

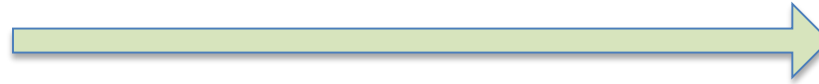
Information, Investors and Technology

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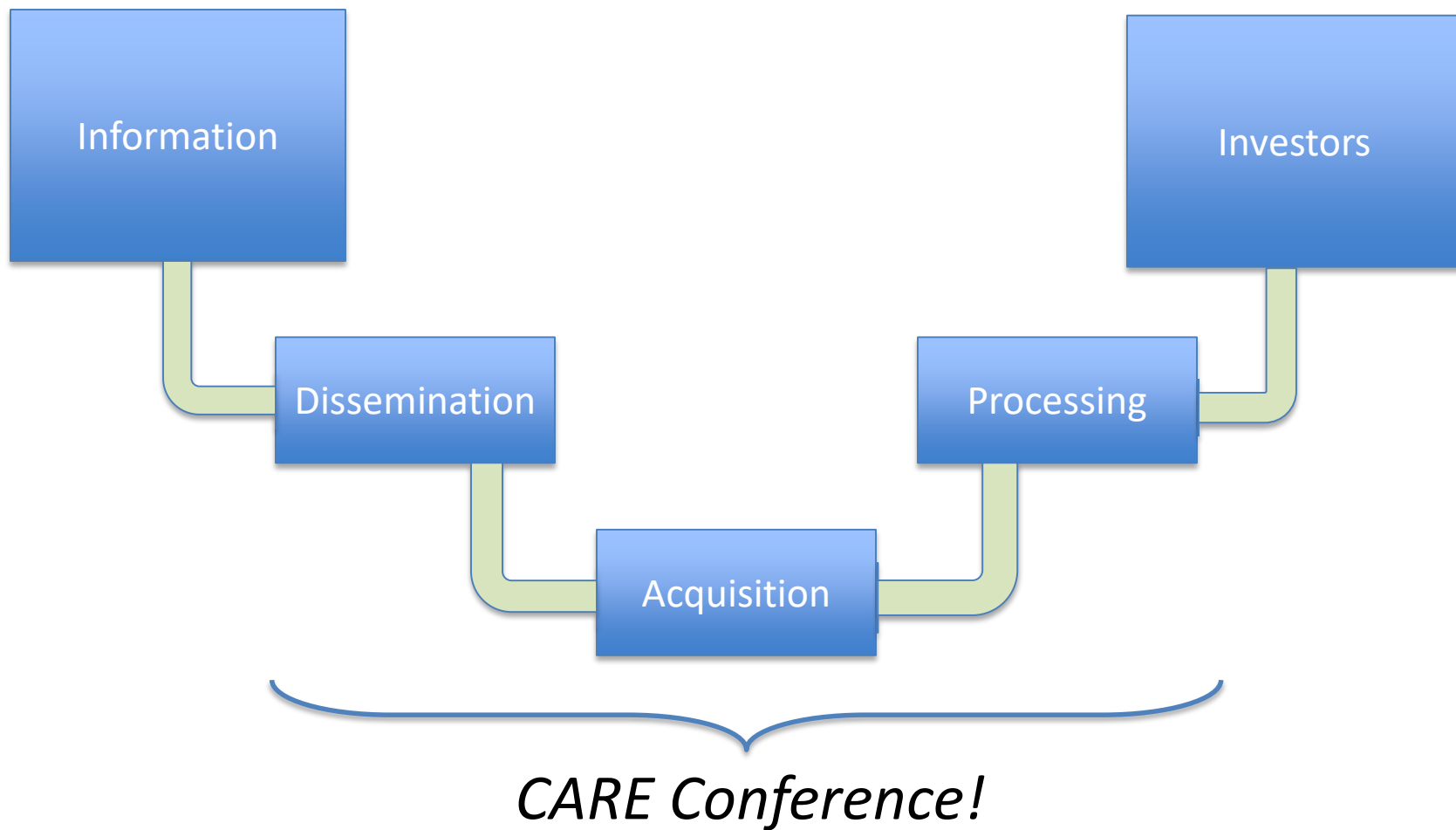
April 2013

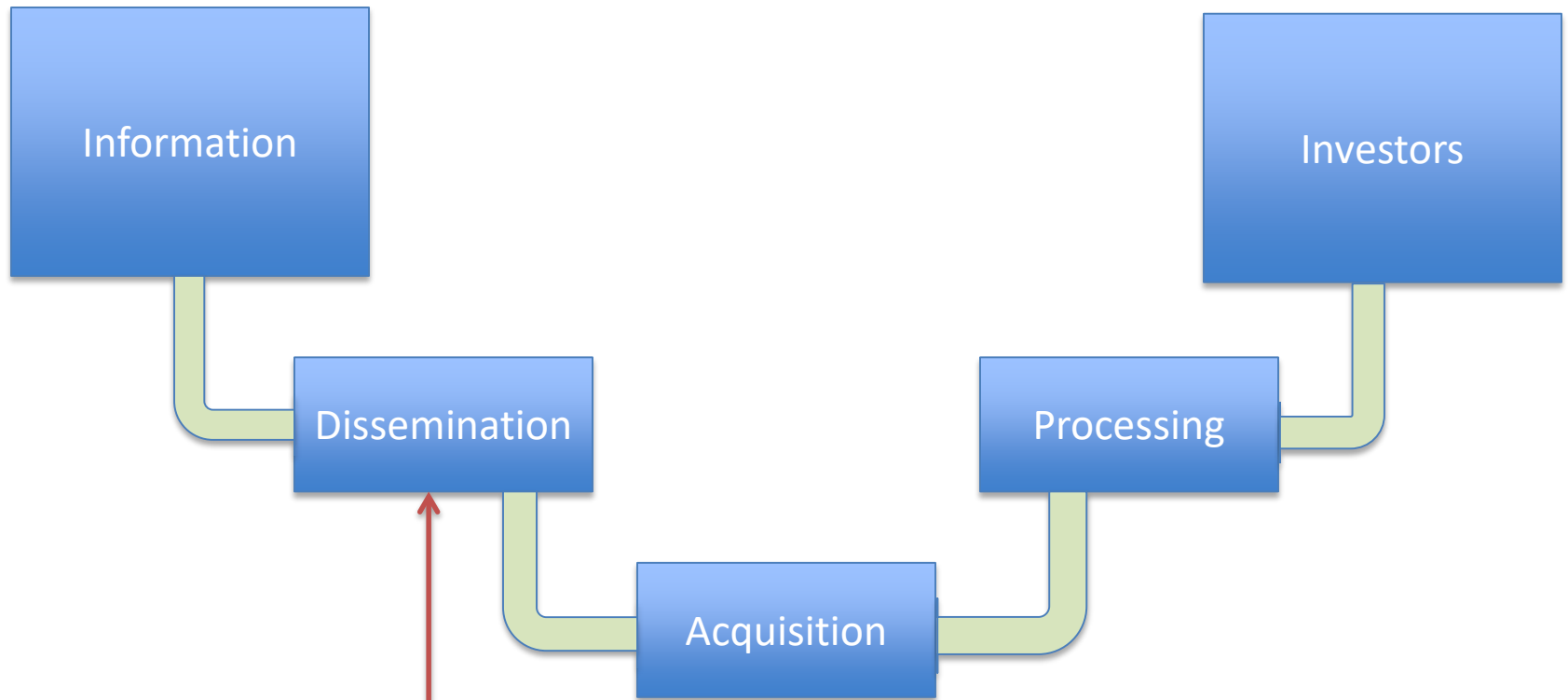


Information

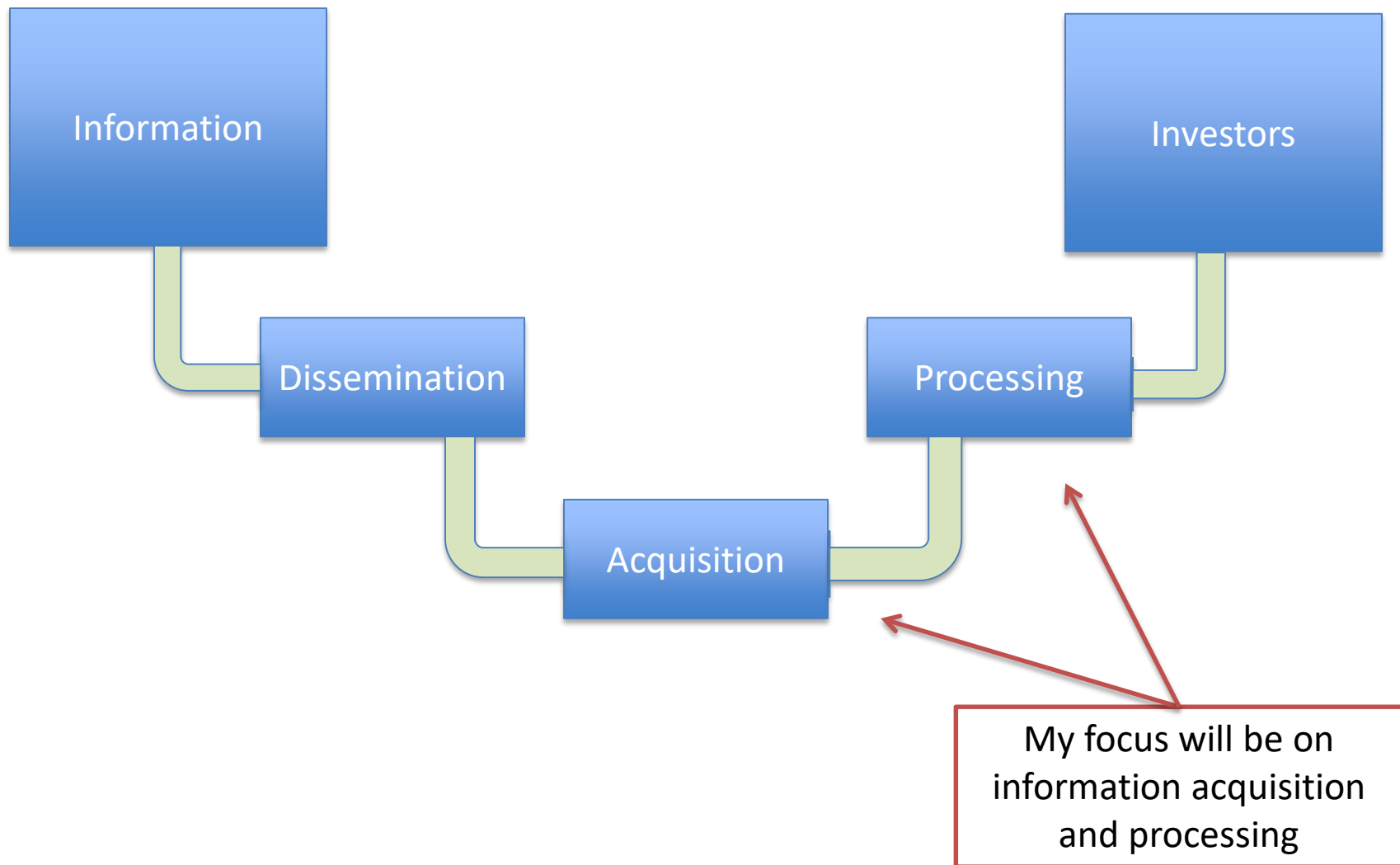


Investors





We have a burgeoning literature examining information dissemination



Information Acquisition

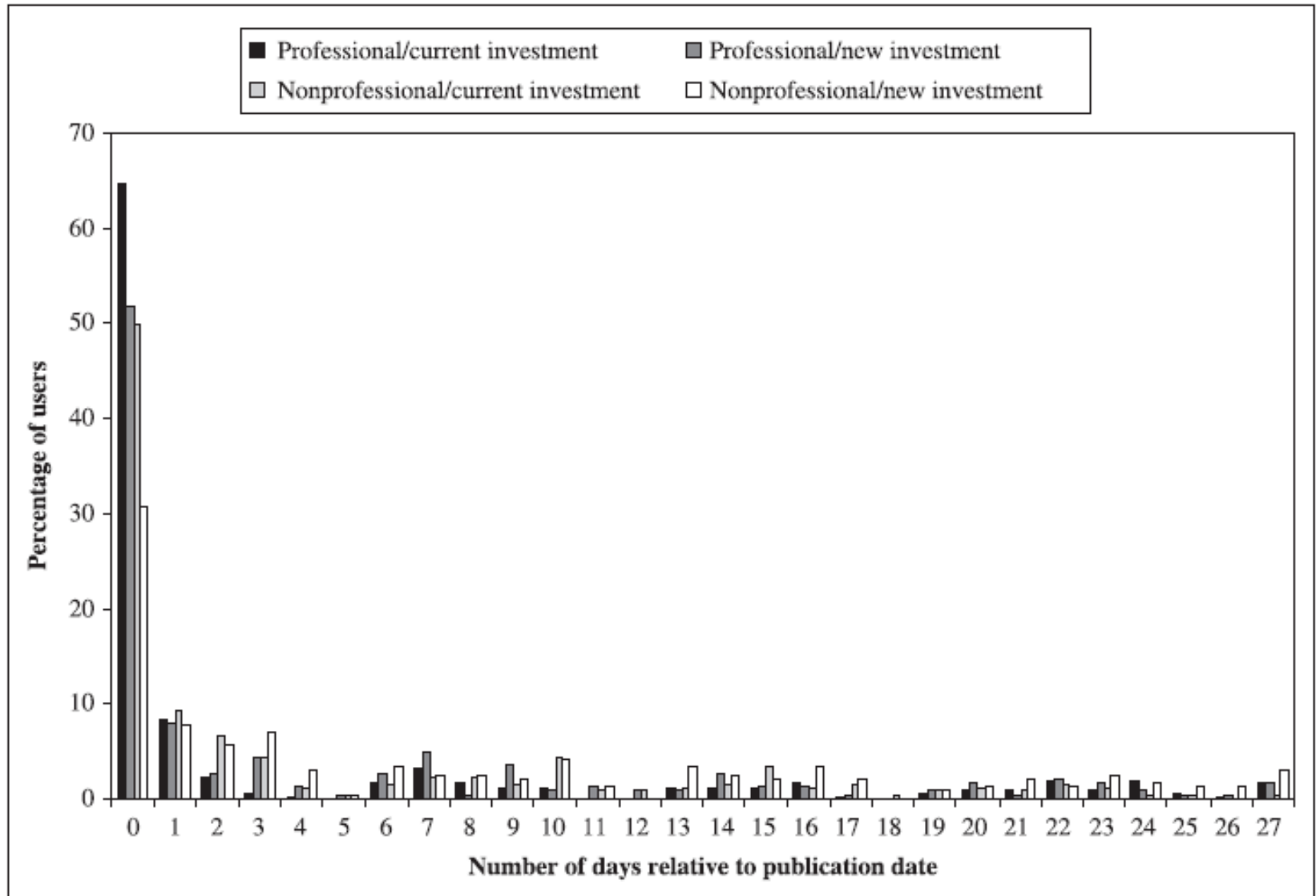
- Lev (1989) critiques the earnings-returns literature and calls for research “*aimed at understanding the actual use of reported data by investors*”
- It’s taken us several decades to answer that call
 - Very little data on investor actions!
 - Analytical, experimental and behavioral research has moved beyond empirical research on the issue.
 - “As empiricists, we rarely observe the aggregate interest of investors other than via equilibrium outcomes such as volume and returns.” Da et al (2011).
- My goal: talk about how empiricists are beginning to measure financial information acquisition.

Empirical evidence on how investors acquire financial information

- Investor relations websites
 - Hodge and Pronk (2006)
- Stock message boards
 - Wysocki (1998); Lerman (2011)
- Google
 - Da, Engelberg, Gao (2011); Drake, Roulstone, Thornock (2012)
- EDGAR
 - Drake, Roulstone, Thornock (2013a/b); Ma (2013)

How do investors get financial information?

- **Investor relations websites**
 - Hodge and Pronk (2006)
 - Philips Electronics provided data on investor access to the IR webpage
 - Authors able to categorize users as professional vs non-professional
 - Find that:
 - Shareholders are not the only relevant party! Philips employees, financial analysts, and shareholders make up largest groups of visitors
 - Professional investors use financial statements more; non-professionals use the MD&A more



How do investors get financial information?

- **Yahoo! message boards**
 - Wysocki (1998); Lerman (2011)
 - Top ten words: earnings, cash, dividend, buyback, revenue, PE, asset, current report, EPS, expense
 - The average firm is has 5 messages per day; spikes to 20 messages on EA dates
 - Greatest spike in activity associated with bankruptcy and trigger events

How do investors get financial information?

- **Internet Search**

- Da et al (2011) – weekly Google search volume for stock tickers

- Unique measure of investor attention that is more timely than other measures of attention
 - Associated with retail investor trading
 - Leads to returns reversal in general
 - Positively associated IPO over- and under-performance

Panel B. Cross-sectional average ASVI around IPO

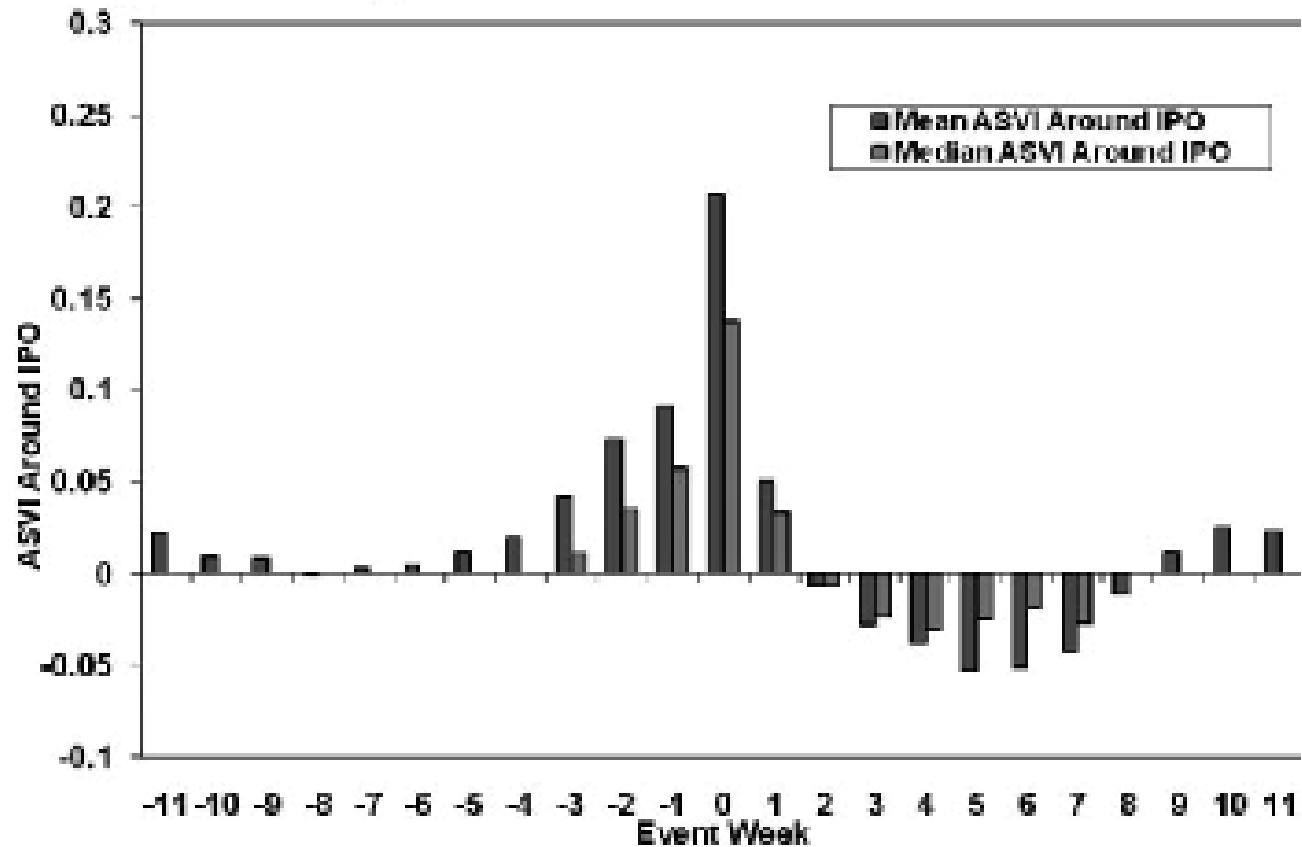
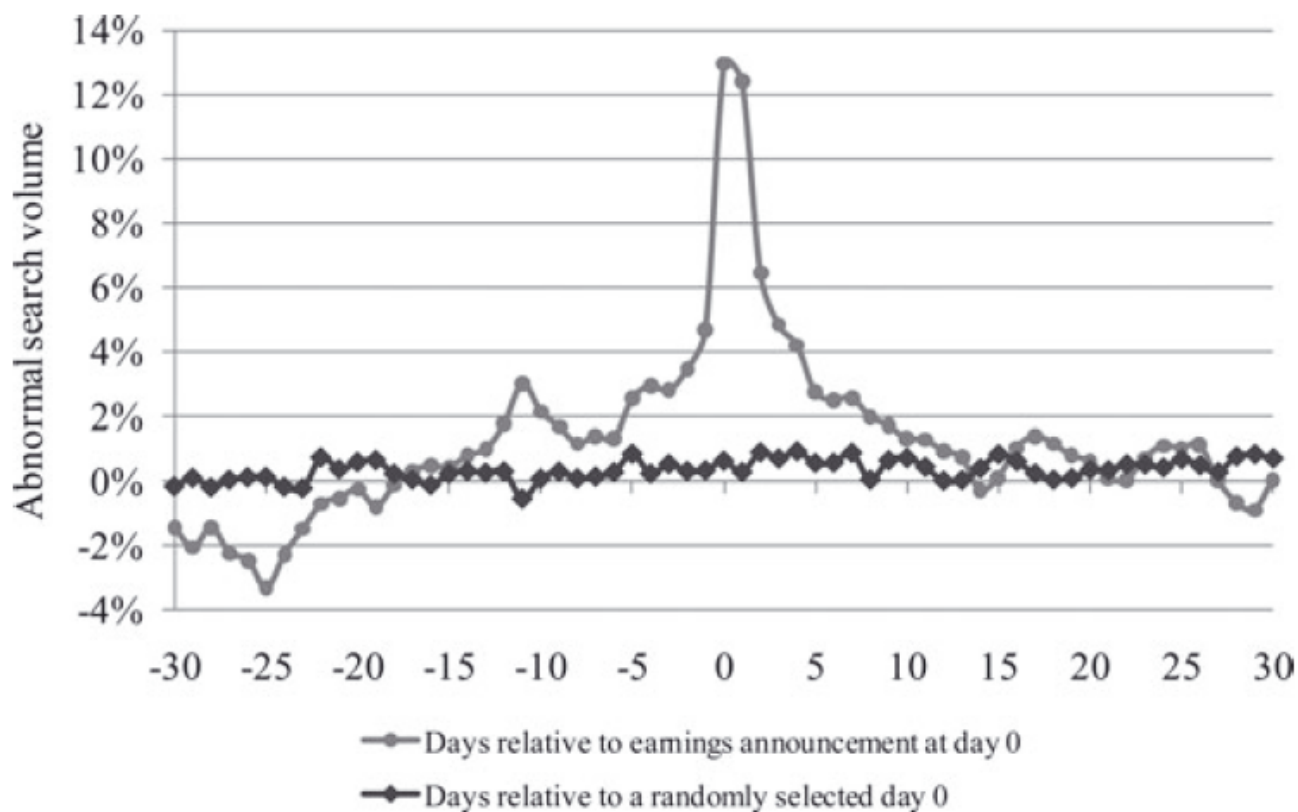


Figure 2. Average SVI and Abnormal SVI (ASVI) around IPO. Panel A plots the cross-

How do investors get financial information?

- Internet Search

- Drake et al (2012) – daily Google search volume for S&P 500



How do investors get financial information?

- SEC's EDGAR website
 - Drake, Roulstone and Thornock (2012, 2013)
- Web Server Log – records all traffic on EDGAR servers
 - Each “click” or “request” is recorded in the server
- With the data, we can observe
 - **Who** makes the request (Partial IP Address)
 - **When** they make the request (time/date stamp)
 - **Which** firms they are interested in (CIK)
 - **What** information they request (filing type)
- Caveats: other data sources; who?

EDGAR Descriptive Stats

- During the month of June, 2011
 - Total number of clicks on EDGAR: **~42,000,000**
 - By our rough estimation, about 35M were robots and 7M were humans
 - # Unique human users: **433,000**
 - Avg # clicks during month: **15** (median=1)
 - Avg # unique firms a user hits on EDGAR per day: **4**
 - Unique form types requested during sample period: **574**

Table 1 – Which Filings are used by Investors?
Descriptive Statistics on Individual and Automated Requests on EDGAR

Panel A: Aggregate Weekly Individual Requests

Form	Mean	Median	Std	Min	Max	Total	% of Total	
10-K	642,927	615,487	178,666	205,172	917,060	18,001,955	22%	← #1
10-Q	360,365	379,456	102,019	181,496	611,422	10,090,231	12%	
8-K	434,114	434,656	78,944	223,434	566,953	12,155,194	15%	← #2
424	129,036	132,823	18,215	73,685	156,771	3,613,016	4%	
S	176,703	182,104	28,367	94,556	216,415	4,947,685	6%	
SC	133,777	123,474	51,213	66,505	350,504	3,745,743	5%	
4	246,952	251,886	39,106	116,948	292,544	6,914,651	9%	
DEF	223,015	222,809	52,484	93,824	312,400	6,244,419	8%	
Other	553,154	579,414	90,749	290,197	713,127	15,488,316	19%	
						81,201,210		

Punchline: 10-Ks are the most popular form for individuals using EDGAR, followed by the 8-K and the 10-Q.

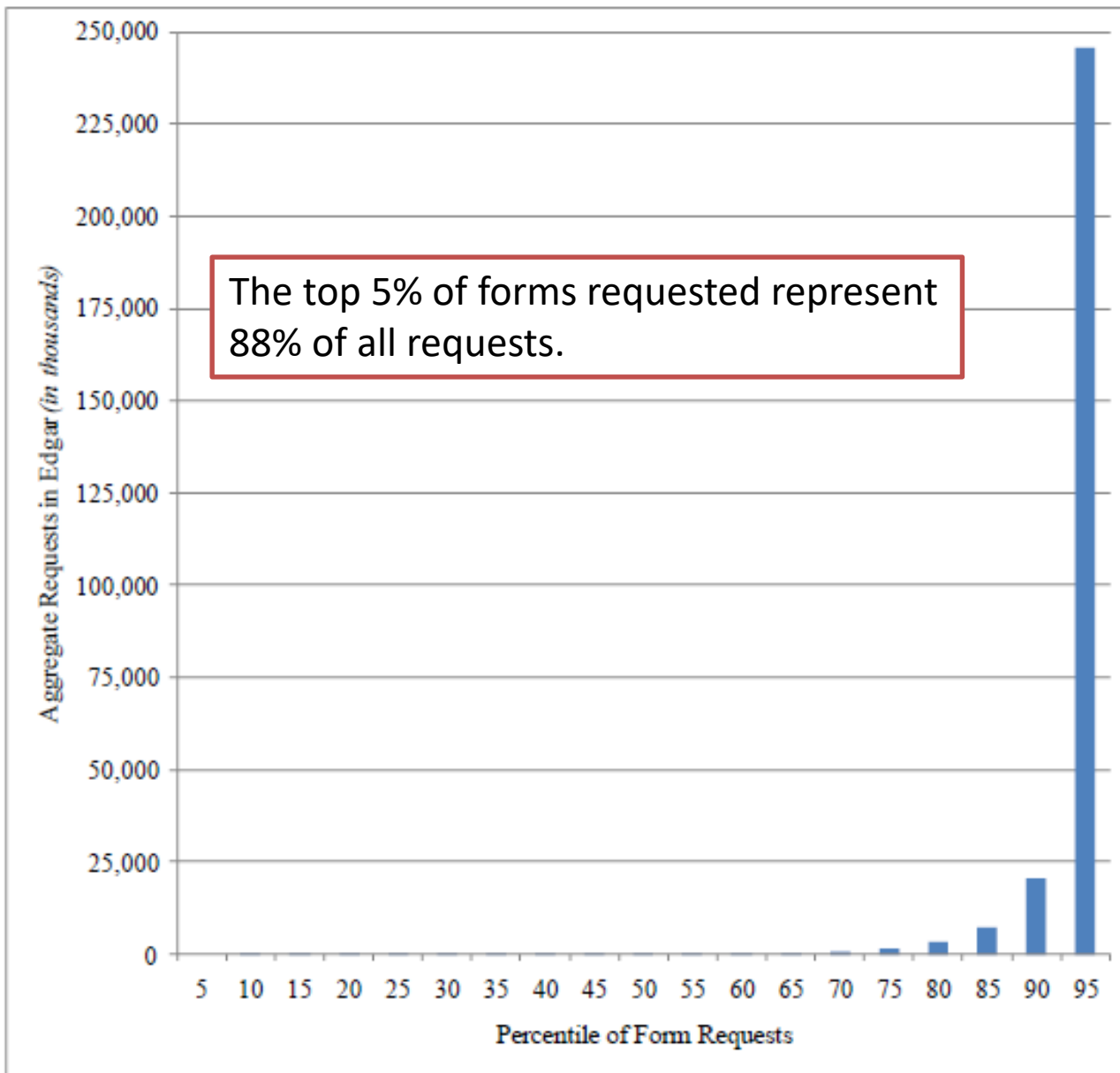
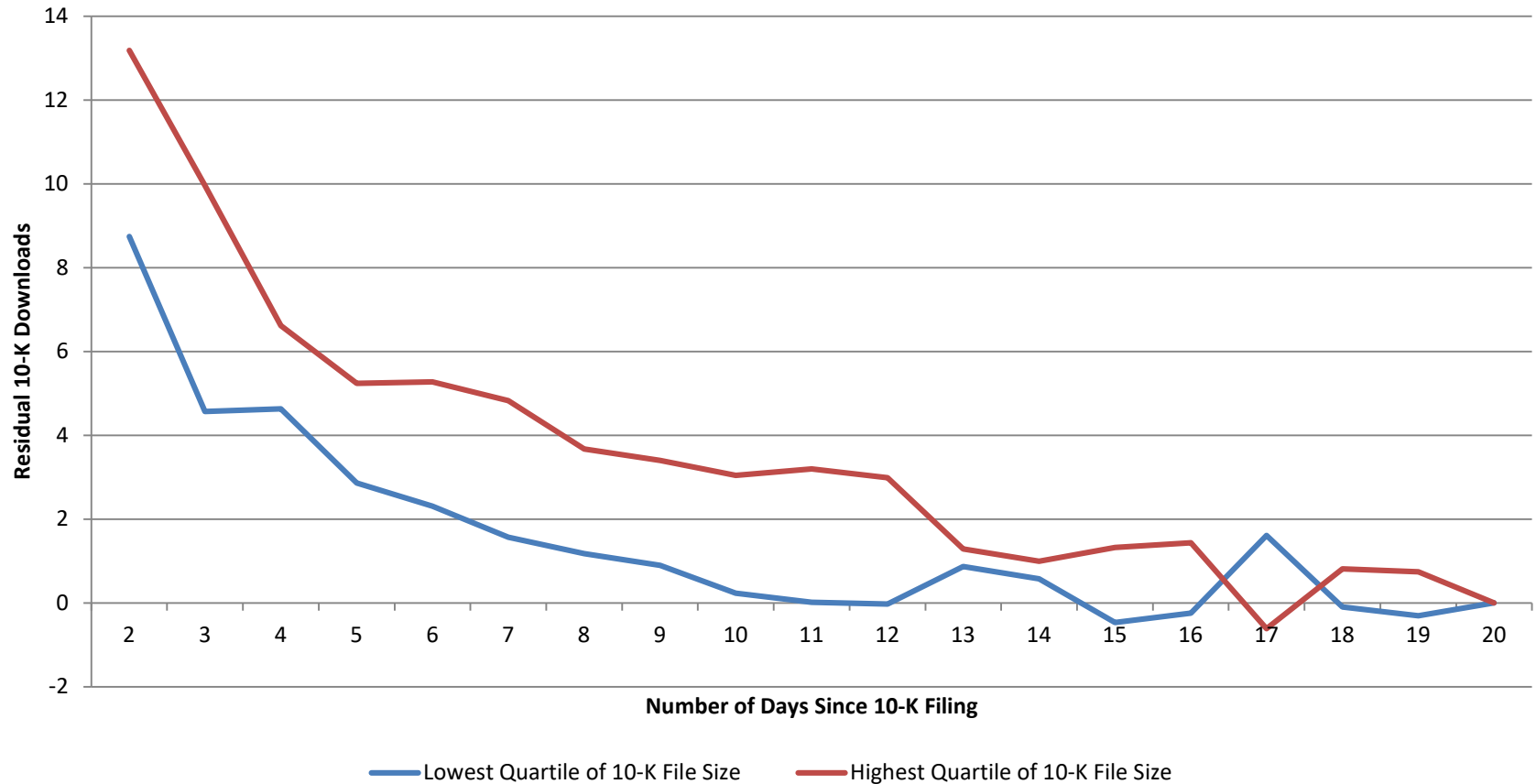


Figure 3

Punchline: EDGAR requests are concentrated in a small set of form types. Most forms are modestly requested.

Are investors overloaded by huge/unreadable 10-Ks?



Are investors overloaded by huge/unreadable 10-Ks?

- Investors continue to download a particular 10-K when it is
 - Large (i.e., file size)
 - Dense (i.e., number of words) and
 - Complex (i.e., FOG)
- The continual downloads of 10-Ks is
 - Associated with more repeat business
 - Associated with greater post-filing returns drift

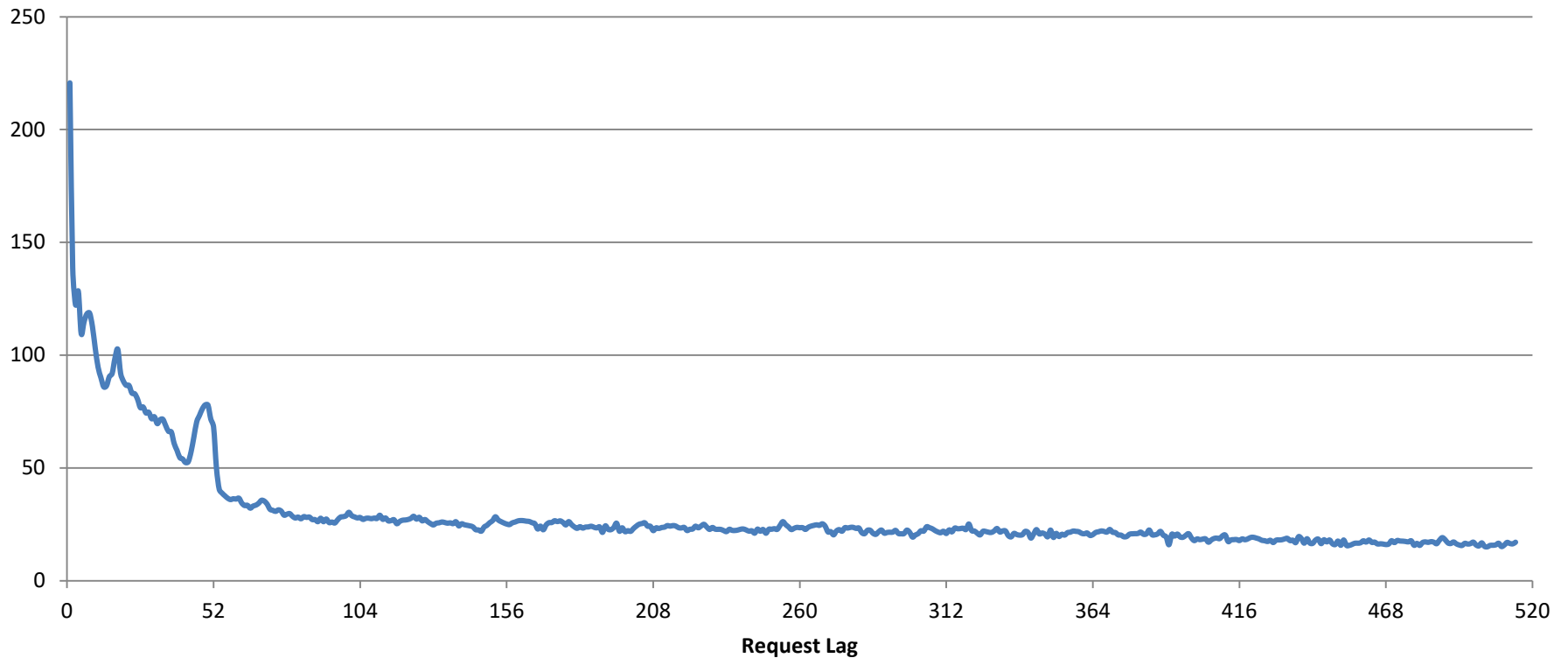
Summary

- **With new data, we're moving forward to answer age-old questions!**
- **Still a lot to do!**

Thank you

Do Financial Disclosures Become Stale?

Weekly Requests for 10-K Filings by Request Lag



- **Are these historical disclosures useless?**
- **No:**
 - **The more users acquire historical EDGAR data, the more subsequent returns/volume move**
 - **Driven by**
 - **Understanding the forward-looking information in 10-K**
 - **Understanding the resolution of accounting accruals**