1997. Non-POP issuers' phase-in date was February 1, 1997. All nonsingle jurisdiction issuers phased in on March 1, 1997, and single-jurisdiction filers started to file electronically on July 1, 1997.

All Canadian issuers must file their documents in SEDAR. Some third parties that are involved in transactions with Canadian issuers, such as those offering takeover bids or engaging in proxy contests, may also be required to file with SEDAR. Information on SEDAR is free to the public, and disclosures are in English or French. The Canadian Securities Administrators also allows firms to voluntarily file their financial reports using XBRL, because SEDAR supports XBRL functions.

Sources: SEDAR website; Correspondence with the Ontario Securities Commission and the Canadian Securities Administers.

IA-3.3. Mainland China

In Mainland China, Shenzhen Securities Information Co., Ltd. has operated an electronic disclosure system called CNINFO (Ju Chao Zi Xun Wang) since 2000. The system was established in response to the Content and Format of Publicly-Traded Firms Mandatory Disclosure Information (1999 Amendment) regulation by the Chinese Securities Regulatory Commission (CSRC), issued in December 1999.

Before the establishment of CNINFO, public firms had to publish only a summary of their annual reports in newspapers. However, the CSRC recognized the difficulty smaller investors have obtaining comprehensive, high-quality, and timely information. As a result, the 1999 amendment requires that firms finish their annual reports within four months of the fiscal year-end and publish the reports on CNINFO, which is freely accessible, and in at least one of the widely circulated national newspapers specified by the CSRC.[3] In addition, the 1999 amendment provides detailed requirements on how firms should organize and report their financial information. When CNINFO was established, only annual reports had to be disseminated online. However, since the original implementation of CNINFO, the scope of electronic disclosures for public firms has steadily increased. Public firms were subsequently required to publish seasonal reports and corporate announcements.

In addition to filing with the CNINFO, some firms must also provide corporate disclosures on other websites, including those of Shanghai Stock Exchange (SSE), Shenshen Stock Exchange (SZSE), and SINA Finance, among others. Most disclosures are in Chinese and are free to the public. The SZSE platform, Hu Dong Yi, was launched on January 1, 2010. The SSE equivalent, e Hu Dong, was launched on July 5, 2013. These platforms also allow investors to communicate directly with corporate management.

Sources: Factiva; CSRC website; CNINFO website; conversations with investors in China

IA-3.4. European Union

The E.U. parliament passed the Transparency Direction (TPD) on financial reporting and mandatory disclosure in December 2004. TPD includes three parallel requirements. Regulated information must be (i) disseminated throughout the European Union to ensure fast access to information on a nondiscriminatory basis, (ii) made available to the public through the Officially Appointed Mechanism (OAM), and (iii) filed with the home member state's competent authority. Importantly, TDP does not substantially expand the list of items being disclosed. Rather, it focuses on better enforcement of existing regulations.

TPD requires each member state to have at least one OAM for the central storage of regulated information. Whenever an issuer discloses regulated information, as defined in TPD Article 2(1)(k), the information must be filed with the OAM of the home member state.

The implementation of OAM and the rest of the TPD requirements were not always simultaneous. Some countries established central repositories for regulated information be-

[3] Initially, firms listed on Shanghai Stock Exchange (SSE) had to publish their results on SSE's website instead of CNINFO, which is operated by Shenzhen Stock Exchange (SZSE). Subsequently, CNINFO began to publish disclosure information from firms listed in SSE. Investors also can print out annual reports at local brokerage offices. Before the early 2000s, the internet was not widely available in Chinese households. Brokerages opened many local branches with retail trading floors. Computers were set up to allow investors to trade freely during open market hours.

fore TPD. For example, Spain's CNMV developed an in-house system called CIFRADOC/CNMV in 1998, through which issuers could file and disseminate documents electronically with the CNMW. Some countries (e.g., Latvia) simultaneously implemented OAM and the rest of the TPD requirements. Other member countries implemented the OAM after the TPD. For example, Belgium implemented the Market Abuse Directive (MAD) and TPD in 2008 but did not establish an OAM until 2011.

The operation of OAMs varies across countries. Roughly 50% of the OAMs are operated by government authorities. About 35% of them are operated by stock exchanges. In the remaining countries, the OAMs are operated by third parties, such as company registers and official journals. Information is usually free to the public, although some OAMs offer additional services for a fee.

Regulators have continued to improve these CEDS. In addition to adding additional features (e.g., better search functions), the European Union is moving toward a pan-Europe OAM network.

Sources: Correspondence with ESMA and various securities regulators and exchanges in the EU; ESMA website

IA-3.5. Hong Kong

In 2000, the Stock Exchange of Hong Kong (HKEX) proposed that public firms file electronically.[4] Prior to this requirement, firms had to disclose their financials as a paid advertisement in an English- and a Chinese-language newspaper. However, the HKEX was concerned that these advertisements were too costly for firms, and many of the newspapers that firms used were not widely circulated.

The electronic filing requirement became law in 2002, after which, firms had to file electronic copies of any required disclosures with the HKEX, which would then be posted on the HKEX's website. Until 2006, firms still had to post their announcements in newspapers but only needed to publish a short-form announcement.

IA-3.6. Israel

In Israel, the CEDS is operated by the Tel Aviv Stock Exchange (TASE). In December 2000, TASE introduced an internet service called MAYA on its website, which provides real-time company announcements, annual and quarterly financial reports, reference and payment dates, new-issues schedules, TASE announcements, etc. All filings are in Hebrew, although listed firms can voluntarily include an English copy of the filings. In addition, firms cross-listed on the TASE file all disclosures in English.

In June 2020, TASE launched an English version of its MAYA platform. The Israeli Securities Authority (ISA) encourages firms to publish information in English in addition to Hebrew. According to ISA, the goal of the English website is to make information accessible to foreign investors, attracting foreign capital.

Source: Factiva; ISA website; conversations with investment professionals in Israel

[4]For a more in-depth discussion, see section IA-1.

IA-3.7. Japan

In Japan, the Financial Services Agency (FSA) launched an electronic disclosure system, Electronic Disclosure for Investors' Network (EDINET) for regulated information, pursuant to the Financial Instruments and Exchange Act (FIEA). Listed firms could voluntarily submit an annual report (Annual Securities Report (Yukashouken Houkokusho)) to the website beginning in June 2001. Starting in June 2004, these submissions became required. The FSA has always allowed investors to search and view information in EDINET for free.

The FSA has not required submissions of annual reports or other documents in any language other than Japanese, although some companies voluntarily provide English translations. Foreign firms cross-listed in Japan can submit foreign equivalents of an Annual Securities Report in English. In these cases, a Japanese translation of the summary of certain items must be attached.

Source: Correspondence with the Financial Service Agency

IA-3.8. South Korea

The repository for Korea's corporate filings is the Data Analysis, Retrieval and Transfer System (DART). The platform is operated by Korea's securities regulator, the Financial Supervisory Service (FSS). The goal of DART is to lower the cost of information acquisition for the investing public and the cost of regulatory filing for listed firms, increase transparency, and promote a more efficient capital market.

In November 1997, the FSS prepared a plan for an electronic disclosure system. The FSS started developing the system in August 1998. The implementation of DART was staggered over two years. In the first phase (starting from April 1999), listed companies had to file their annual reports, semi-annual reports, and audit reports through DART. The second phase was launched in March 2000, after which all required disclosures (e.g., shareholder meeting minutes and dividend announcements) by listed companies had to be filed electronically.

Over the years, the FSS has worked to further lower the cost of information dissemination. An English version of the platform was launched in February 2007. However, the Korean version has substantially more information and functions. In recent years, DART launched a mobile service, an RSS feed, and an open API.

Source: Factiva; DART website

IA-3.9. Philippines

In the Philippines, the CEDS is operated by the Philippines Stock Exchange (PSE). The original version, ODiSy (Online Disclosure System), was unveiled in September 2002. The goal of ODiSy is to allow the PSE to release important information from listed companies to all market participants in a timely and simultaneous manner. The system was fully implemented on July 1, 2005. In the three to six months beforehand, manual filings of hard copies of disclosures were accepted and simultaneously filed with the ODiSy.

On December 27, 2013, PSE launched a new system called EDGE. Both the ODiSy and PSE EDGE are web-based and provide 24/7 online system access to listed companies. All information, including financial information, can be accessed on both platforms. Both ODiSy and EDGE function as the PSE's online disclosure system for the listed companies' filing of corporate disclosures, the PSE's review, and processing, up to the dissemination of these reports to the public. Relative to ODiSy, the PSE EDGE has more features that standardize the disclosure reporting of listed companies.

Sources: Correspondence with the Philippines Stock Exchange; Factiva

IA-3.10. Singapore

In Singapore, Singapore Exchange Limited operates a central repository for all firms listed on the Singapore Stock Exchange (SGX). The repository allows shareholders to receive news on listed companies in a faster and more efficient manner. The scope of corporate news disseminated is broad and covers all corporate actions of listed firms.

The SGX Portal was launched on March 24, 2014. To make corporate disclosures more comparable across listed firms, SGX introduced 71 templates for various types of corporate announcements during 2013 and 2014. Although the other types of corporate announcements were available through the SGX Portal prior to 2015, electronic filing of annual reports was implemented in March 2015. Most firms with fiscal year-ends in December 2014 filed their fiscal year 2014 annual report electronically. This requirement was implemented simultaneously for all issuers listed on SGX.

Sources: SGX website; Correspondence with the Accounting and Corporate Regulatory Authority (ACRA) and the Singapore Stock Exchange RegCo

IA-3.11. Taiwan

In Taiwan, the CEDS is operated by the Taiwan Stock Exchange Corporation (TWSE) under the securities regulation titled Taiwan Stock Exchange Corporation Rules Governing Information Filing by Companies with TWSE Listed Securities and Offshore Fund Institutions with TWSE Listed Offshore Exchange-Traded Funds, last amended in October 2019.

Since August 1995, listed companies have been mandated to upload their financial reports (Word or PDF) to TWSE's website. The required filing language is Chinese. Since 2000, firms have been required to provide financial data (e.g., income statement and balance sheet) in English as well. Since 2019, TWSE has mandated that some companies publish an English version of their annual financial reports. Information published on TWSE has always been free to the public.

Source: Correspondence with the Taiwan Stock Exchange

IA-3.12. Thailand

In Thailand, regulated information is stored electronically with the Stock Exchange of Thailand (SET) under the Notification of the Capital Market Supervisory Board No.

TorJor. 44/2556 Re: Rules, Conditions and Procedures for Disclosure regarding Financial and Non-financial Information of Securities Issuers. According to the regulation, listed companies must file annual registration statements (Form 56-1), annual reports (Form 56-2), and financial statements through the SET PORTAL and disseminate them to the public after January 1, 2014.

All information on the SET platform is free to the public. Information is available in PDF, zip, or Excel. In most cases, disclosed information is in Thai only with no English translations. In addition, most securities regulations are only available in Thai.

Source: Correspondence with the Stock Exchange of Thailand; Thai securities regulations