



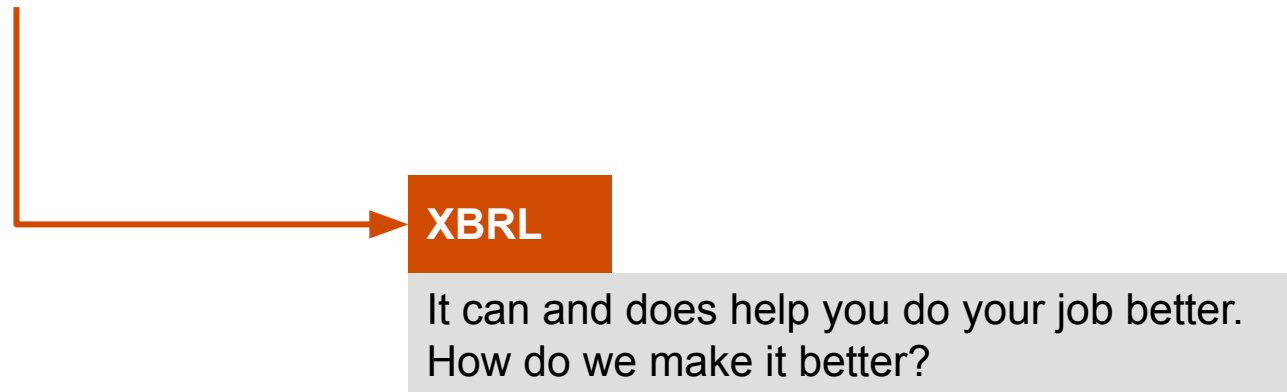
XBRL US investor forum presentation

THANK YOU! - for the important work you do as investment advisors, financial analysts, ... and portfolio managers to support the investing process

Your work as a group is thriving:



Your work is impacted by **data and technology**, which are enablers and accelerators in your analysis.



Agenda



The Lay of the Land



Current XBRL Use



Current Implementation
& Limitations of XBRL Data



How do we get there?



The Role of XBRL International



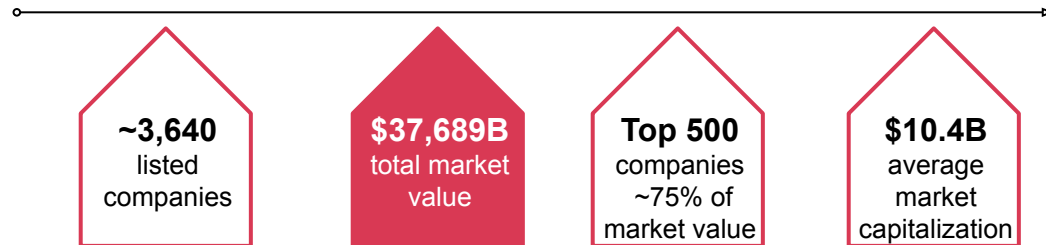
The Lay of the Land



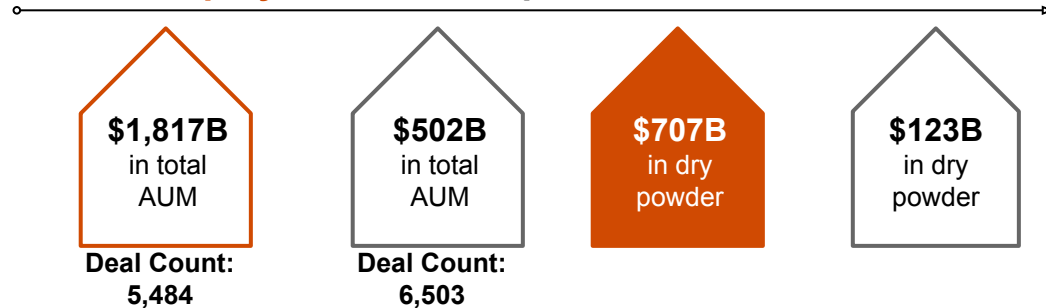
Lay of the land ... a robust investment landscape in the U.S.

U.S. Equity Market

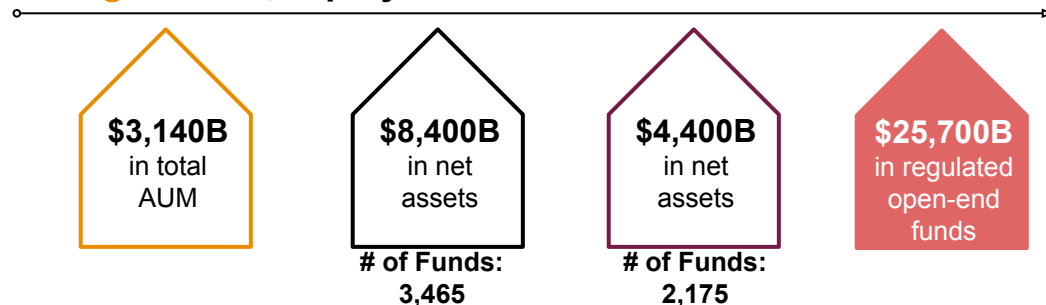
Public Markets



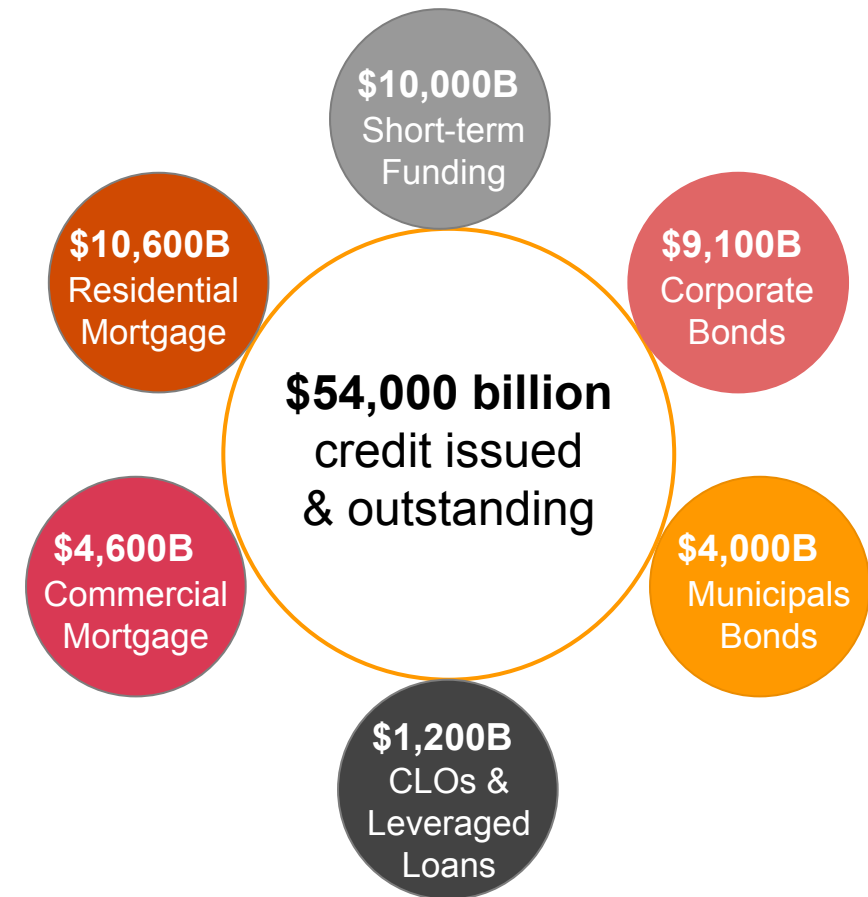
Private Equity & Venture Capital



Hedge Funds, Equity Mutual Funds & ETFs



U.S. Credit Market



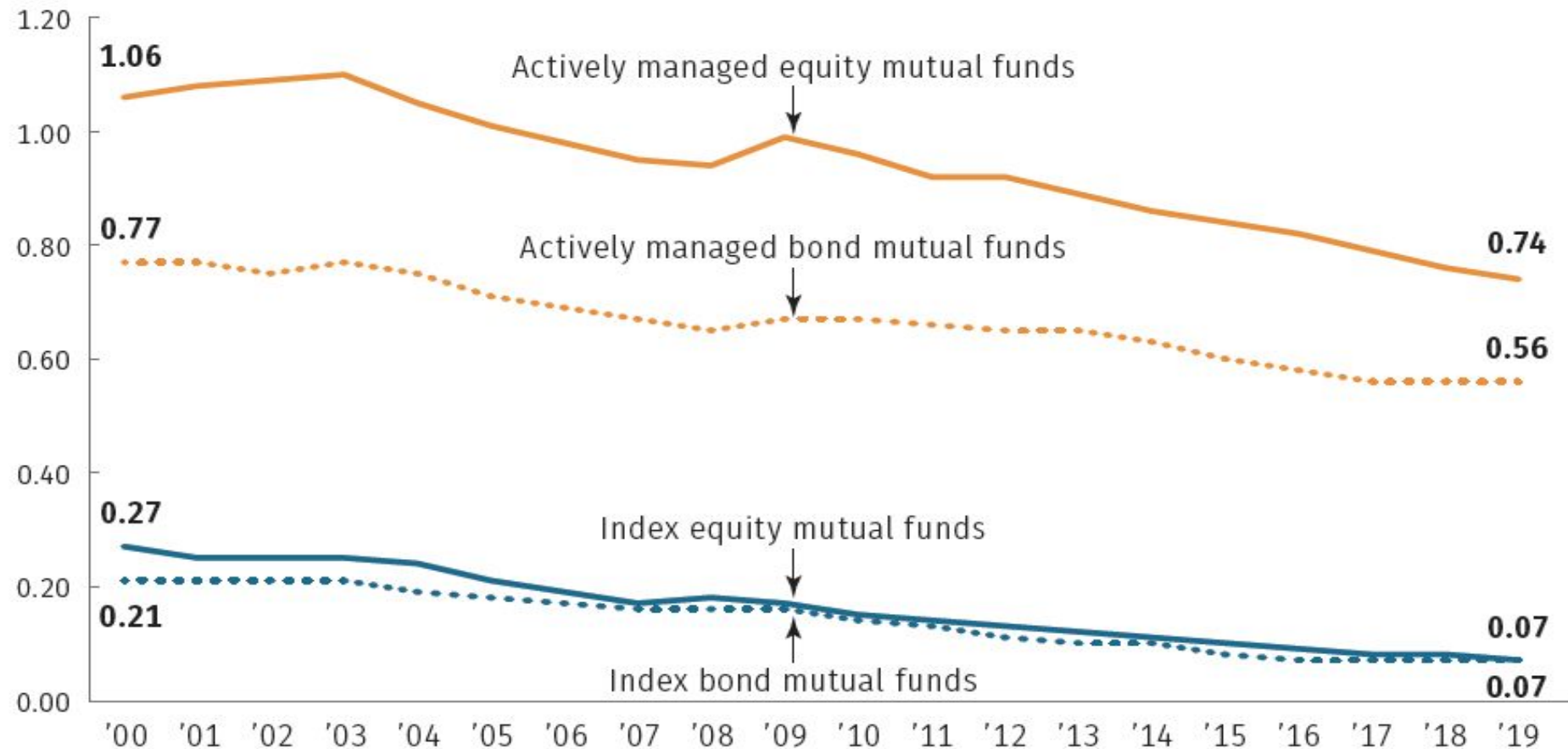
Note: all figures are as of year-end 2019

Source: PitchBook Data Inc, please note data has not been reviewed by PitchBook Analysts

Source: Investment Company Institute (ICI) 2020 Investment Company Fact Book

Source: SEC U.S. Credit Markets Interconnectedness and the Effects of the COVID-19 Economic Shock

Two decades of falling fees - a look at the expense ratios of actively managed and index mutual funds



Note: Expense ratios are measured as asset-weighted averages. Data exclude mutual funds available as investment choices in variable annuities. Sources: Investment Company Institute, Lipper, and Morningstar. See ICI Research Perspective, “Trends in the Expenses and Fees of Funds, 2019.”

The **buy side** - a summary of the trends

- **Fee pressure continues**

- Fee revenue impacts research budgets & spending on information.

- **Cost control efforts have yielded limited results**

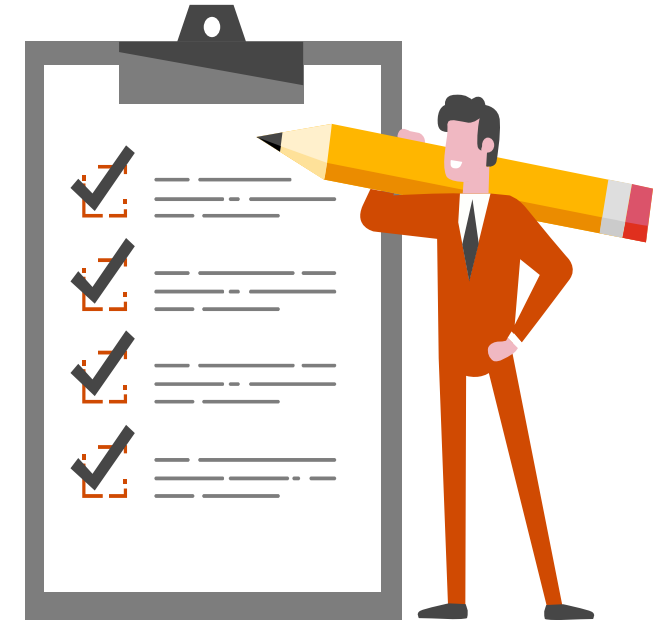
- Cost control efforts including organizational restructuring, staff reductions, and rationalization of office locations have not kept up with margin pressure.
- For example, from 2018 to 2019, costs in absolute terms for the global asset management industry grew by 4%, twice the rate of absolute revenue growth.

- **Regulation has increased the cost of compliance**

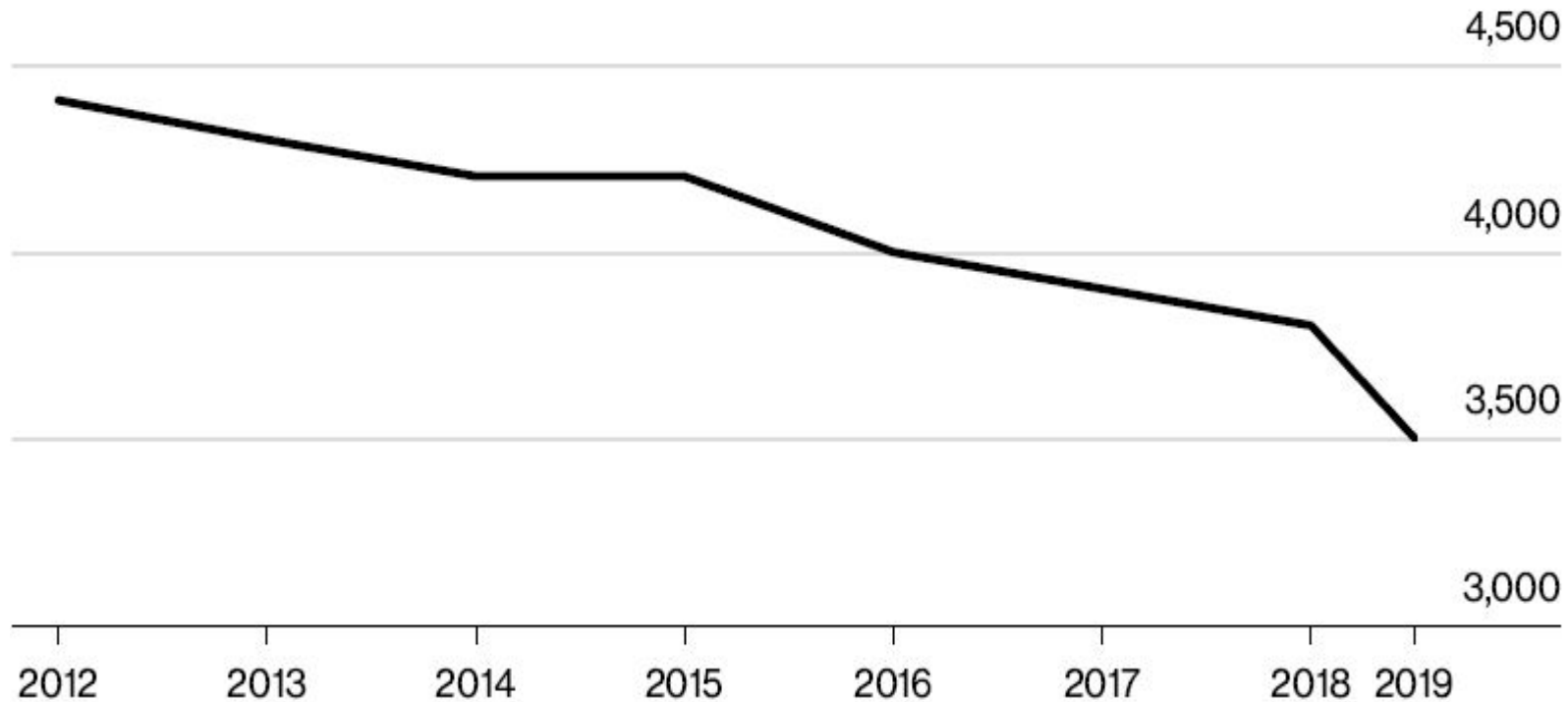
- particularly in Europe, e.g., MiFID II, EMIR, PRIIPS etc.

- **AUM quant funds have grown**

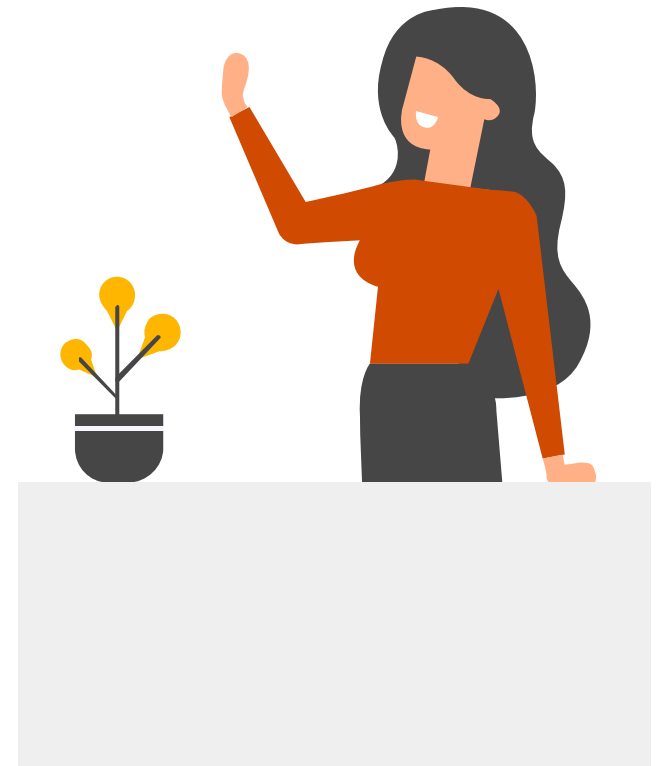
- continued focus on removing human bias in the investment process



Declining **sell-side** equity research headcount at major banks



Source: Coalition Development. data cover Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, JPMorgan, Morgan Stanley, Societe Generale and UBS.
(see https://www.viralwallstreet.com/death-of-research/?utm_source=rss&utm_medium=rss&utm_campaign=death-of-research)



Changes in the business model of **sell-side research** over the past two decades

- **Declining research budget over the past two decades**

- Technological advances has enabled the automation of certain core activities, as well as outsourcing of low-value-added tasks to off-sites

- **Greater competition**

- within the sell-side analyst industry,
- from digital and relatively instantaneous information sources (online stock pundits, blogs, message boards, and crowdsourcing)

- **Greater client demand for high quality analyst research & more timely and granular data feeds**

- Client base shifting away from individual to institutional investors as a result of the growth in passive investing & in hedge funds;
- Institutional investors (e.g., hedge funds, actively managed mutual funds, and pension funds) demand high quality research as inputs to their decisions.
- In particular, hedge funds typically demand more granular, timely and frequently updated data feeds of inputs to analysts' models.

European Regulation

- MiFID II has reduced asset managers' research spending & their demand for sell-side research.

U.S. Regulation

- The Global Settlement (2003) prohibits equity research from being cross-subsidized by investment banking.
- Reg FD (2000) prohibits companies from selective disclosure of material nonpublic info to market participants (including analysts).

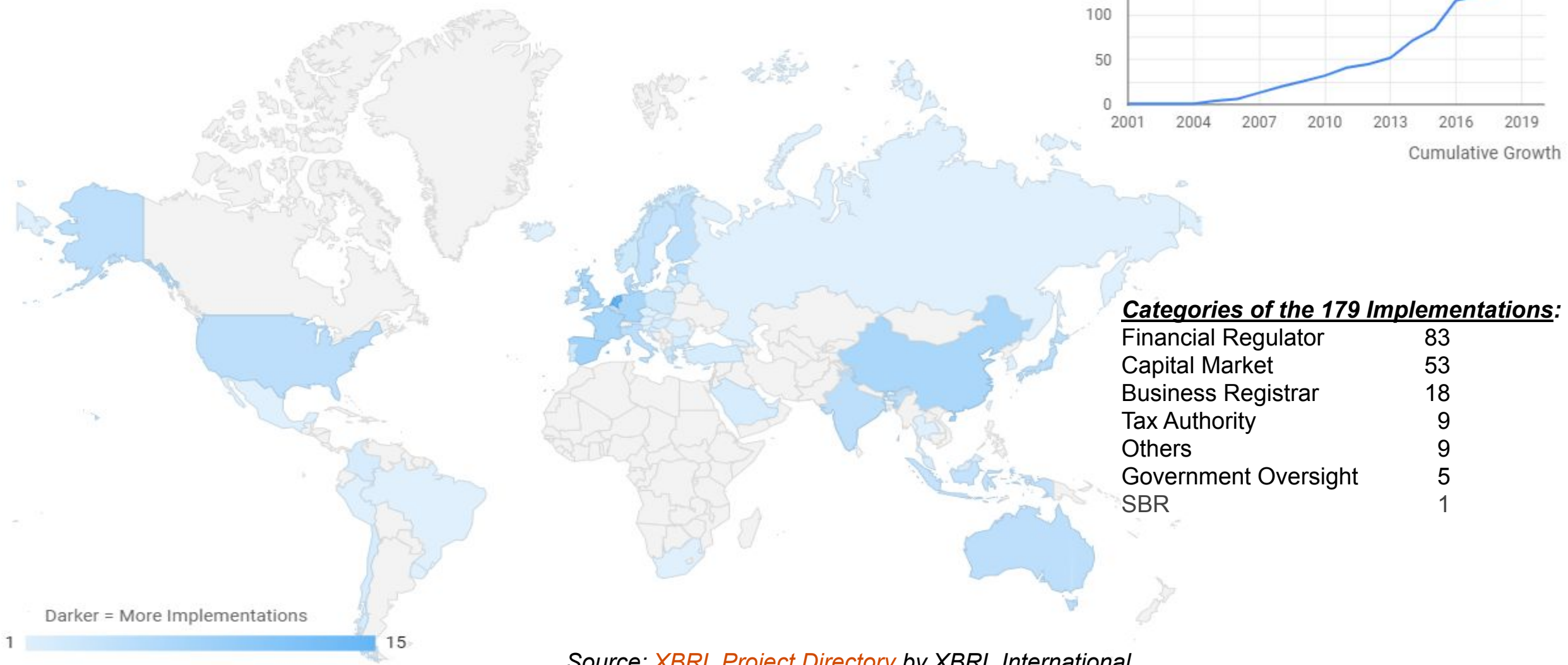
Shifts in capital raising

- Staying private
- Direct listing
- Alternative exchanges



Current XBRL use in the U.S. & around the world

XBRL has been widely accepted globally



Source: [XBRL Project Directory](#) by XBRL International

What do people experience as the benefits of XBRL?

- Higher quality, more timely, and more complete information for analysis & decisions
- Lower cost access to structured data enhances automated processing and comparative analysis
- Increasing acceptance of XBRL by regulators around the world creates a network effect for investors
- Adaptability to info (e.g., MD&A, ESG) beyond the financial statements
- Market solutions available to address XBRL data quality issues



XBRL facilitates more & better access

154%

More

53.1m

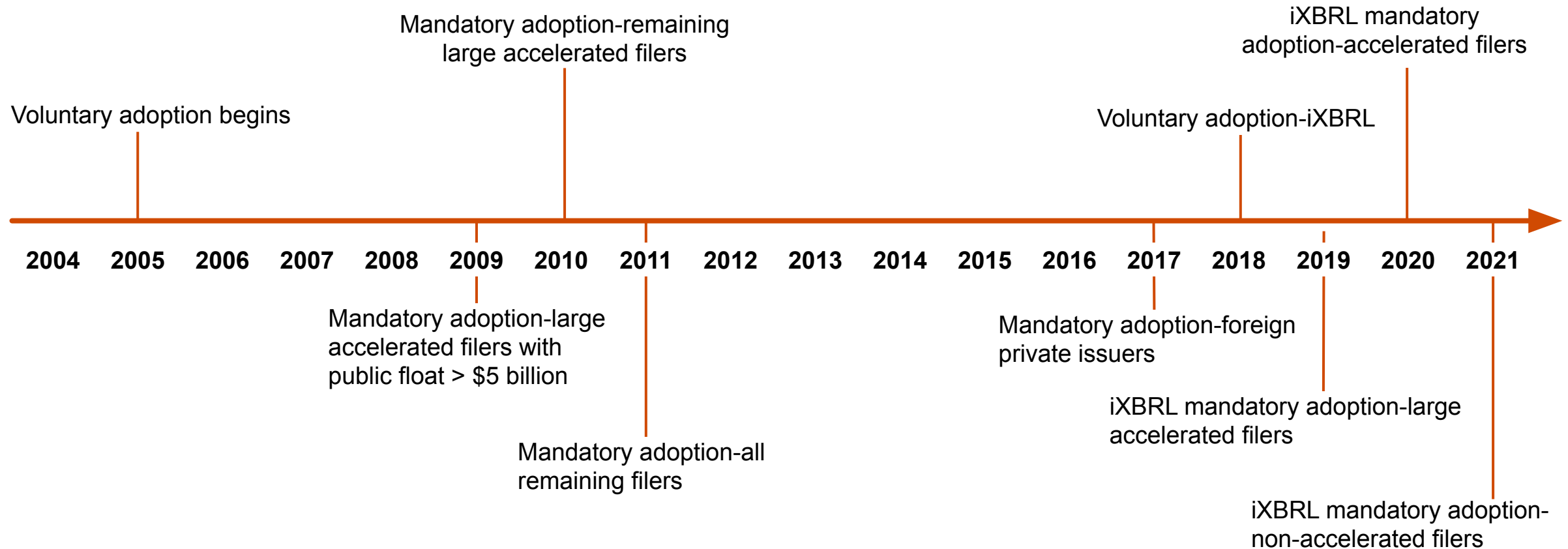
Better

XBRL facilitates bulk downloading from EDGAR and automated processing of company disclosures, which enhances access of companies and investors to information



The pace of change is increasing with tighter timelines

Source of the graph: Hoitash, Hoitash, and Morris (2020) *"eXtensible Business Reporting Language: A Review and Directions for Future Research"*



The introduction of XBRL is perhaps the most significant advancement in corporate financial reporting since the SEC required companies to file financial reports electronically via the EDGAR system in 1996.

XBRL mandates are expanding in the U.S.

SEC

- Non-financial disclosures
- “cover pages”
- Investment products



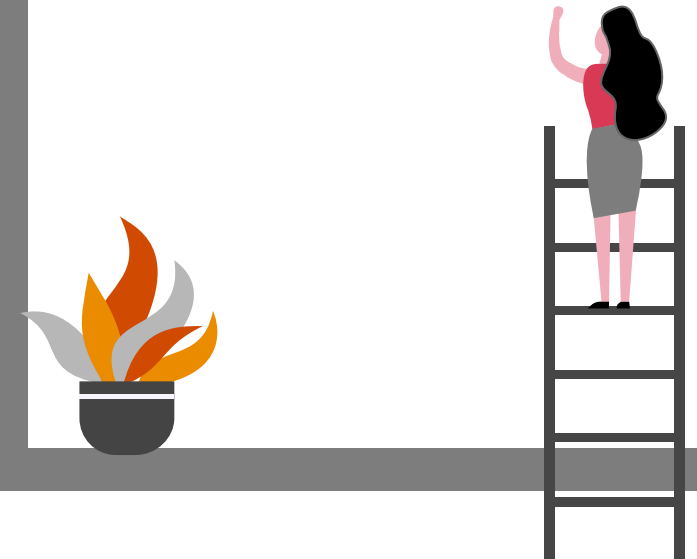
FDIC

- CARES Act PPP loan disclosures



Federal Energy Regulatory Commission (FERC)

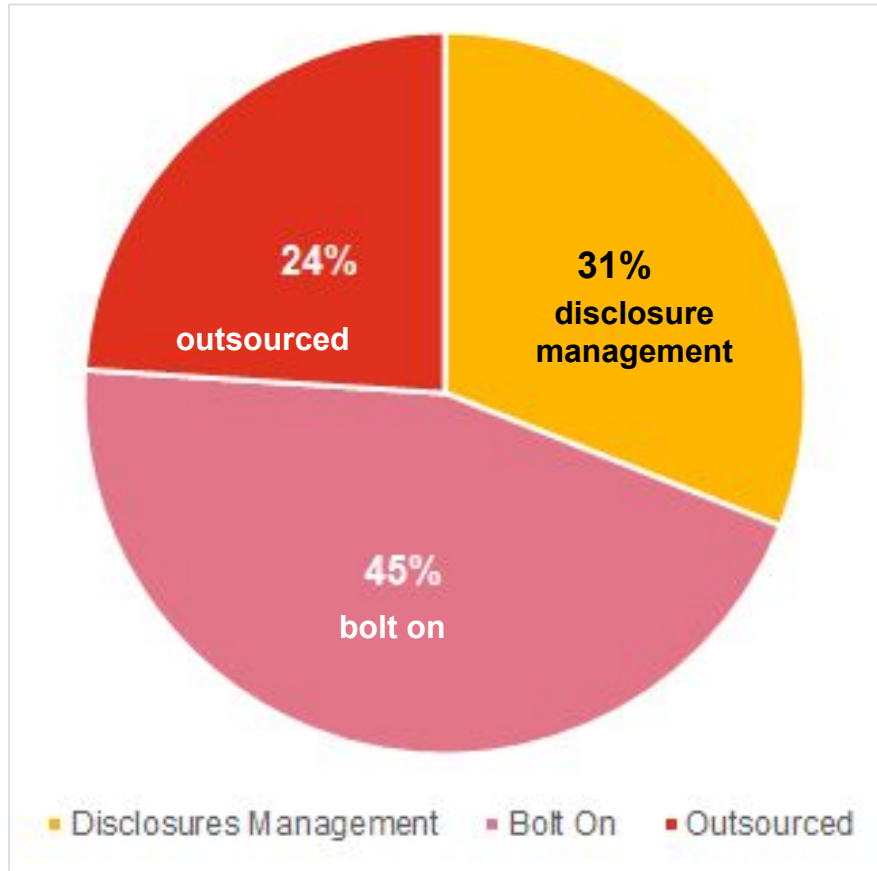
- Utilities disclosures





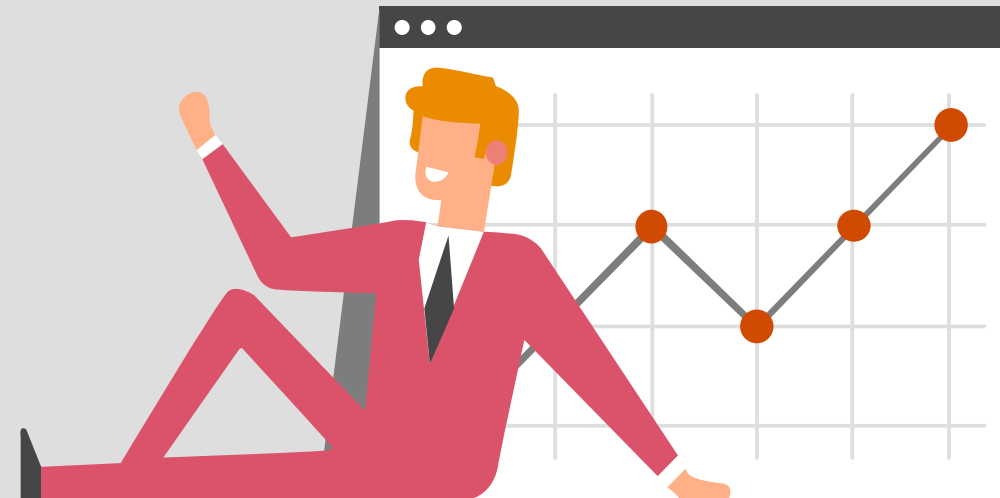
Current Implementation & Limitations of XBRL Data

Companies have deepened their internal resources and have opportunities for greater integration

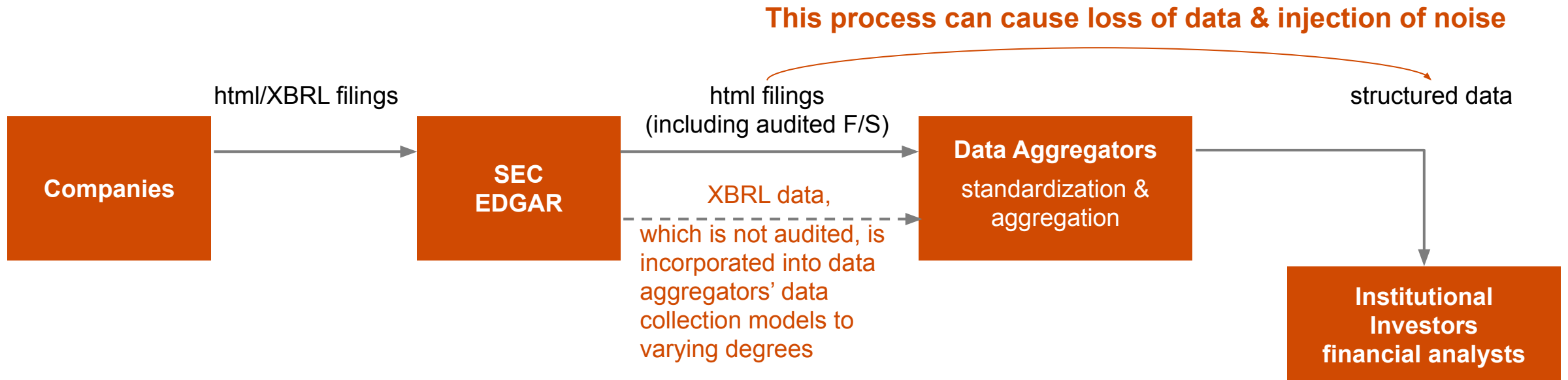


Source: Estimation by XBRL International based on 6,642 companies' SEC filings (10Q, 10K, 20F and 40F) for periods ending on June 30, 2020

- **76% internal-resources** (31%+45%)
- **69% period-end reporting** (24%+45%)



Quality takes everyone – Today's information flow



- Today's 3rd-party datasets are not perfect: aggregation and standardization can cause loss of info and introduce noise.
- Data from different providers can be inconsistent among themselves.
- Users have to rely on data providers instead of direct access to structured data by companies.
- Investors or other users today often are not aware they are already using some XBRL data, as their data providers may have already incorporated XBRL filings into the data collection processes to some extent.

So what limits faster progress on usefulness?

Scope and timing



- Investors use information beyond the scope of XBRL's current taxonomy.
- Timing of issuance of an XBRL instance often comes after the earnings have been consumed- XBRL is "second to market"

Errors

Data errors --inaccurate values (monetary, percent) and scale (thousands, millions)--are still common in XBRL filings.

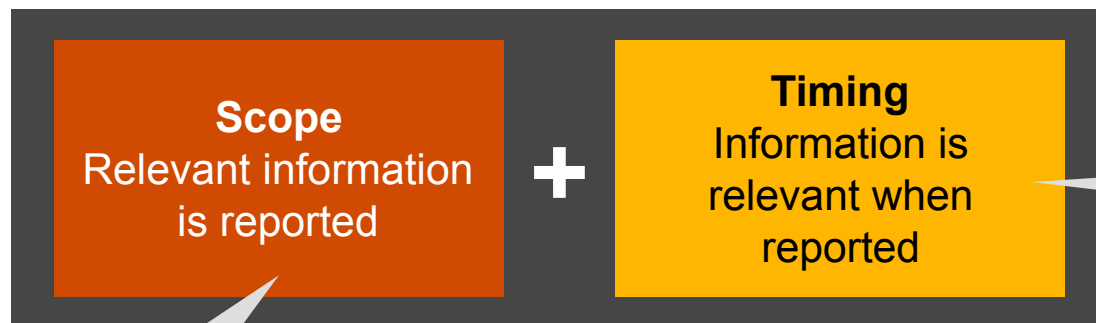
The "X" factor



The "X" in XBRL is a positive and negative. It permits **eXtensibility** since one-size-fits-all thinking isn't optimal. But, when an **extension/ custom tag** is unnecessarily applied, users must address diminished comparability and consistency.

Addressing these limitations would help unlock further benefits of XBRL.

Scope and timing of information



What if investors have to key in the information because it is not available ahead of a company's earnings call?

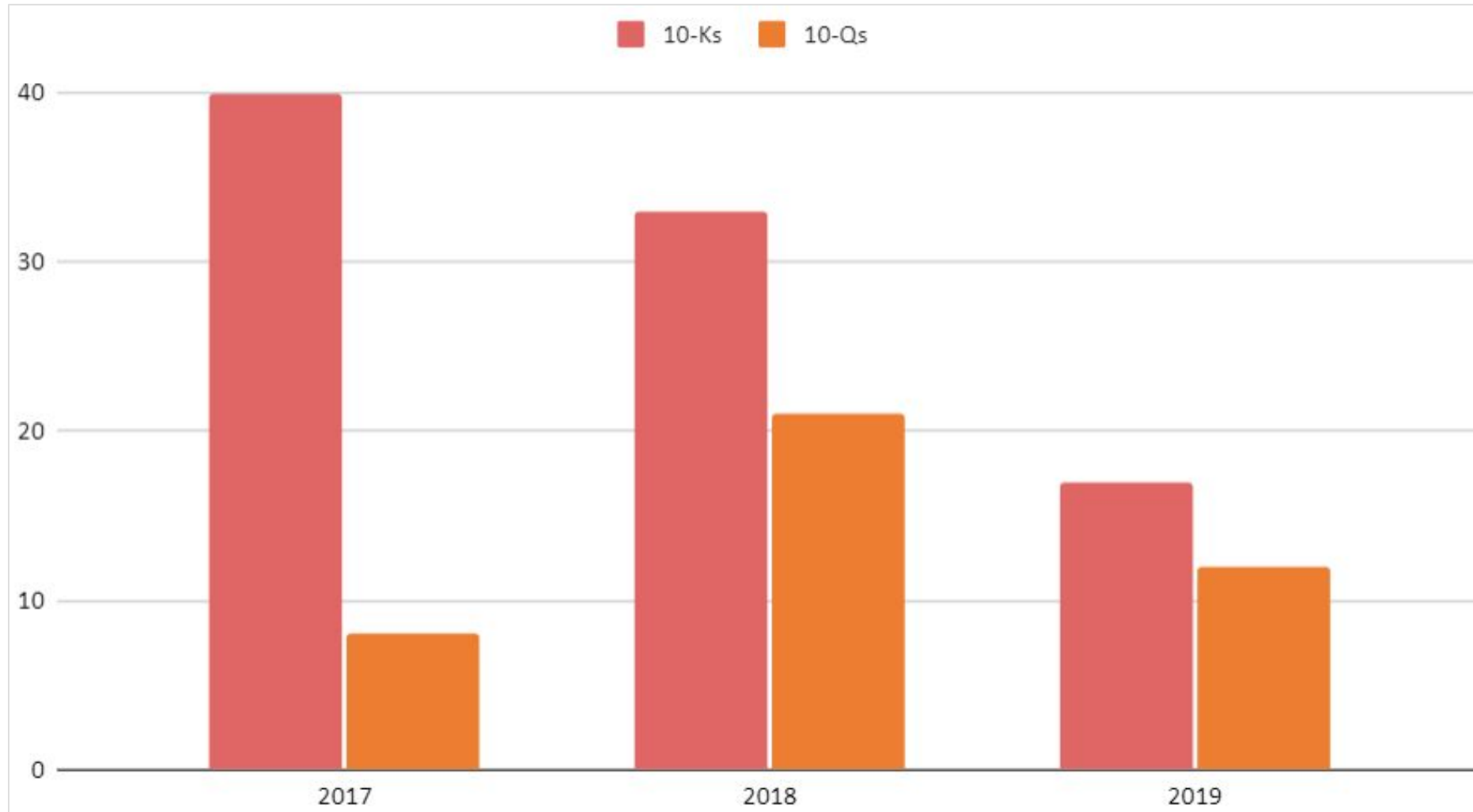
What if the investors are using information that is not required to be tagged?

Average # of days between (year-end earnings release) 8-Ks and 10-Ks



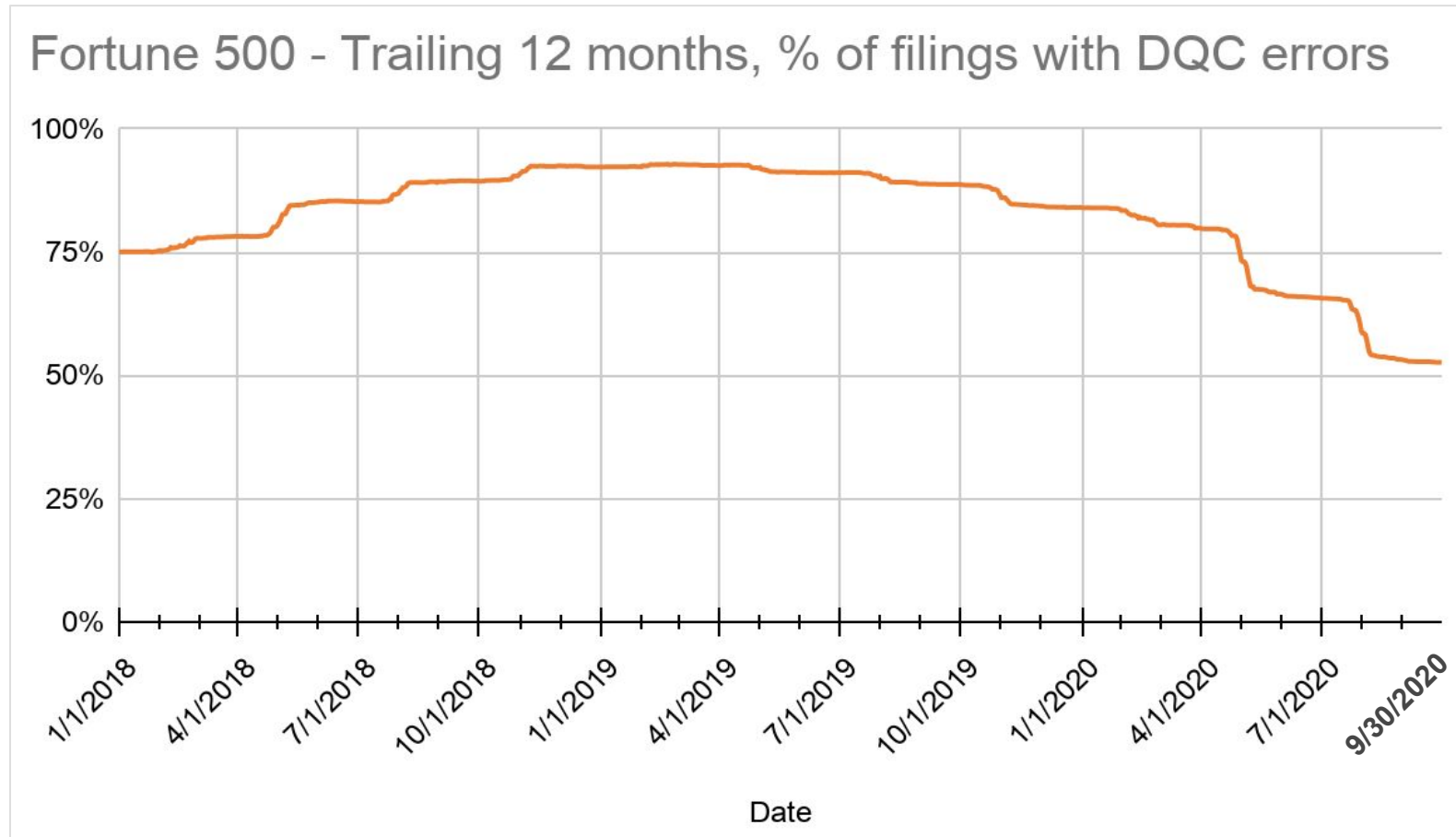
Source: CalcBench. The 2020 data are based on 10-Ks filed between Feb. 1, 2020 and April 15, 2020. Similarly, the 2019 data are based on 10-Ks filed from Feb. 1 to April 15, 2019.

Fortune 500 – Average # of errors per XBRL filing (as reported by XBRL US based on its Data Quality Committee rules)



NOT all errors can be identified through purely automated means.

Fortune 500 – % of XBRL filings with at least one error (as reported by XBRL US based on its DQC rules)



NOT all errors can be identified through purely automated means.

Though the previous graph suggests that, over time, the average # of errors has declined per filing, errors are still common, and present in over half of the 10Ks or 10Qs filed within 12-month period ending on 9/30/2020.

The X-factor – Extensions/custom tags

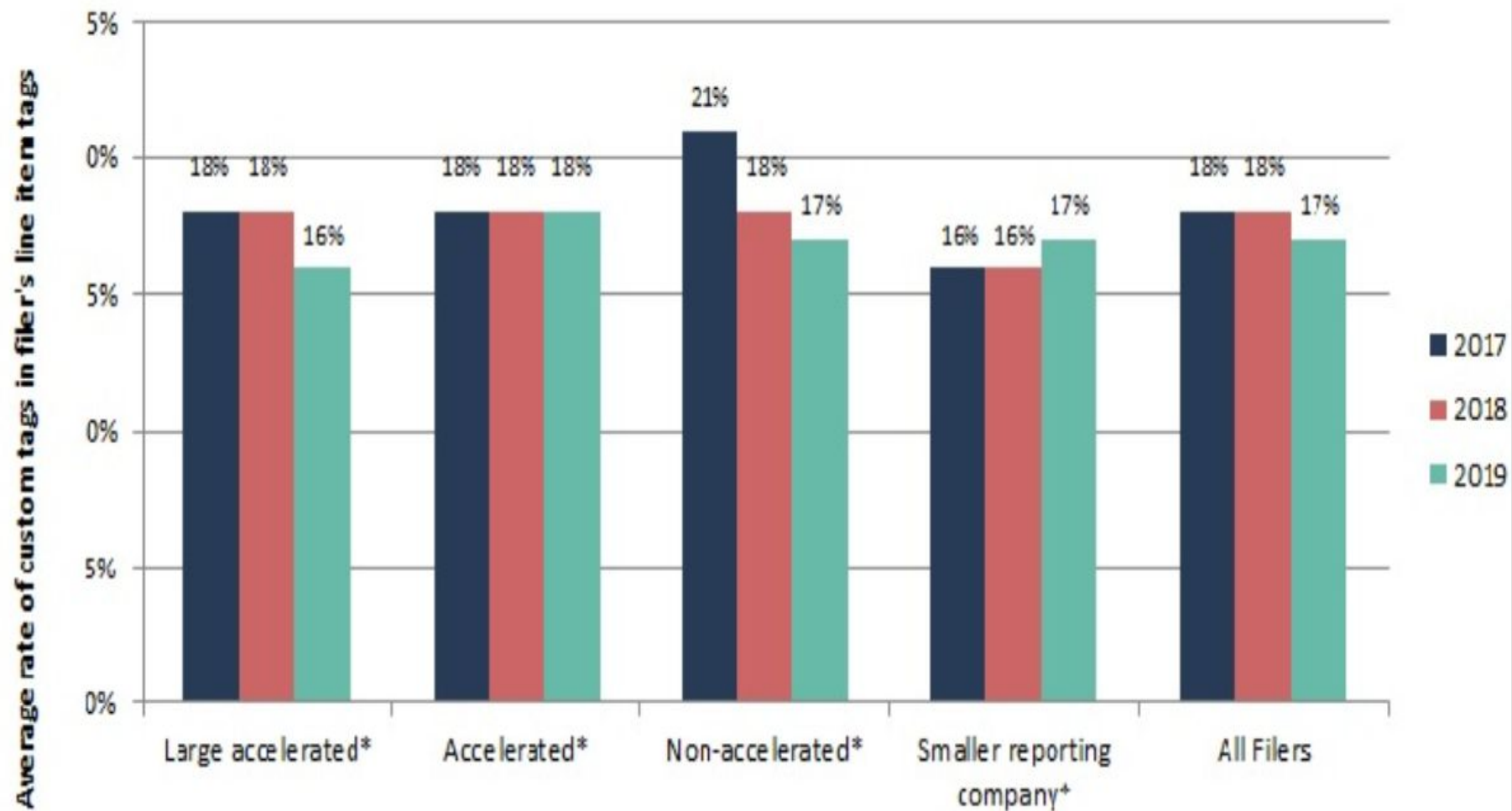


Source: Hoitash, Hoitash, and Morris (2020)
Sample: Compustat companies with matched data available at www.xbrlresearch.com



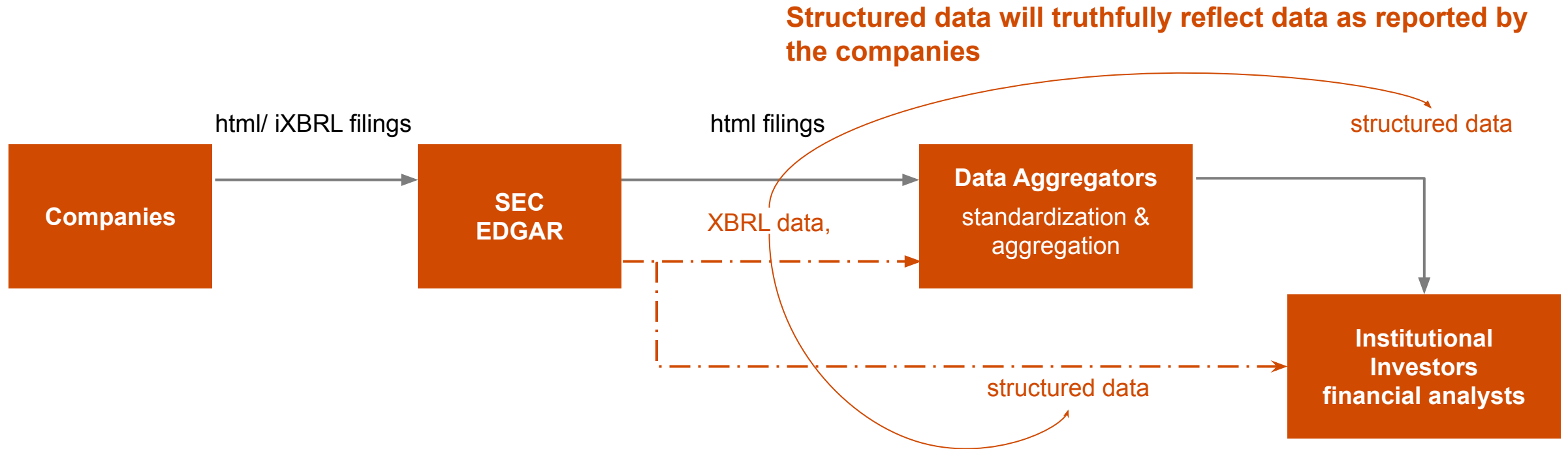
Extensions – Another look

Average Custom Tag Rates by Calendar Year – Forms 10-K and 10-K/A



Source: The SEC's [GAAP Trend Analysis 2019](#)

Tomorrow's information flow – Greater confidence?



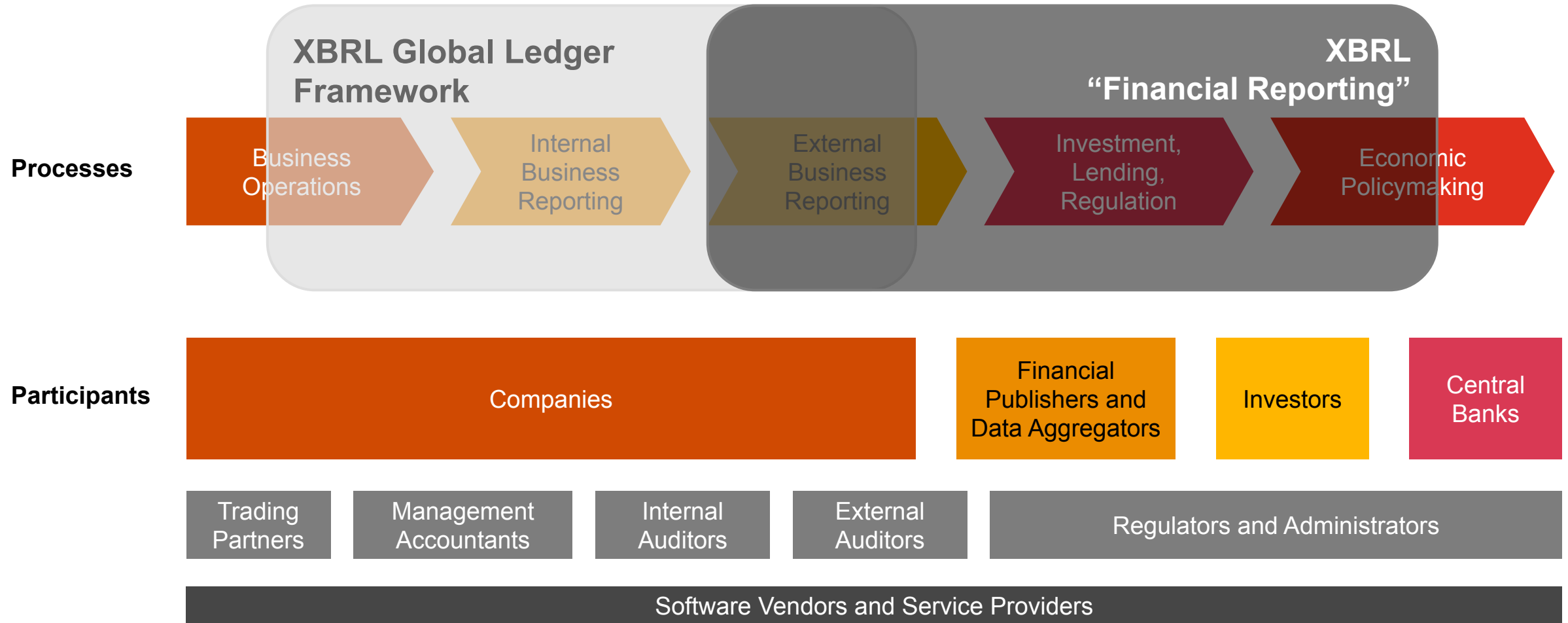
Relative to the current data aggregation models, fully capitalizing on high-quality XBRL data will benefit investors:

- lower information processing cost
- more timely access to info
- more granular & higher quality data

Tomorrow - taking advantage of the full potential of XBRL

Companies	Auditors	Investors / information intermediaries	Regulators
<ul style="list-style-type: none">• Disclosure of high-quality XBRL data to help widen the discoverability of a company's capital offerings and reporting.• Fully integrate XBRL into the financial reporting process.• Lower the cost and increase the quality of internal or external reports.	<ul style="list-style-type: none">• Streamline risk assessments and analytical procedures.• Automate audit tests using the tagged data from company information systems.	<ul style="list-style-type: none">• Access information with greater speed and precision, all at a lower cost.• Enable deeper analysis with drill-down capability from the summary numbers• Comparisons of peer data and time series information.	<ul style="list-style-type: none">• Enhanced regulatory monitoring, surveillance, and enforcement activities• Enhanced evidence to support public policy judgments.• Improving information accessibility and leveling the informational playing field among investors.

Business reporting supply chain



Source: “XBRL’s Global Ledger Framework: Exploring the standardised missing link to ERP integration,” by Eric Cohen, in *International Journal of Disclosure and Governance* (2009).



How do we get there?

Several steps in moving XBRL forward

Investors

Use of XBRL data

BE VOCAL - companies and regulators need to hear investors' questions and feedback on what's working and what's lagging



Regulators

Feedback on use of XBRL information and quality

Policy-level questions about scope and timing



Companies

Awareness of data quality

Tagging earlier in the supply chain - "point of entry" vs "point of disclosure"

Scope and timeliness - tagging earnings release information

Role of the audit committee



Auditors and others

Market-driven initiatives to improve XBRL data quality

- validation tools
- feedback loops
- assurance



Create awareness & momentum for **companies** to further standardize and digitize their data

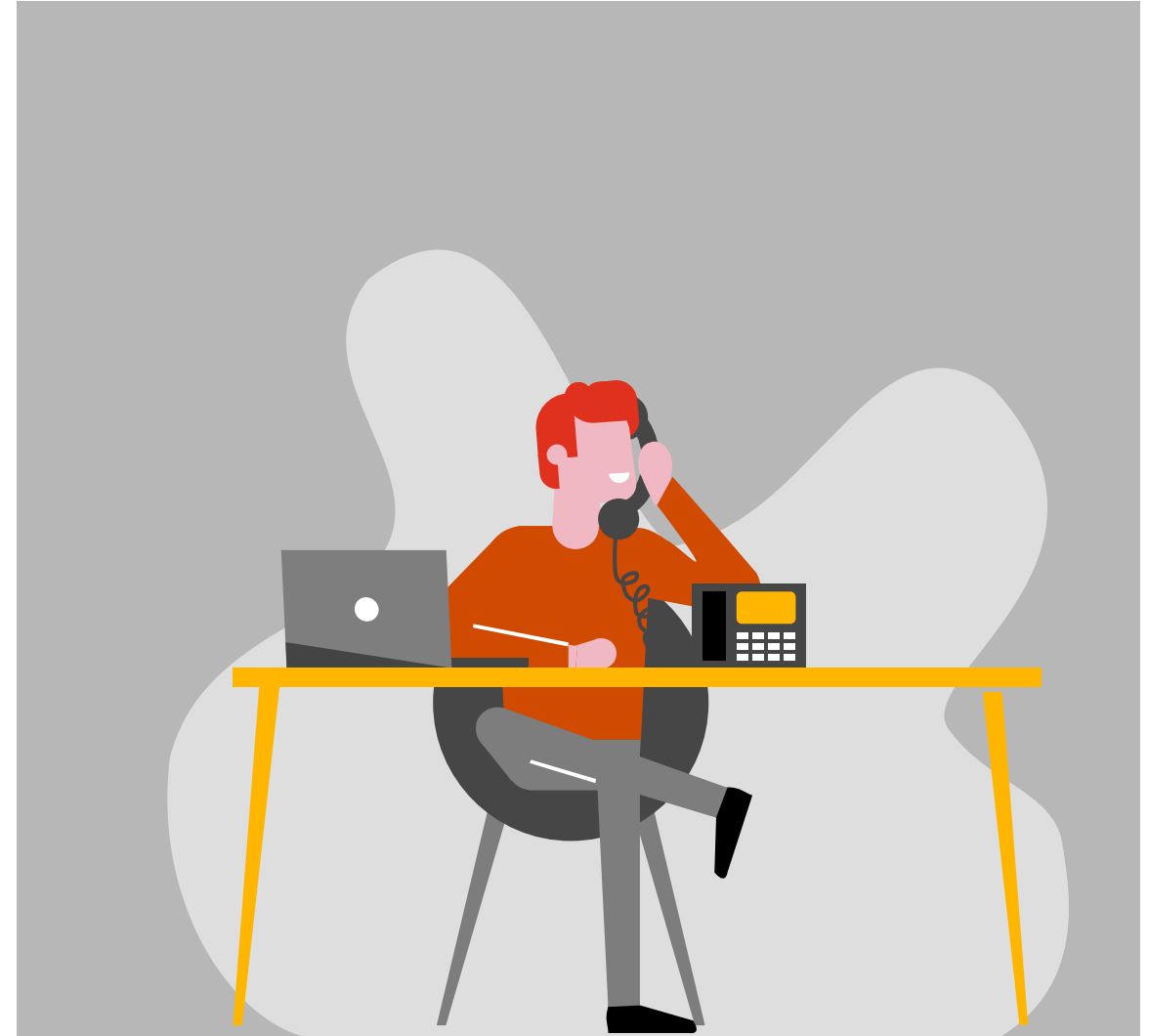
Awareness & Knowledge

- Many companies are not presently aware that XBRL data errors are released to the public.
- Some companies need feedback on the differences and similarities of their tagging compared to their peers to improve their XBRL data quality.
- XBRL quality issues can harm a company's reputation and possibly raise the cost of capital.
- Audit committee oversight of the financial reporting process may need to include awareness of the data quality errors.



Auditors and other market participants can help increase XBRL data quality (e.g., through validation tools & assurance)

- Many 3rd-party data validation tools -- e.g., *XBRL US Data Quality Committee (DQC) rules* -- help identify errors in XBRL data and increase quality.
- There remain issues that cannot be addressed by validation tools. An independent review or audit of, in particular, tagging decisions will likely improve the comparability and usability of structured data.
- The public accounting profession can help, both because of the profession's subject matter expertise in accounting & auditing, and because of the knowledge in XBRL taxonomy.





The Role of XBRL International

The role of XBRL International – a sponsor of:

- A freely available, market-driven, open, global standard for exchanging business information
- A global consortium of members
- A mandate from regulators from around the world
- A revolution for small investors and a leveler of the investment playing field
- A global agreement on business information concepts, relationships, and business rules
- A public / private innovation centre, enhancing, modernising and simplifying the data exchange standard for business reporting.



Thank you

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