

Prof. Dr. Alexander Hillert

# Textual Analysis

# Chapter 3: Database overview

July 18, 20, and 22, 2022

WHU – Otto Beisheim School of Management

# Agenda



# **Database overview**

- 1. Newspapers, magazines, newswires
  - LexisNexis
  - Factiva
  - Proquest historical newspaper archive
- 2. EDGAR system of the SEC
  - Common types of filings
  - Linking CRSP/Compustat with EDGAR
  - File and folder structure
  - Identification of files
- 3. Other databases



# 1. Newspapers, magazines, newswires

# LexisNexis, Factiva, Proquest



# LexisNexis and Proquest should be accessible via the webpage of WHU's library

https://www.whu.edu/de/programme/studentisches-leben/bibliothek/

Einen Überblick über das Angebot erhalten Sie hier:

ABI/Inform Proquest	Internationale wirtschaftswissenschaftliche Medien
EBSCO Business Source	120 peer-reviewed Zeitschriften im Bereich Management und Wirtschaft
EIU Country Reports	EIU Länderberichte; politische und volkswirtschaftliche Analysen und Prognosen für 189 Länder
FT Financial Times	The Financial Times online (FT) ist eine internationale Tageszeitung für Wirtschaftsnachrichten
JSTOR I-VI	Zeitschriftenarchiv Packet "Art + Sciences"
Lexis Nexis	Wirtschaftsnachrichten, juristische Zeitungen und Nachrichtenmagazine, aus den USA und der ganzen Welt sowie lokale Publikationen

On the subsequent slides, you see screenshots using a Goethe Uni account which should, however, not result in major differences.

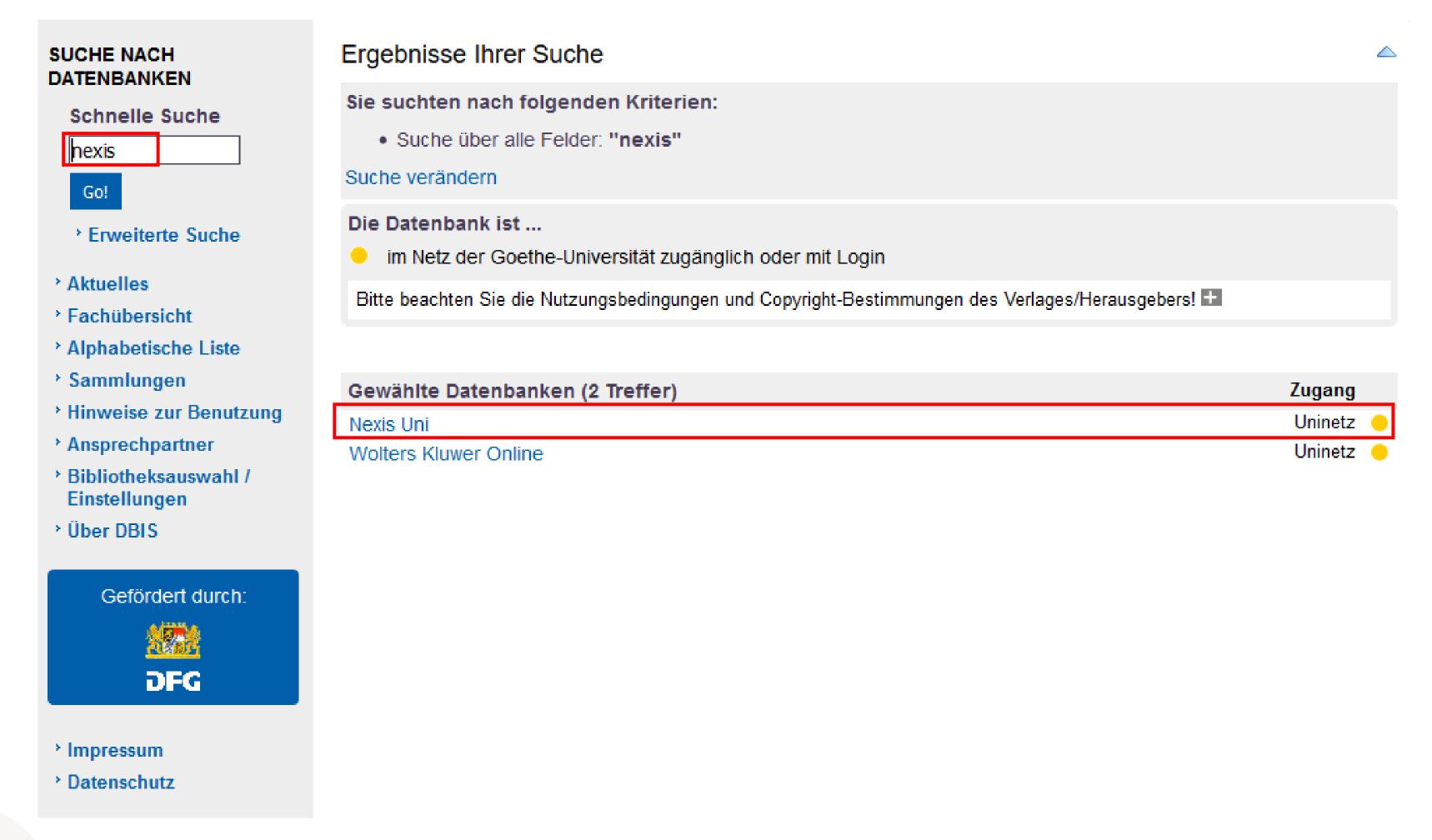
# LexisNexis (1)



LexisNexis (now called Nexis)

• You (probably) need to be connected to WHU's network and/or login in with your WHU account

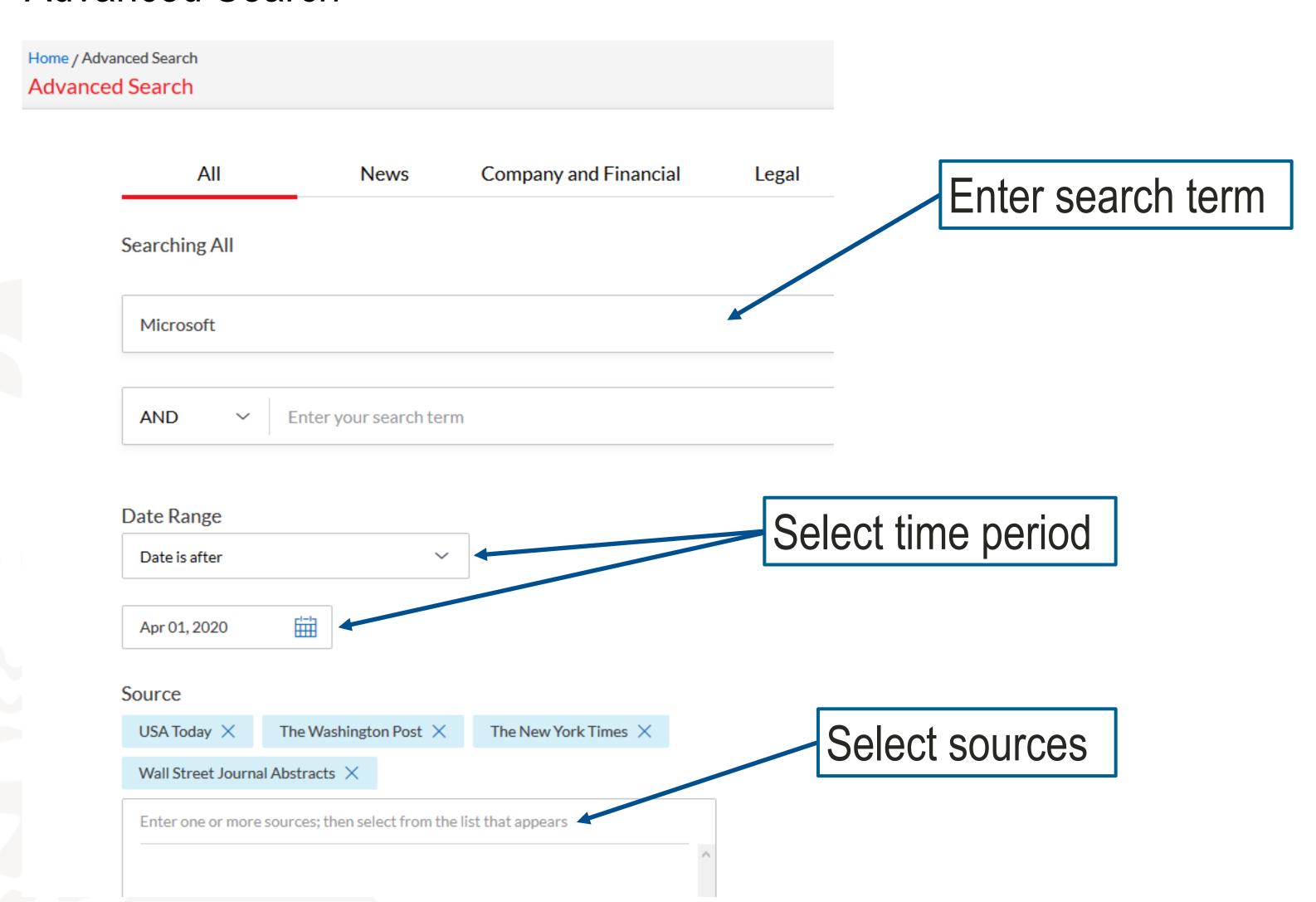
to get access!







#### Advanced Search



# LexisNexis (3)



Sign In | Register

⊕ EN 🌱

Modify search request

Click here to

download

articles → new

window will

open

Results for:Microsoft | Actions > News Get Narrow By USA Today or The Washington Post or The New York Times or Wall Street Journal Abstracts After Apr 01, 2020 ☆ Clear ↑ Search Within Results Q Enter search terms → Timeline ∨ Location by Publication Publication Type ∨ Subject

Nevis Uni<sup>®</sup> Menu∨

USA Today; The

Washington Post;

Microsoft

the accusation. On April 10, Microsoft uploaded a film to its ...

Microsoft took it down on April 14. "We recognize that our association ...

... with this project served as a catalyst for online attacks," a Microsoft spokeswoman said in an email....

Home / Advanced Search / Results G Select Language ▼ Group Duplicates: ? On News (80) Sort by: Relevance V 'Minecraft' content is made available for free;Microsoft looks to help students in down time during coronavirus News | U.S. Federal; Dist. of Columbia; Washington | 1098 Words | Apr 14, 2020 | Mike Snider USA TODAY | USA Today Preview ... or PS4 - you need to sign up for a free Microsoft account. Nintendo Switch players can play online, too, or connect four ... ... are using "Minecraft: Education Edition" in 115 countries. Earlier this month, Microsoft made "Minecraft: Education Edition" available free to teachers who have an ... ... than it has ever been." Most workers in Seattle , where Microsoft is headquartered, have been working at home for nearly three weeks. ... ... the global impact of the coronavirus pandemic will disrupt any of Microsoft 's plans. In China, where the game console is manufactured, "the ... ... 'Minecraft' content is made available for free Microsoft looks to help students in down time during coronavirus Mike SniderUSA TODAY Microsoft wants to help students flex their mental muscles even if they ... ... work-from-home and school-from-home scenarios to help them out," said Phil Spencer, Microsoft 's head of Xbox. The content can be found on "Minecraft" ... □ 2. Marina Abramovic Just Wants Conspiracy Theorists to Let Her Be Preview News New York | 1198 Words | Apr 21, 2020 | Alex Marshall | The New York Times

... media platforms. An article on the conspiracy theory website Infowars accused Microsoft of working with a "witch," a "black magic performer"

... a Satanist," the performance artist said after an online outcry prompted Microsoft to take down a video of her. It's not the first time she's faced

... limit. Ms. Abramovic's work can be violent, sometimes bloody, but the Microsoft video was more innocuous: It was focused on "The Life," in ...

... a Satanist," the performance artist said after an online outcry prompted Microsoft to take down a video of her. It's not the first ...

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# LexisNexis (4)



# Example

- Text in bold indicates searchable items.
- Percentages in parentheses (e.g., "Subject", "Company") indicate relevance scores.

#### 20 stocks to buy in

USA TODAY

December 30, 2019 Monday, FIRST EDITION

Copyright 2019 Gannett Company, Inc. All Rights Reserved

Section: MONEY; Pg. 1B

Length: 1318 words

Byline: Jessica MentonUSA TODAY

#### Body

After a stellar 2019, investors look ahead to 2020 for stock picks. Analysts are skeptical that the stock market's gains, which are at more than 20% in 2019, will remain in the double-digit percentage range next year. They expect volatility to return in the midst of a U.S. presidential election. Some investors wait for stocks to get cheaper before they step in and scoop up buying opportunities. Companies poised to outperform, they say, will be ones that can continue to grow their earnings even if the economy slows. From iPhone maker Apple to beverage giant Coca-Cola to e-commerce titan Amazon, USA TODAY offers 20 stock picks for 2020 based on research reports and interviews with Wall Street stock analysts.

Apple (AAPL)

Strong demand for Apple's 5G iPhone next fall is projected to boost the company in 2020, says Piper Jaffray analyst Michael Olson. In December, Olson reiterated his "overweight" rating on the stock and raised his 12-month price target to \$305 from \$290, citing robust iPhone demand and better-than-expected performance in wearables such as the Apple Watch, AirPods and AirPods Pro. Apple shares finished Thursday at \$289.91.

#### Classification

Language: ENGLISH

Publication-Type: NEWSPAPER

Subject: SECURITIES & OTHER INVESTMENTS (91%); INTERNET RETAILING (90%); MANUFACTURING OUTPUT (90%); REPORTS, REVIEWS & SECTIONS (90%); COMPUTER & SOFTWARE STORES (90%); STOCK EXCHANGES (90%); BROKER RECOMMENDATIONS (90%); INVESTMENT ADVISERS (90%); INDUSTRY ANALYSTS (89%); BUSINESS FORECASTS (89%); STOCK PRICES (89%); HOLDING COMPANIES (89%); NEW ISSUES (89%); SECURITIES BROKERS (88%); FINANCIAL RATINGS (78%); DIVIDENDS (78%); OUTPUT & DEMAND (78%); COMPANY EARNINGS (78%); INVESTMENT MANAGEMENT (78%); SALES FIGURES (78%); SALES & SELLING (77%); US PRESIDENTS (74%); RESEARCH REPORTS (73%); ECONOMIC DECLINE (70%); BUSINESS REPORTS & FORECASTS (58%); US PRESIDENTIAL ELECTIONS (57%); ELECTRONIC COMMERCE (55%)

Company: APPLE INC (96%); AMAZON.COM INC (84%); COCA-COLA CO (84%); MICROSOFT CORP (82%); WALT DISNEY CO (81%); NIKE INC (80%); PIPER JAFFRAY COS (56%); BANK OF AMERICA CORP (55%)

Ticker: AAPL (NASDAQ) (96%); AMZN (NASDAQ) (84%); KO (NYSE) (84%); MSFT (NASDAQ) (82%); DIS (NYSE) (81%); NKE (NYSE) (80%); PJC (NYSE) (56%); BAC (NYSE) (55%); BAC (LSE) (55%); 8648 (TSE) (55%)

Industry: NAICS423430 COMPUTER & COMPUTER PERIPHERAL EQUIPMENT & SOFTWARE MERCHANT WHOLESALERS (96%); NAICS334413 SEMICONDUCTOR & RELATED DEVICE MANUFACTURING (96%); NAICS334112 COMPUTER STORAGE DEVICE MANUFACTURING (96%); NAICS334111 ELECTRONIC COMPUTER MANUFACTURING (96%); SIC5045 COMPUTERS & COMPUTER PERIPHERAL EQUIPMENT & SOFTWARE (96%); SIC3674 SEMICONDUCTORS & RELATED DEVICES (96%); SIC3577 COMPUTER PERIPHERAL EQUIPMENT, NEC (96%); SIC3572 COMPUTER STORAGE DEVICES (96%); SIC3571 ELECTRONIC COMPUTERS (96%); NAICS454110 ELECTRONIC SHOPPING AND MAIL-ORDER HOUSES (84%); SIC5961 CATALOG & MAIL-ORDER HOUSES (84%); NAICS312111 SOFT DRINK MANUFACTURING (84%); SIC2086 BOTTLED & CANNED SOFT DRINKS & CARBONATED WATER (84%); NAICS511210 SOFTWARE PUBLISHERS (82%); SIC7372 PREPACKAGED SOFTWARE (82%); NAICS713110

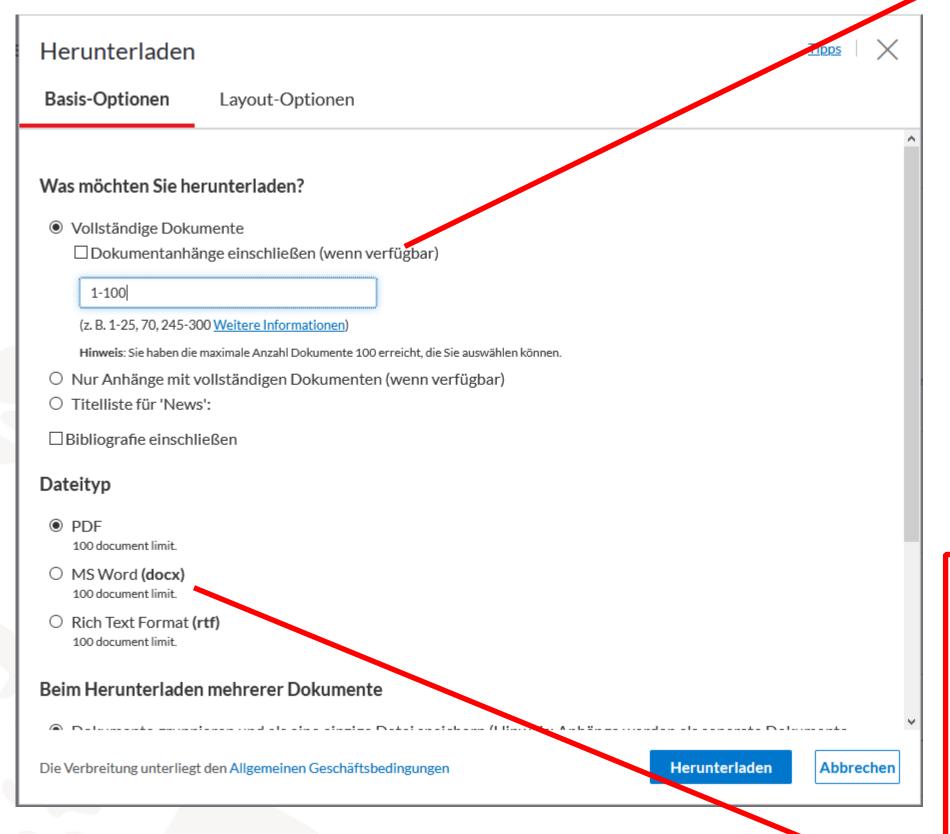
# LexisNexis (5)



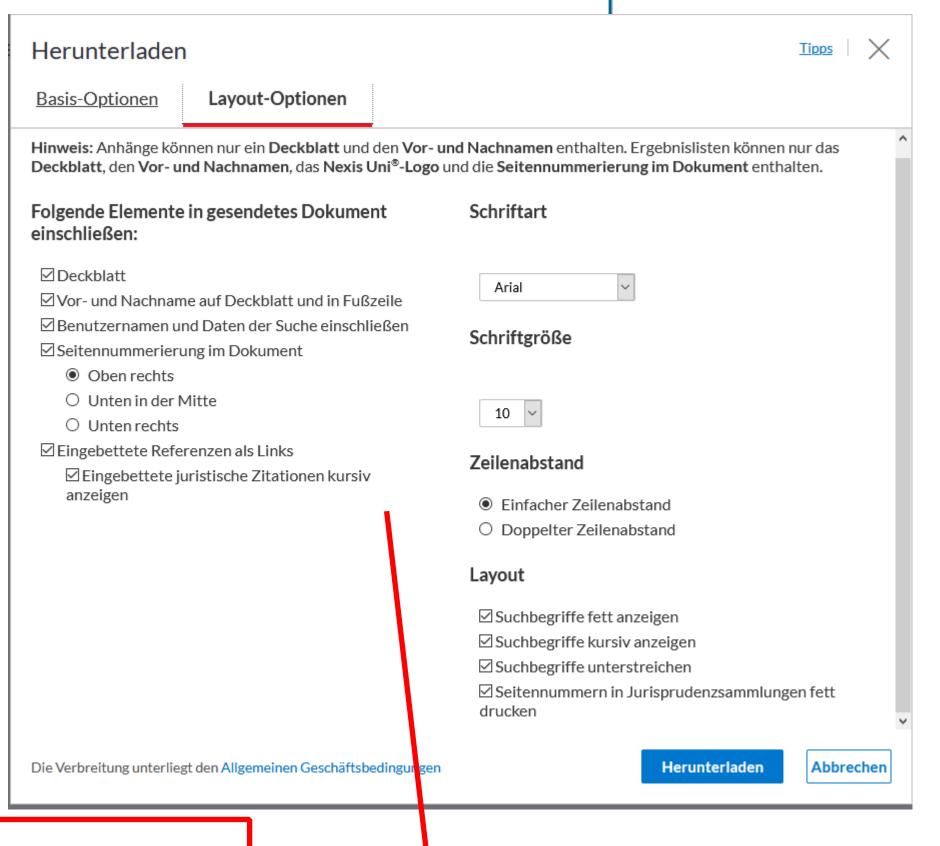
#### **Search terms**

- 'Microsoft' → all articles containing the word 'Microsoft'
- 'Company("Microsoft Corp")' → all articles assigned to Microsoft Corp.
- 'Company("Microsoft Corp (9\*%)")'  $\rightarrow$  all articles assigned to Microsoft Corp with a relevance score of 90 and more.
  - → As of April 23, 2021 this request seems no longer to work.
- Always check whether the articles really match the company.
   Example: Be Inc (permno 87101, gvkey 122075)
- You can use additional search filters, e.g., document length.

# LexisNexis (6)



The maximum # of documents per download is 100 → split in batches of 100, i.e. 1-100, 101-200, ...



Use docx format → in Python

- 1. Install the docx2txt package: pip install docx2txt
- 2. To open the docx in Python:
  - I. import docx2txt
  - II. document\_text =
     docx2txt.process("test.docx")
  - III. print(document\_text)

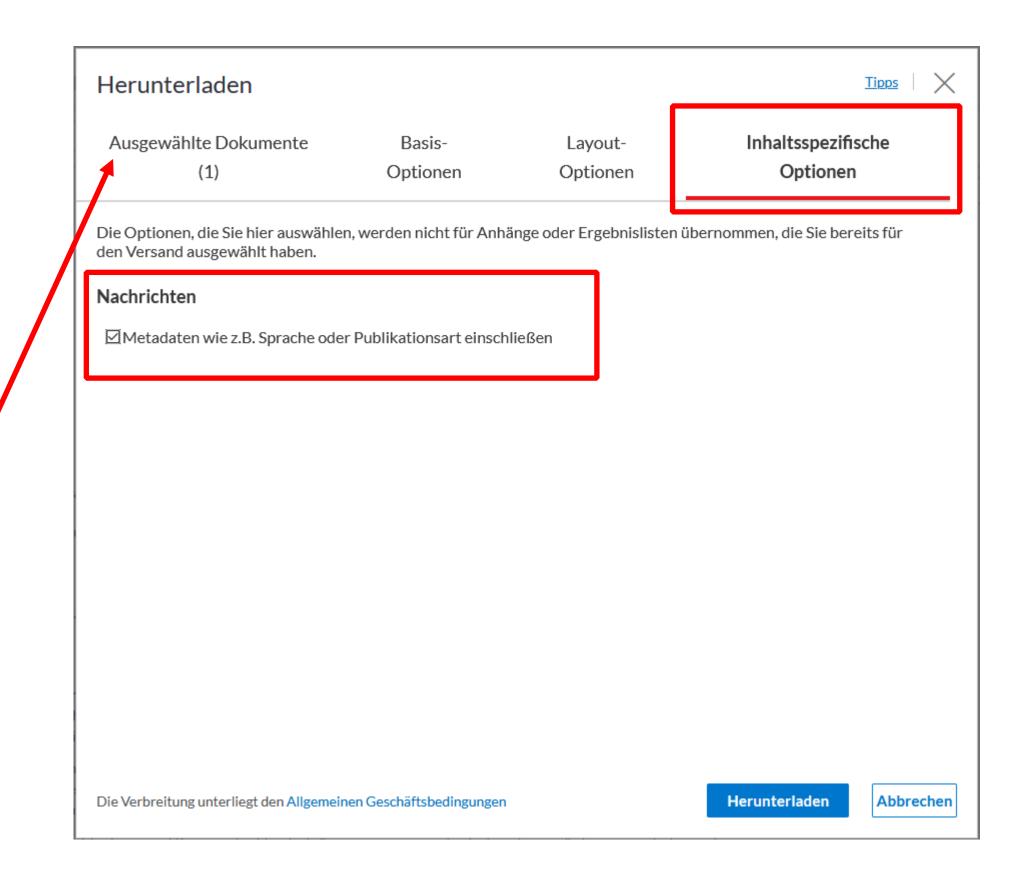
You can keep the default layout options.

# LexisNexis (7)



# Current issues with LexisNexis

- Database is slow to process requests.
- There seems to be no way to include the document details (see <u>slide 8</u>) in the batch download.
  - → alternative: use individual downloads or click trough the documents and copy-paste the information.

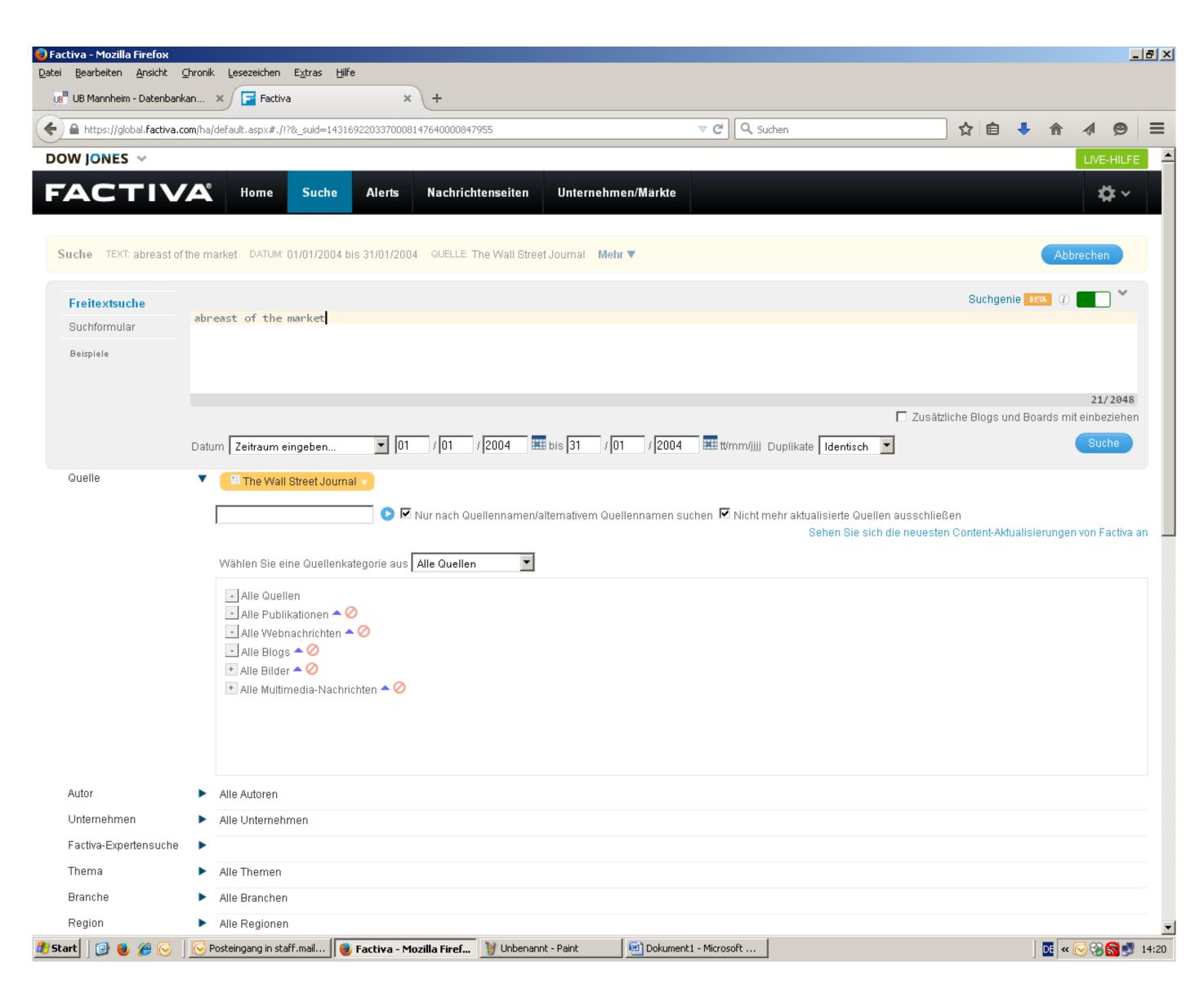


# Factiva (1)



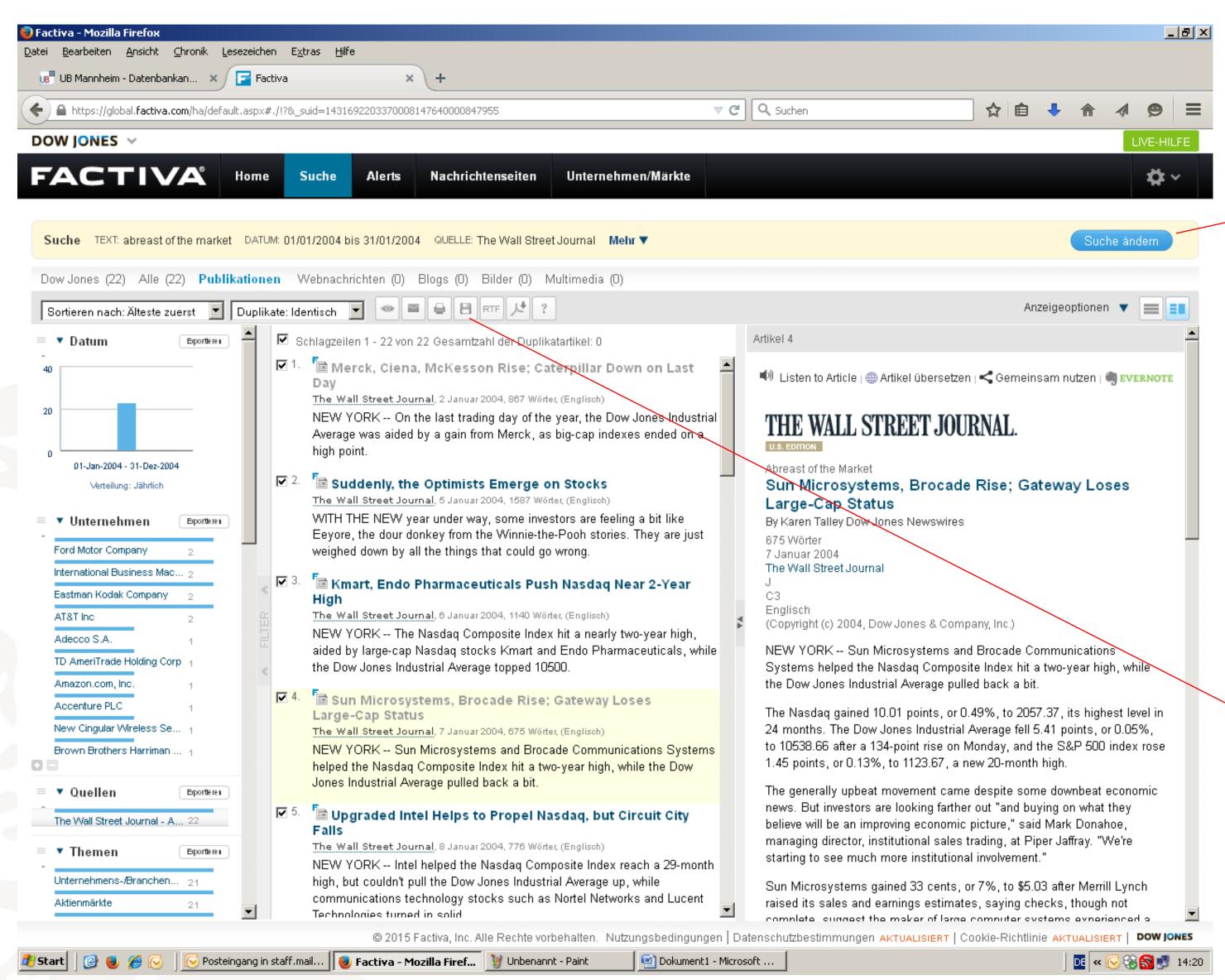
#### **Factiva**

- Alternative data source for newspapers, newswires, and magazines.
- Coverage/sources of Lexis and Factiva are different.
- Factiva is <u>not</u> available at Goethe University!









Back to search interface

To download the articles, you need to set the checkmarks first. The max. # is restricted to 25 or 50.

# Comparison between LexisNexis and Factiva



# LexisNexis

- Advantage
  - Relevance Score
  - Large number of data sources
  - Easy to handle
  - Allows for reasonable download volume
- Disadvantage
  - No full text of WSJ and no Dow Jones newswire.
  - Download of document details cumbersome.

# Factiva

- Advantage
  - Full text access to WSJ and Dow Jones newswire.

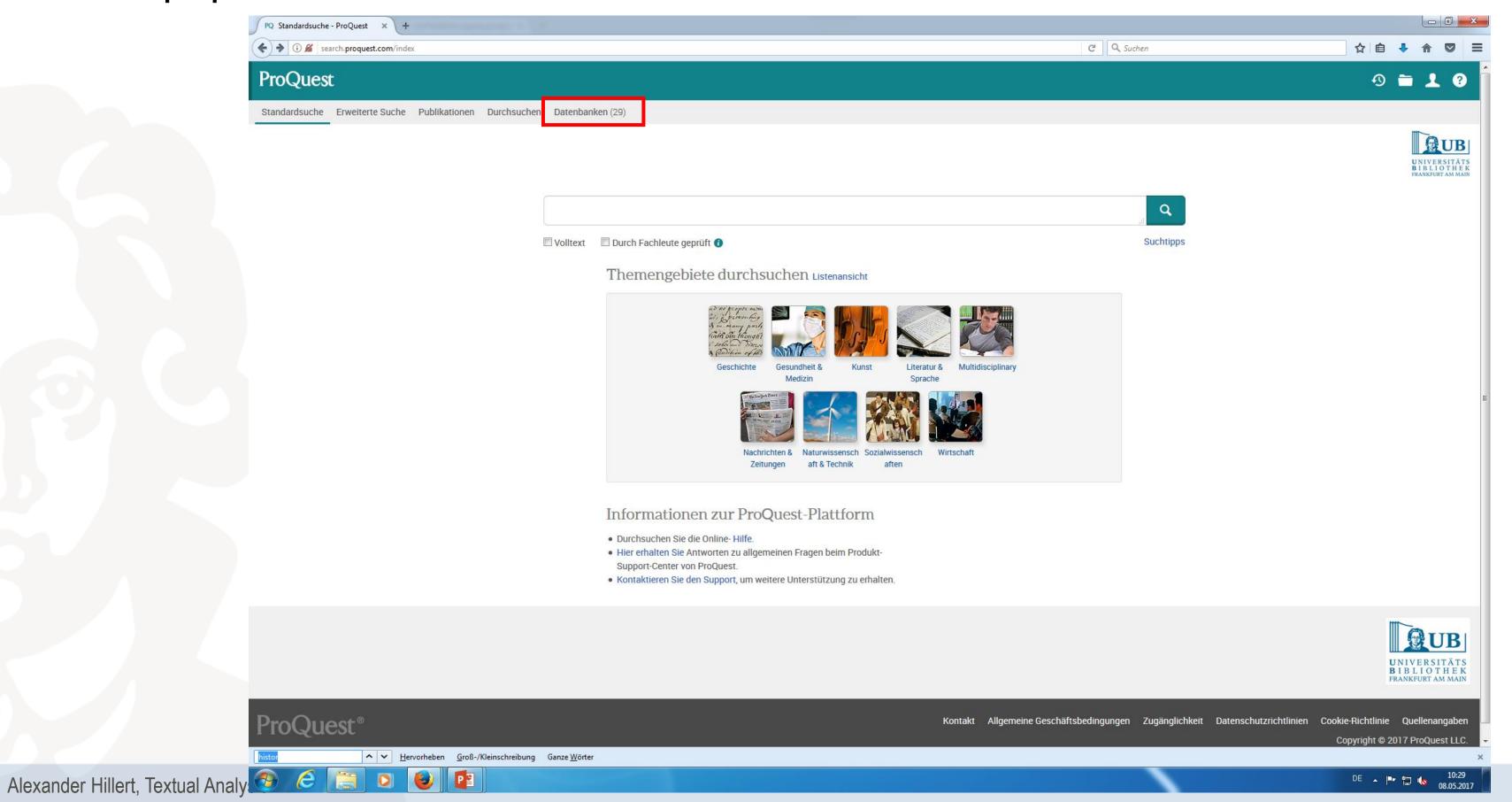
- Disadvantage
  - Very restrictive regarding download volume.

# Proquest historical newspapers (1)



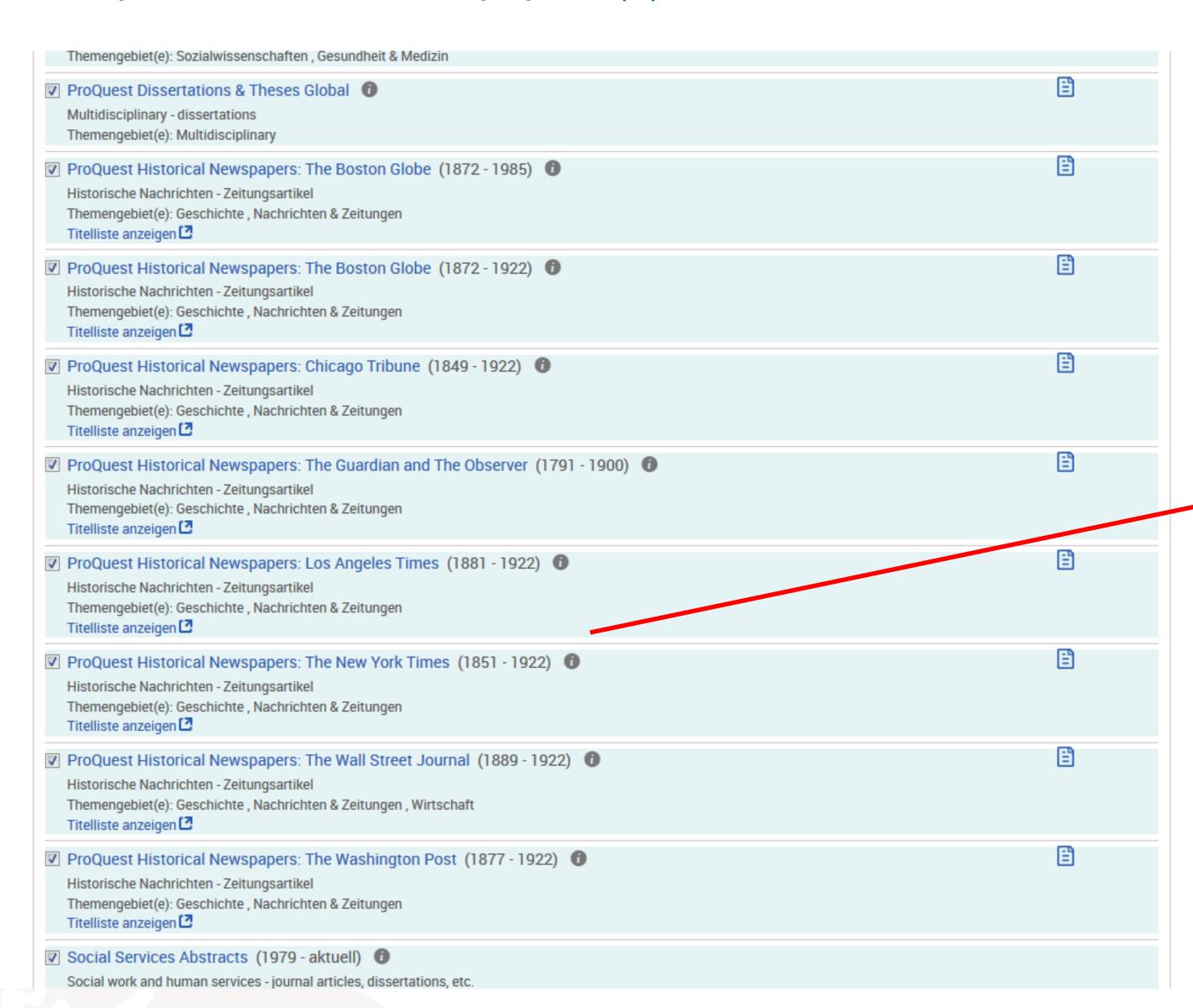
#### **Proquest historical newspapers**

- Accessible via WHU's library webpage or at <a href="http://search.proquest.com/index">http://search.proquest.com/index</a>.
- "Datenbanken" → "ProQuest Historical Newspaper: XXX", e.g., "ProQuest Historical Newspaper: The New York Times"



# Proquest historical newspapers (2)



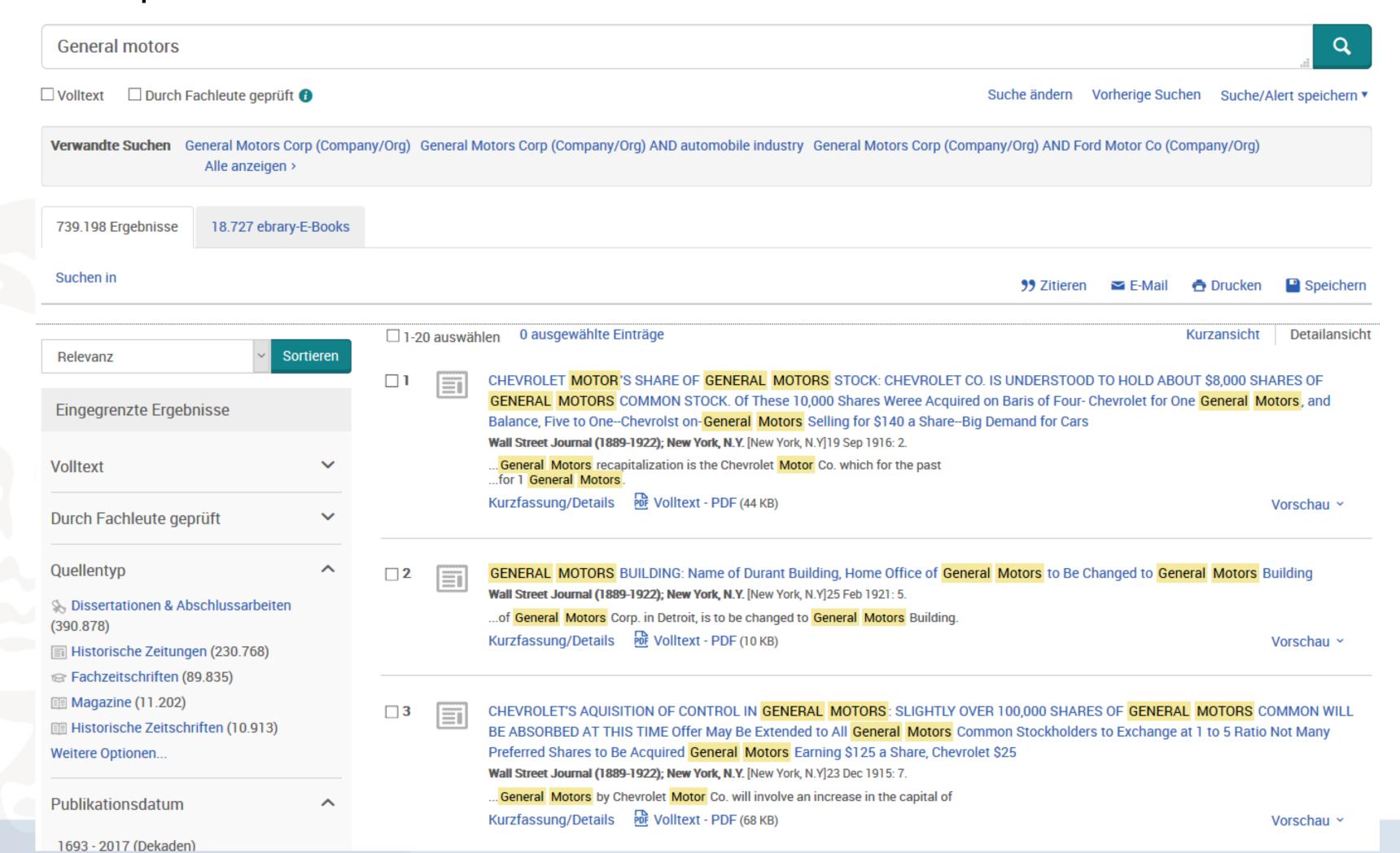


Data availability until
1922 → probably hard to
get capital market data.

# Proquest historical newspapers (3)



# **Example: General Motors**



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# Proquest historical newspapers (4)



# Newspaper articles are only available in pdf-format

- Need to be converted in txt format.
- Scanned pdf → optical character recognition software (OCR) needed, e.g., ABBYY.
- Depending on scan quality errors are likely (see discussion in García (2013)).



# 2. EDGAR system of the SEC

# EDGAR system of the SEC (1)



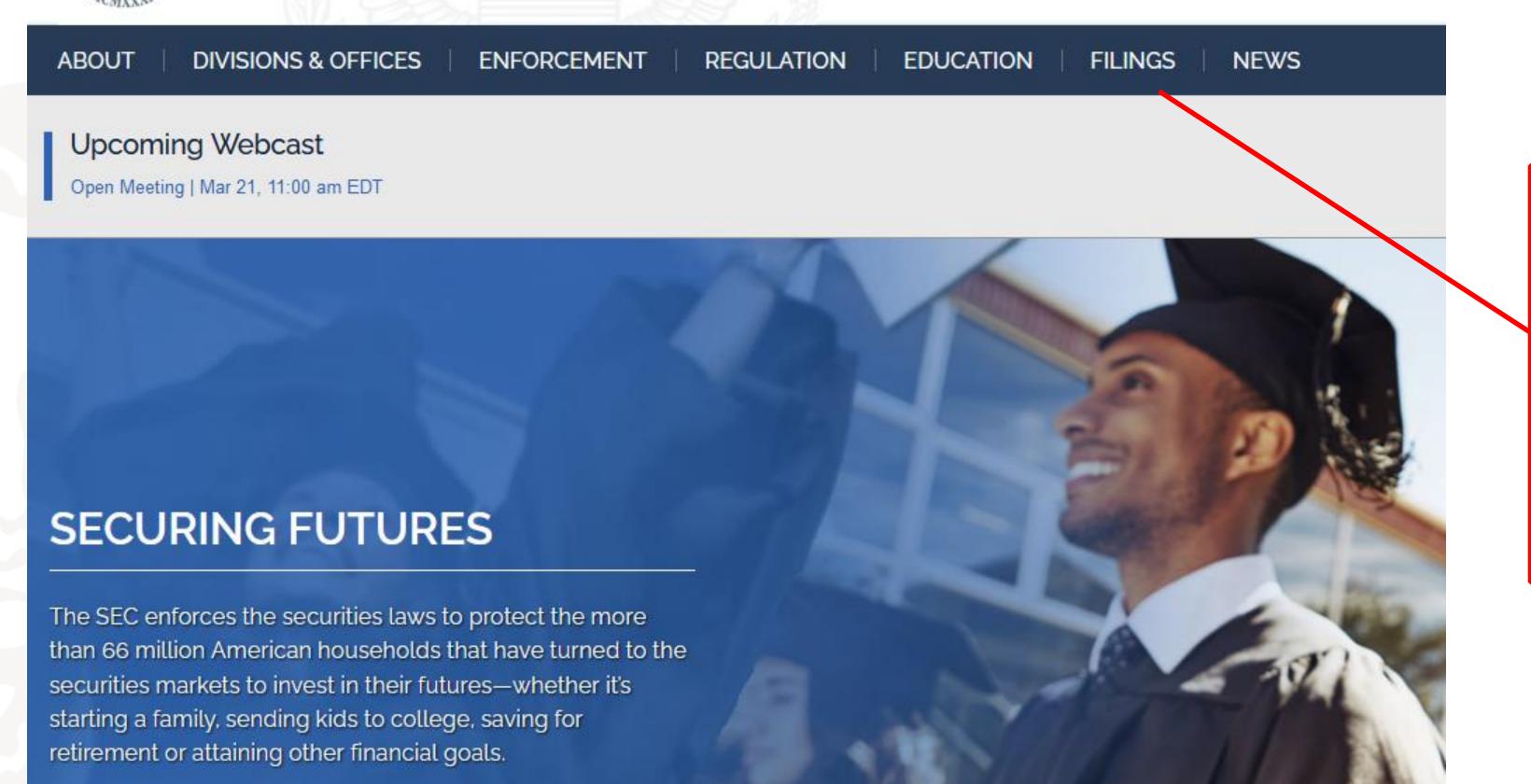
# Go to <a href="https://sec.gov">https://sec.gov</a>



Search SEC.gov Q

COMPANY FILINGS

Click 'Company Filings" and then "More Options"



Information on the filings 'Filings' →
'Description of SEC forms' and/or 'SEC Forms List (PDF versions)

#### Overview of common forms (1)



# Where to get information on the different forms?

http://www.sec.gov/info/edgar/forms/edgform.pdf lists different forms with brief description.

# Commonly used forms

- Annual and quarterly company reports (form 10-K and 10-Q filings)
  - Include also 10-K405 filings! 'Until this distinction was eliminated in 2003, a substantial portion of 10-Ks were categorized as 10-K405. The SEC eliminated the 405 classification due to confusion and inconsistency in its application.' Loughran and McDonald (2011, footnote 4)
  - There are simplified reports for small businesses (10KSB and 10QSB)

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#### Overview of common forms (2)



# Commonly used forms - continued

- Insider trading (form 3, 4, and 5 filings)
  - Standardized form
  - Default option: excluded from search
  - Available in the Thomson Reuters Insiders database (currently not subscribed)
- Institutional holdings (form 13-f filings)
  - Standardized forms
  - Example: Windsor Financial Group LLC <a href="http://www.sec.gov/cgi-bin/browse-gov/cgi-bin/bro

# Overview of common forms (3)



# Commonly used forms - continued

- Investment management companies
  - Portfolio holdings (form N-Q filings) Available in the Thomson Reuters Mutual Fund Holdings (s12) - (currently not subscribed)
  - Annual and semi-annual shareholder reports (form N-CSR and N-CSRS) See Hillert, Niessen-Ruenzi, and Ruenzi (2021) for details.
  - Annual and semi-annual report (form NSAR-B and NSAR-A)
    - Clear structure with numerical items
    - Example: Fidelity Magellan Fund <a href="http://www.sec.gov/cgi-bin/browse-">http://www.sec.gov/cgi-bin/browse-</a> edgar?action=getcompany&CIK=0000061397&owner=exclude&count=40&hidefilings=0

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# EDGAR system of the SEC (2)



# **Search interface**

**EDGAR** | Company Filings

Select 'Contains' to not missing any filings

Ivallie, deker 5	mbol, or CIK
Search Match Op	tions
O Starts with	or   Contains
File Number	To search by file number,
	company name must be left
	blank.
State	
	<b>♦</b>
Country	
	<b>○</b>
Ctdd ldt	CI:EE 2
Standard Industry	Classification
	s 3, 4, and 5.
Ownership Forms	xclude O Only

#### **How to Use this Search?**

Enter name, ticker or CIK into the single search field.

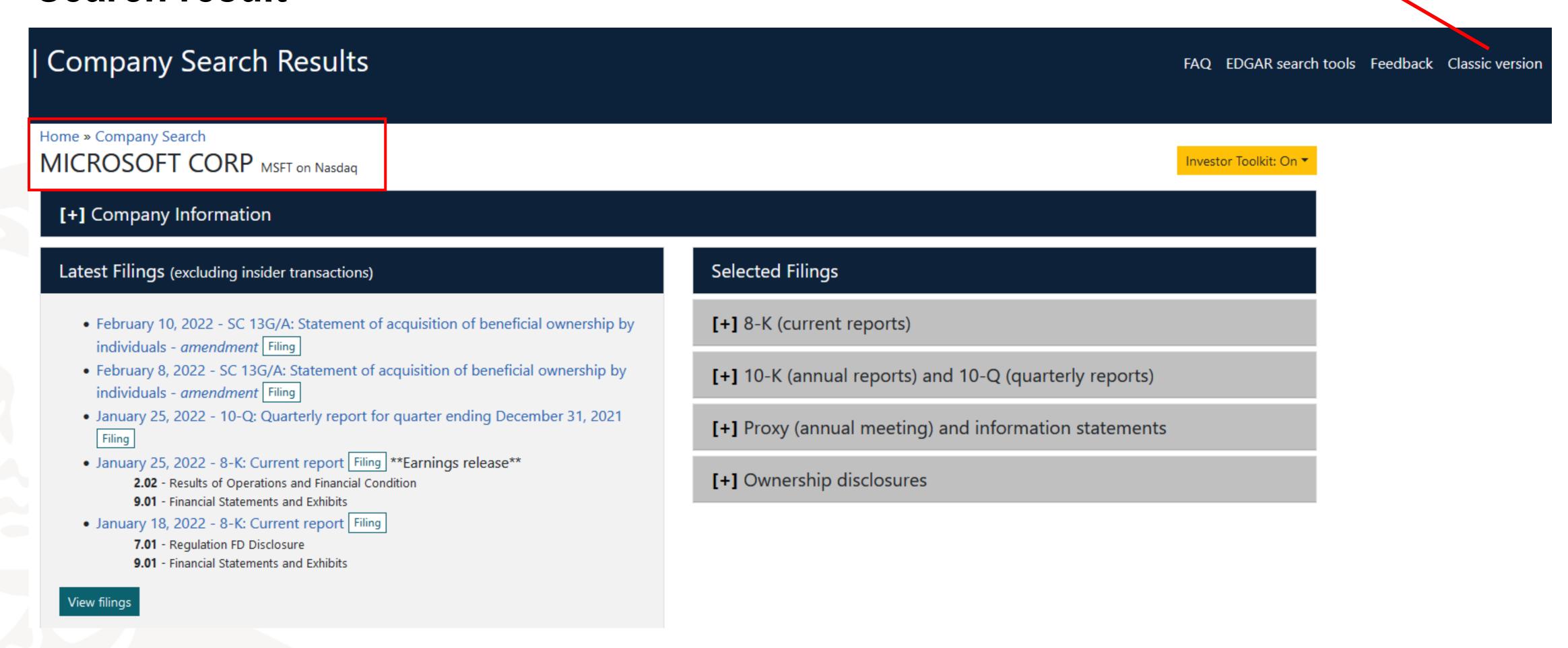
Suggestions as you type link directly to filings.

# EDGAR system of the SEC (3)



I recommend using the "Classic version"

# Search result



# EDGAR system of the SEC (4)

(Documents)

Documents)

(Documents)

PX14A6G

DEFA14A

(Interactive Data)



211459985 001-37845

211393647

001-37845

211364076

2021-11-10

2021-10-29

# Search result – Classic version

Acc-no: 0001193125-21-343711 (34 Act) Size: 276 KB

Acc-no: 0001214659-21-011362 (34 Act) Size: 98 KB

Acc-no: 0001193125-21-313501 (34 Act) Size: 16 KB

Notice of exempt solicitation submitted by non-management

Additional definitive proxy soliciting materials and Rule 14(a)(12) material

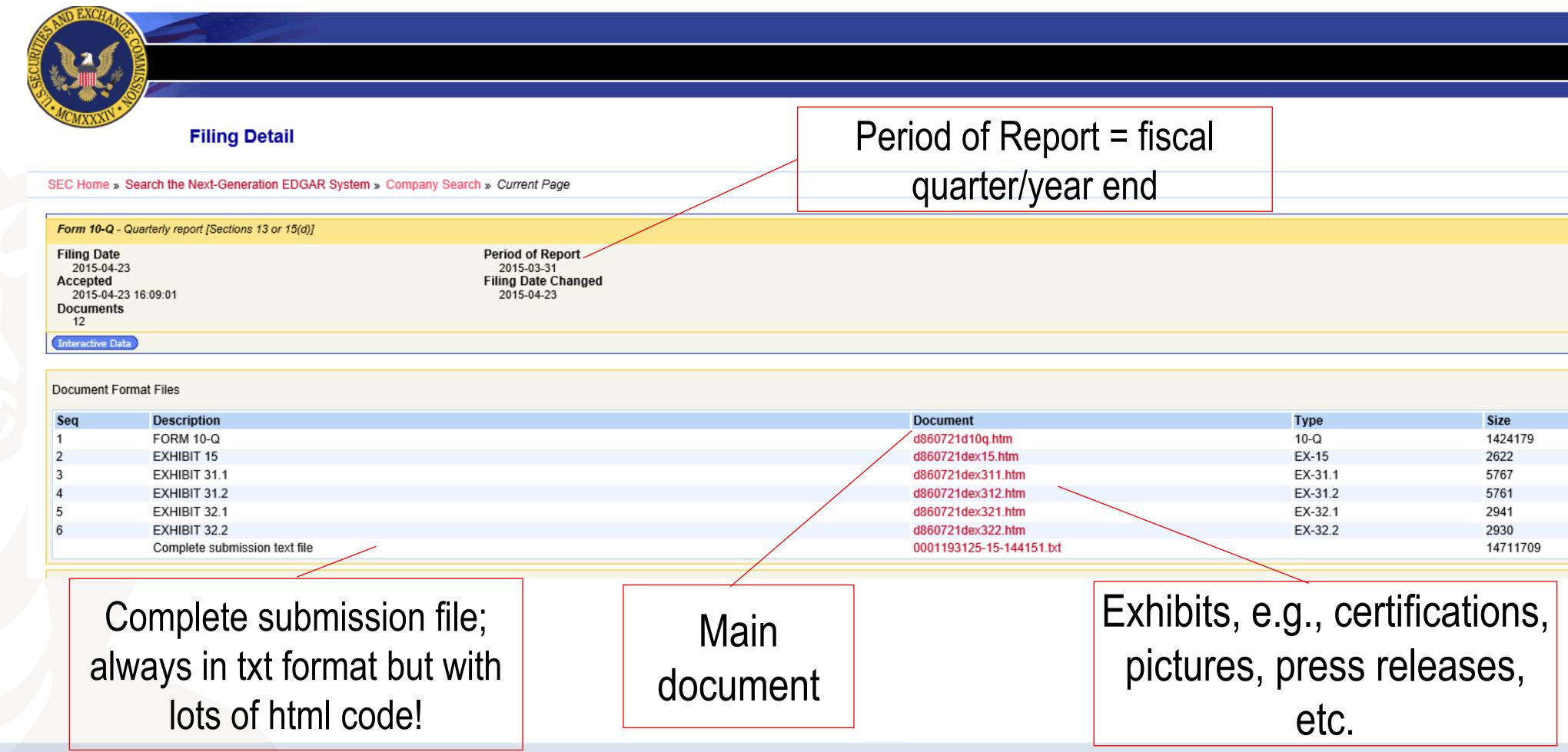
SEC Home » Search the Next-Generation EDGAR System » Company Search » Current Page Mailing Address MICROSOFT CORP CIK#: 0000789019 (see all company filings) Business Address ONE MICROSOFT WAY ONE MICROSOFT WAY SIC: 7372 - SERVICES-PREPACKAGED SOFTWARE REDMOND WA 98052-6399 REDMOND WA 98052-6399 State location: WA | State of Inc.: WA | Fiscal Year End: 0630 425-882-8080 (Office of Technology) Get insider transactions for this issuer. Get insider transactions for this reporting owner. Filter Results Search Within Files EDGAR | Full Text Search Prior to: (YYYYMMDD) Limit Results Per Page Filing Type: Ownership? Search Enter keywords Oinclude O exclude O only Search 40 Entries Show All Items 1 - 40 NRSS Feed Filings Format Description Filed/Effective File/Film Number [Amend] Statement of acquisition of beneficial ownership by individuals 005-38758 SC 13G/A 2022-02-10 ( Documents Acc-no: 0001104659-22-018095 (34 Act) Size: 12 KB 22610358 005-38758 [Amend] Statement of acquisition of beneficial ownership by individuals SC 13G/A 2022-02-08 Documents Acc-no: 0000834237-22-008433 (34 Act) Size: 13 KB 22602666 Quarterly report [Sections 13 or 15(d)] 001-37845 10-Q 2022-01-25 ( Documents Interactive Data Acc-no: 0001564590-22-002324 (34 Act) Size: 21 MB 22554019 Current report, items 2.02 and 9.01 001-37845 8-K 2022-01-25 Documents Interactive Data 22553943 Acc-no: 0001193125-22-017041 (34 Act) Size: 538 KB 001-37845 Current report, items 7.01 and 9.01 2022-01-18 Documents Interactive Data Acc-no: 0001193125-22-010667 (34 Act) Size: 7 MB 22533739 Securities to be offered to employees in employee benefit plans, post-effective amendments 333-185757 S-8 POS 2021-12-10 Documents Acc-no: 0001193125-21-354016 (33 Act) Size: 65 KB 211485808 Automatic shelf registration statement of securities of well-known seasoned issuers 333-261590 S-3ASR 2021-12-10 ( Documents ) Acc-no: 0001193125-21-353912 (33 Act) Size: 598 KB 211485230 Current report, item 5.07 001-37845 8-K 2021-11-30

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# Filing Details (1)



- Since the early 2000s filings consist of multiple files.
- More and more filings are in html.



# Filing Details (2)



- Before 2000 only complete submission file.
- Hardly any html code.



#### Firm identifiers in EDGAR (1)



# CIK (Central Index Key)

- 10-digit number, e.g., 0000789019 ↔ Microsoft Corp.
- Unique firm ID
  - One CIK refers to exactly one firm.
  - However, one firm have multiple CIKs.
- The CIK is available in Compustat
  - Merge CRSP with Compustat
  - Merge with SEC data
  - → Problem: only todays' CIK available in Compustat → BIAS!

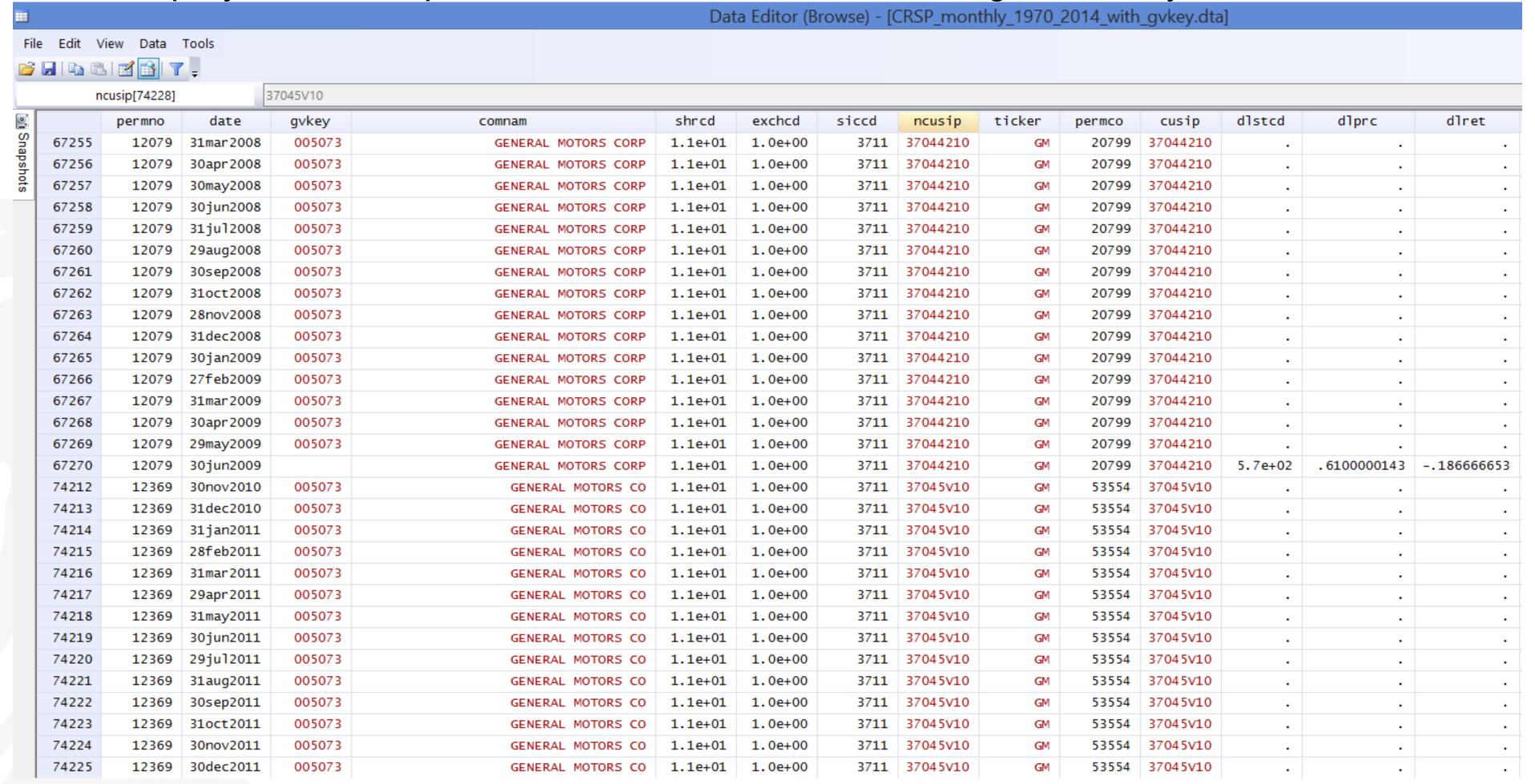
18. Juli 2022

# Problem: current CIKs (1)



# General Motors Corp (permno 12079, gvkey 005073)

Filed for bankruptcy under chapter 11 on June 8, 2009. Reemerged on July 10, 2009



# Problem: current CIKs (2)



# General Motors Corp (permno 12079, gvkey 005073)

GM was assigned a new CIK after bankruptcy.

 Not accounting for the CIK change will result in missing EDGAR data for GM for the entire period from 1997 – 2009!

	gvkey	datadate	cik	tic	fyear
67132	005073	31dec2003	0001467858	GM	2003
67133	005073	31dec2004	0001467858	GM	2004
67134	005073	31dec2005	0001467858	GM	2005
67135	005073	31dec2006	0001467858	GM	2006
67136	005073	31dec2007	0001467858	GM	2007
67137	005073	31dec2008	0001467858	GM	2008
67138	005073	31dec2009	0001467858	GM	2009
67139	005073	31dec2010	0001467858	GM	2010
67140	005073	31dec2011	0001467858	GM	2011
67141	005073	31dec2012	0001467858	GM	2012
67142	005073	31dec2013	0001467858	GM	2013

Compustat data for GM



# Problem: current CIKs (3)



General Motors Corp (permno 12079, gvkey 005073)



#### **EDGAR Search Results**

SEC Home » Search the Next-Generation EDGAR System » Company Search » Current Page

#### Companies with names matching "GENERAL MOTORS" Click on ClK to view company filings

Items 1 - 11

CIK	Company
0000040729	Ally Financial Inc. SIC: 6172 - FINANCE LESSORS formerly: GENERAL MOTORS ACCEPTANCE CORP (filings through 2006-07-14) GMAC INC. (filings through 2010-05-07) GMAC LLC (filings through 2009-06-29)
0001037761	GENERAL MOTORS CAPITAL TRUST D
0001037734	GENERAL MOTORS CAPITAL TRUST G
0001467858	General Motors Co SIC: 3711 - MOTOR VEHICLES & PASSENGER CAR BODIES
0000040730	Motors Liquidation Co SIC: 3711 - MOTOR VEHICLES & PASSENGER CAR BODIES formerly: GENERAL MOTORS CORP (filings through 2009-07-13)
0001011448	GENERAL MOTORS EMPLOYES GLOBAL GROUP PENSION TRUST
0000804269	General Motors Financial Company, Inc. SIC: 6199 - FINANCE SERVICES formerly: AMERICREDIT CORP (filings through 2010-10-06)
0001497345	General Motors Holdings LLC
0000316750	GENERAL MOTORS HOURLY RATE EMPLOYEES PENSION TRUST ET AL
0000883422	GENERAL MOTORS INVESTMENT MANAGEMENT CORP formerly: Promark Investment Advisors (filings through 2010-08-03)
0000894123	GENERAL MOTORS INVESTMENT MANAGEMENT CORP GMIMCO /ADV

- Need to add old CIK
- "Motors Liquidation Co" CIK==40730

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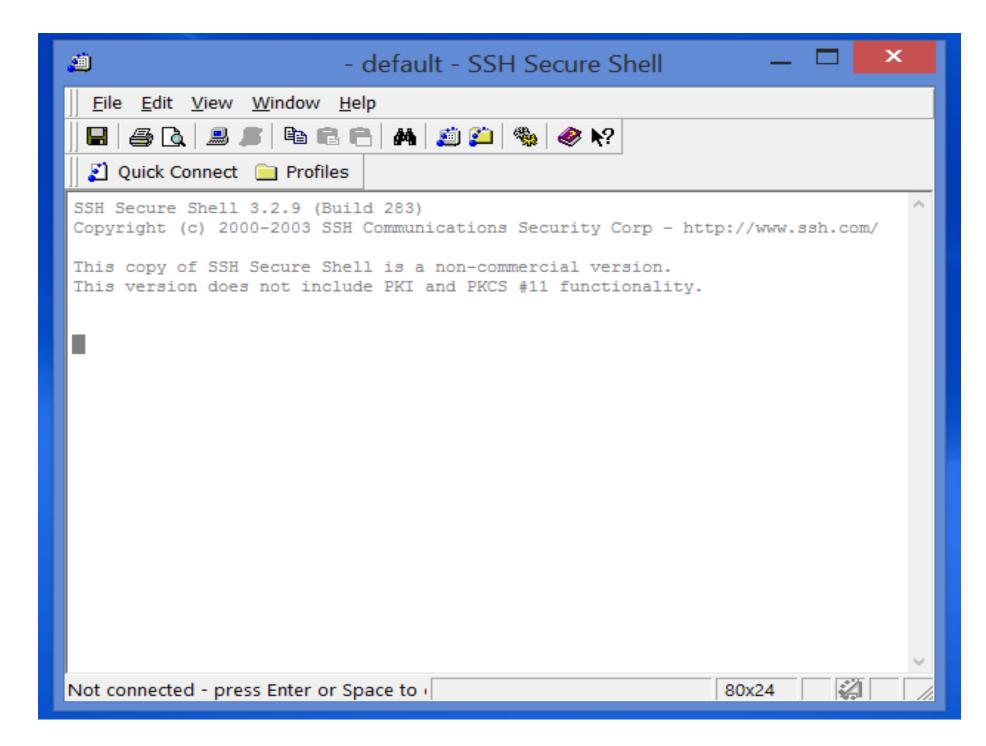
# Historical CIKs – Compustat Historical (1)



# How to get historical CIKs?

# Compustat Historical

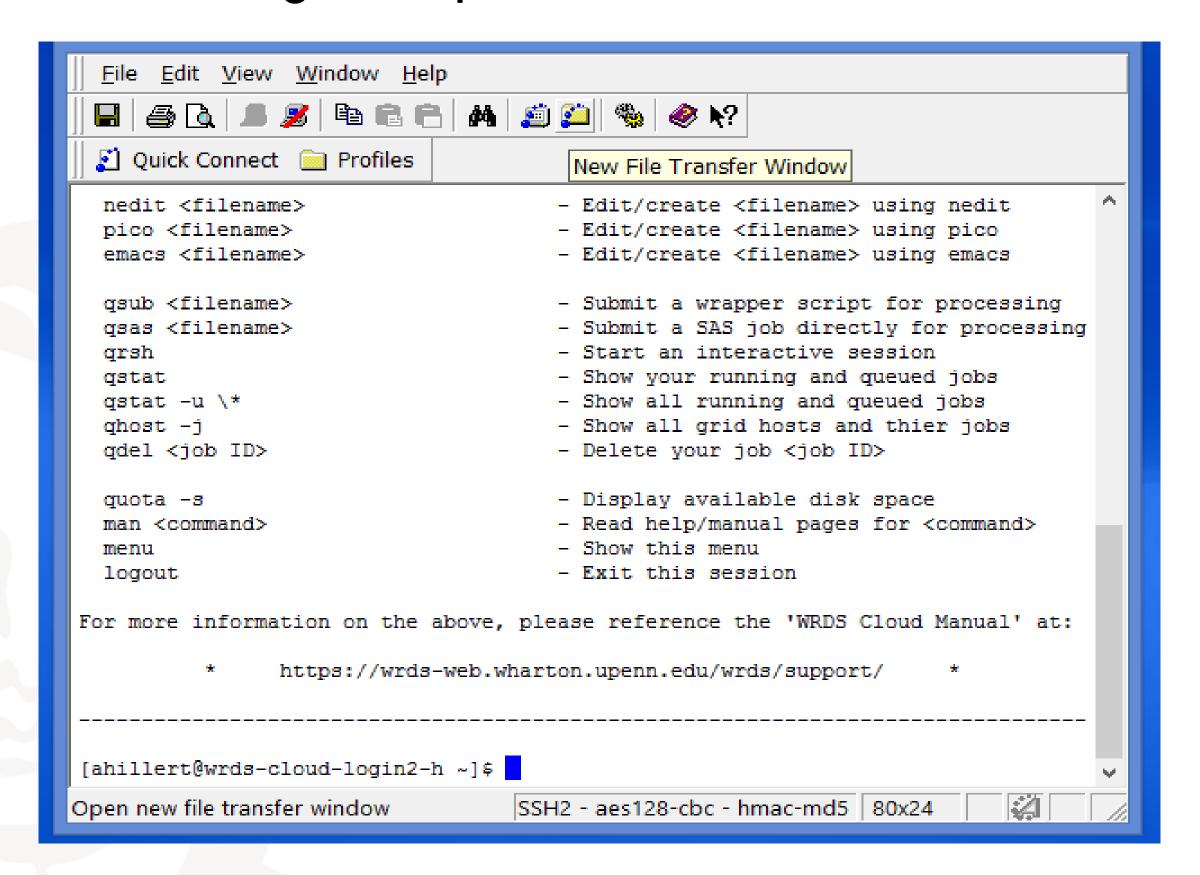
- On the WRDS ftp server (not on the web interface)
- WRDS uses this data to create output files.
- Data only in SAS format.
- SSH Secure Shell needed to access the server



# Historical CIKs – Compustat Historical (2)



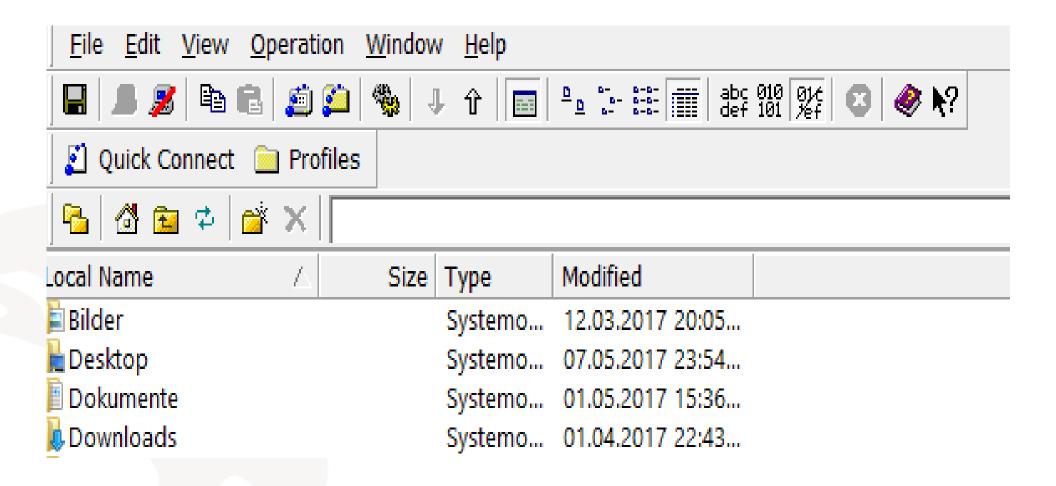
# Accessing Compustat Historical

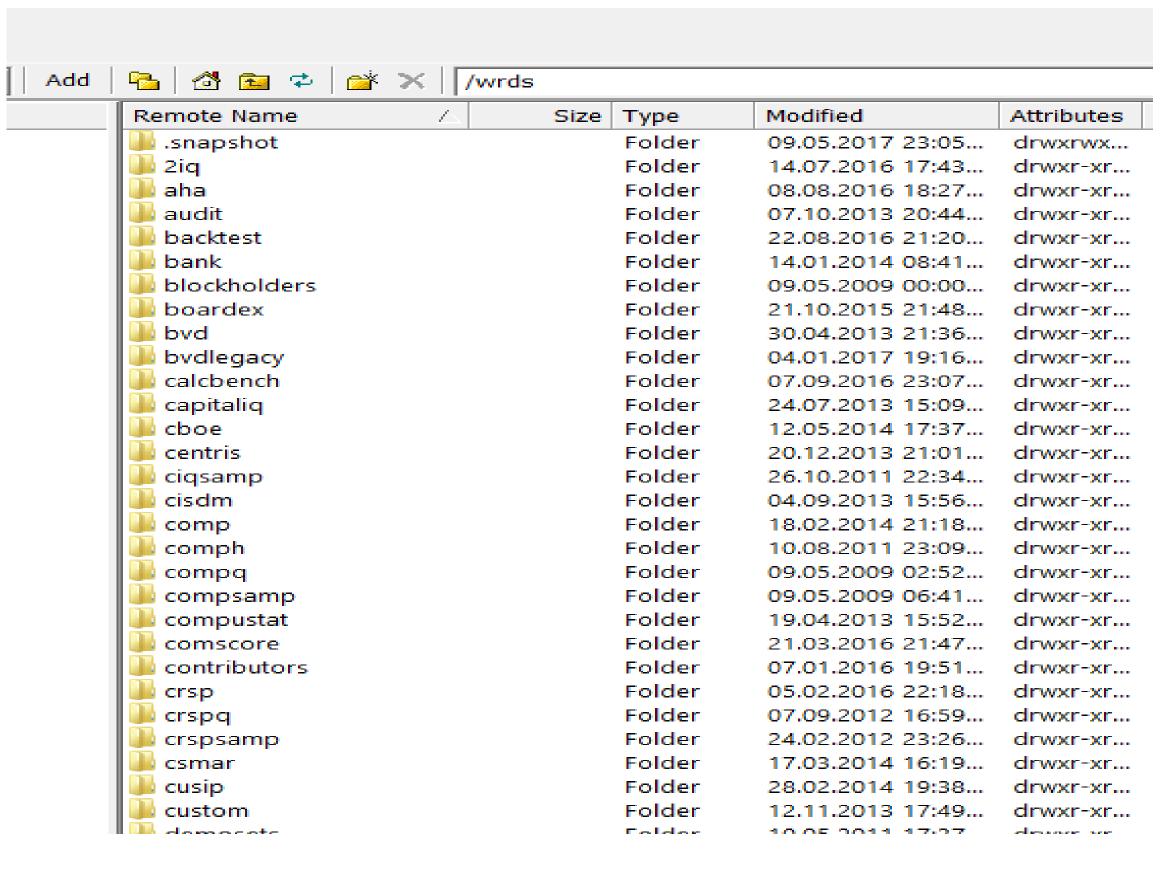


# Historical CIKs – Compustat Historical (3)



# Accessing Compustat Historical – File transfer window





# Historical CIKs – Compustat Historical (4)



# Accessing Compustat Historical – File transfer window - continued

Remote Name	Size	Туре	Modified	Attributes
ccm_lookup.sas7bdat	14,024,7	SAS7BD	01.02.2017 22:05	-rw-r
ccm_lookup.sas7bndx	7,118,848	SAS7BN	01.02.2017 22:05	-rw-r
ccm_qvards.sas7bdat	196,608	SAS7BD	01.02.2017 22:05	-rw-r
cmxpf_linktable.sas7bd	4,325,376	SAS7BD	01.02.2017 22:05	-rw-r
ccmxpf_linktable.sas7bn	4,743,168	SAS7BN	01.02.2017 22:05	-rw-r
ccmxpf_lnkhist.sas7bdat	4,915,200	SAS7BD	01.02.2017 22:05	-rw-r
ccmxpf_Inkhist.sas7bndx	7,462,912	SAS7BN	01.02.2017 22:05	-rw-r
ccmxpf_lnkrng.sas7bdat	26,476,5	SAS7BD	01.02.2017 22:05	-rw-r
ccmxpf_lnkrng.sas7bndx	4,014,080	SAS7BN	01.02.2017 22:05	-rw-r
ccmxpf_lnkused.sas7bdat	5,898,240	SAS7BD	01.02.2017 22:05	-rw-r
ccmxpf_lnkused.sas7bndx	7,471,104	SAS7BN	01.02.2017 22:05	-rw-r
comphead.sas7bdat	142,868,	SAS7BD	01.02.2017 22:05	-rw-r
comphead.sas7bndx	2,555,904	SAS7BN	01.02.2017 22:05	-rw-r
comphist.sas7bdat	945,291,	SAS7BD	01.02.2017 22:05	-rw-r
comphist.sas7bndx	16,392,1	SAS7BN	01.02.2017 22:05	-rw-r
compmaster.sas7bdat	3,670,016	SAS7BD	01.02.2017 22:05	-rw-r
cst_hist.sas7bdat	74,383,3	SAS7BD	01.02.2017 22:05	-rw-r
cst_hist.sas7bndx	3,424,256	SAS7BN	01.02.2017 22:05	-rw-r
sechead.sas7bdat	7,471,104	SAS7BD	01.02.2017 22:05	-rw-r
sechead.sas7bndx	5,177,344	SAS7BN	01.02.2017 22:05	-rw-r
sechist.sas7bdat	15,728,6	SAS7BD	01.02.2017 22:05	-rw-r
sechist.sas7bndx	11,427,8	SAS7BN	01.02.2017 22:05	-rw-r





# Compustat Historical

General Motors (CIKs: 0000040730 and 0001467858)

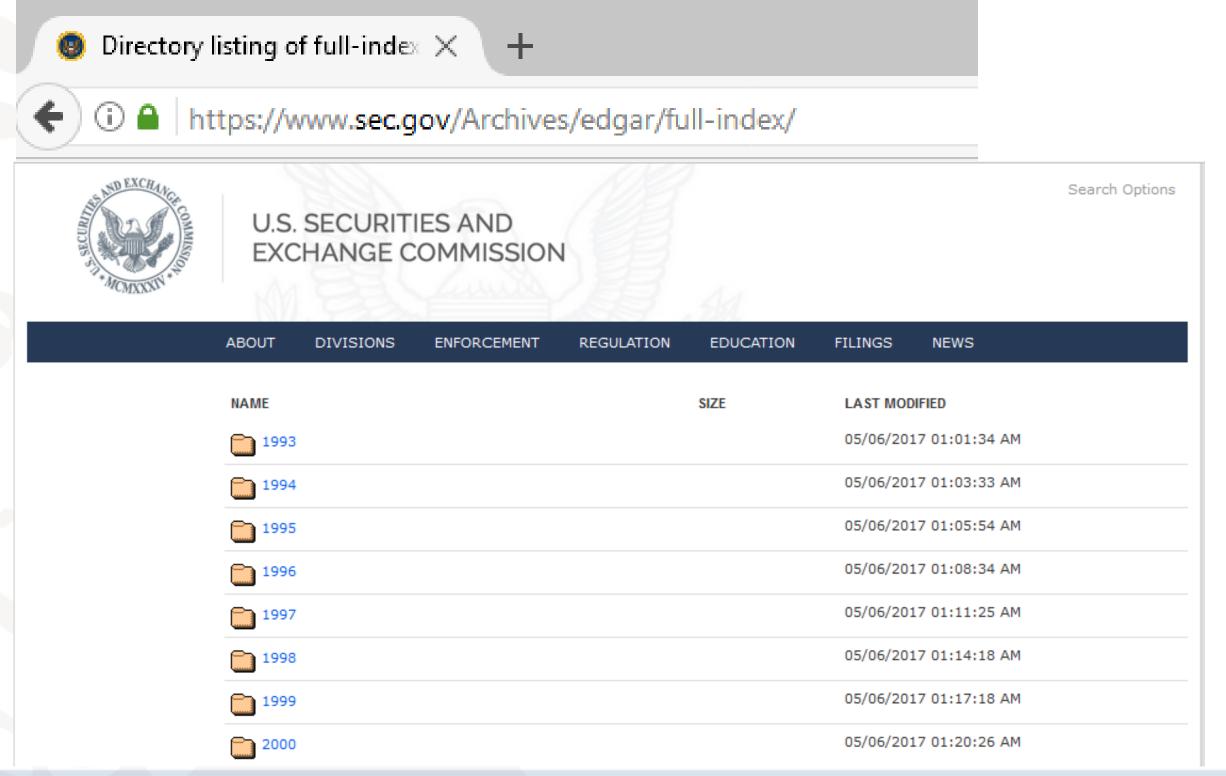
73 73 73 73 005073 005073 73 73
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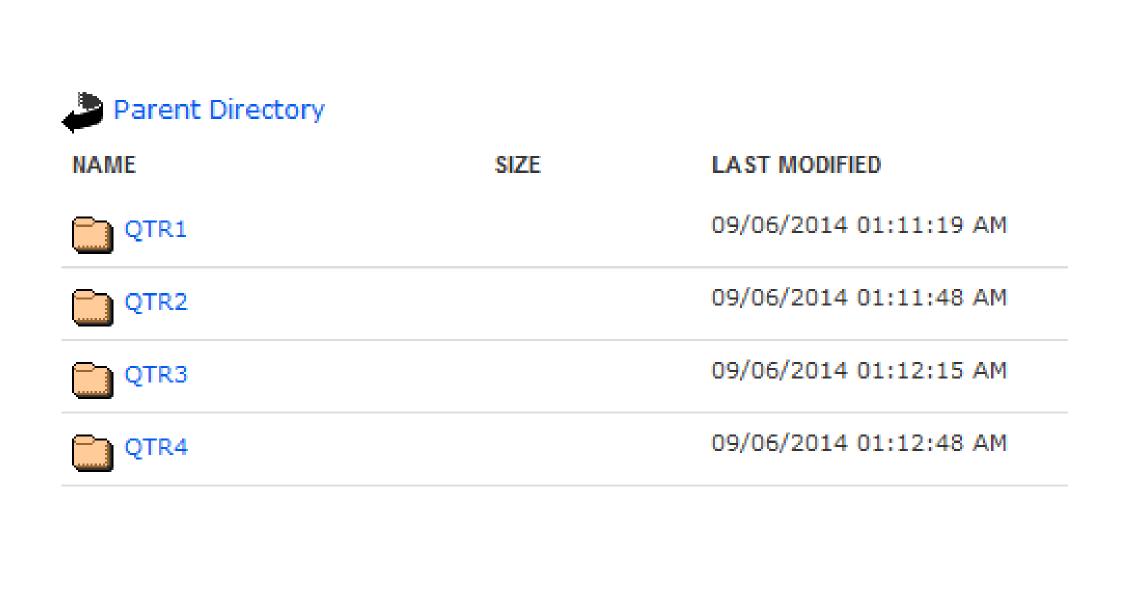
#### File and folder structure in EDGAR (1)



### SEC overview files on filed documents

- Go to 'full-index' folder: <a href="https://www.sec.gov/Archives/edgar/full-index/">https://www.sec.gov/Archives/edgar/full-index/</a>
- Access the data by year and quarter.









#### SEC overview file - form.idx

- The 'form.idx' provides you with a list of all filings submitted to the SEC in that quarter.
- Form.idx contains information on
  - 1. Filing Type
  - 2. Company Name
  - 3. CIK
  - 4. Filing Date
  - 5. Link to download the file
    - → Add <a href="http://www.sec.gov/Archives/">http://www.sec.gov/Archives/</a> to the link!
- Form.idx are sorted by Filing Type (then by Company Name and Filing Date).





## SEC overview file - How to get a comprehensive list of all submission?

- Download and append quarterly lists.
- This gives you an overview on:
  - Frequency of a specific filing type
  - Availability
  - Seasonality
- How to work with these lists?
  - The columns in the lists have a fixed length (# of characters).
  - E.g., import in Stata by "import delimited".
  - Use substring function, e.g., generate filing\_type=substr(v1,1,12) and generate company\_name=substr(v1,13,60), etc.

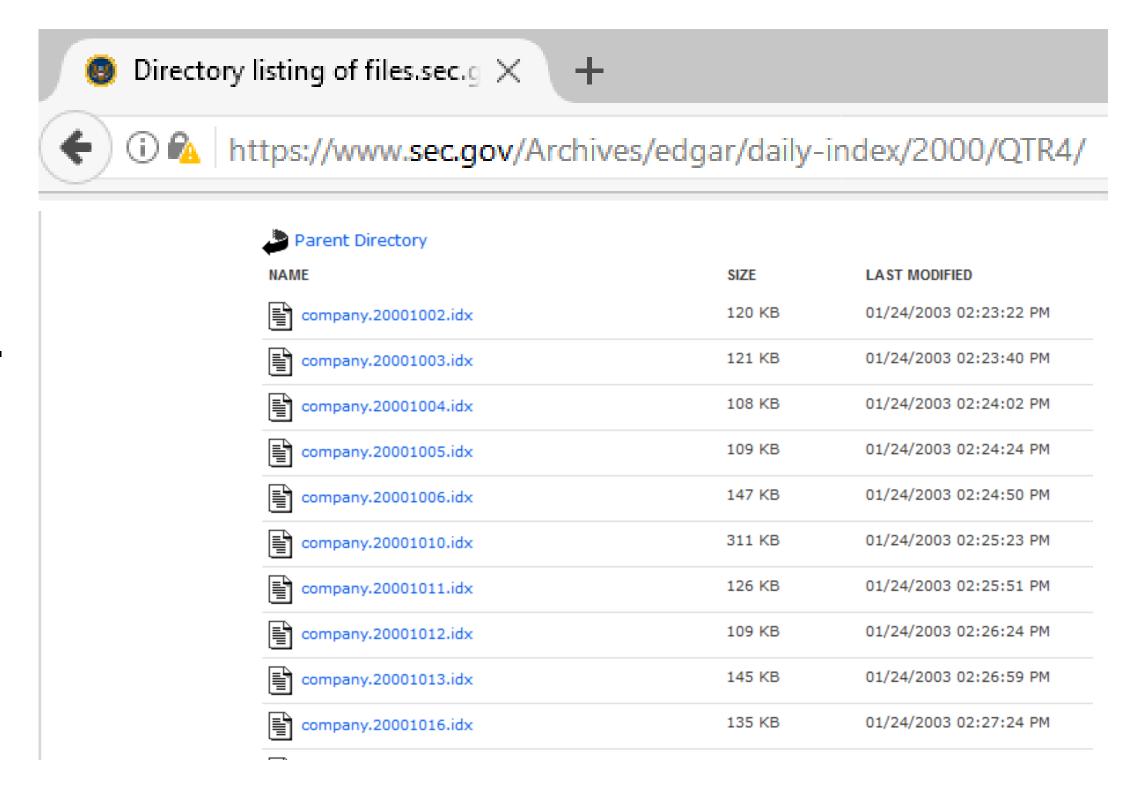
Programming problem 2 asks you to search for and automatically download SEC filings.

#### File and folder structure in EDGAR (4)



## SEC overview file - form.idx - daily

- In addition to the quarterly files, there are daily files.
- https://www.sec.gov/Archives/edgar/daily-index/
- Problems of daily files
  - Inconsistent file names, e.g., YYYYMMDD vs. YYMMDD vs. MMDDYY.
  - In Q2 2014, there are only zipped files available.
  - Duplicate entries (even within the same file).
     Duplicates = same CIK + filing type + filing date + link to EDGAR (incl. filename).



#### File and folder structure in EDGAR (5)



## Comparison of quarterly and daily overview files

- Approach: merge list of all filings based on filing type, filing date, CIK, and link on EDGAR.
- Sample period: 1994Q1 to 2020Q1
- Merged: 19,354,372
- Not matched:
  - o from quarterly 217,379
    - Most years have 1,000 to 4,000 unmatched observations.
    - 1994 (50,192), 1996 (37,695), 1999 (29,619), 1997 (21,444), and 1995 (20,684) account for over 70% of non-matches.
    - Almost full match in 1998 (93).
  - o from daily 351,075
    - Most years have 3,000 to 6,000 unmatched observations.
    - 1996 (57,940), 1998 (56,969), 1997 (37,567), 1999 (29,811), 1994 (28,678), and 1995 (27,504) account for about 67% of non-matches.

#### File and folder structure in EDGAR (6)



## Comparison of quarterly and daily overview files - continued

- Looking at filing type does not show any pattern.
- Looking at 10-Ks (10-K, 10-K405, 10KSB) results in
  - Merged: 249,665
  - Unmatched observations from quarterly 3,603
    - Most years have 20 to 30 unmatched observations.
    - Early years + 2005 to 2007 (147 to 254 non-matches) account for most observations.
    - Almost full match (N<4) in 1998, 2003, and 2004.</li>
  - Unmatched observations from daily 4,690
    - Most years have 20 to 30 unmatched observations.
    - Period up to 2007 (except for 03 and 04) show several hundred non-matches.
- Recommendation: take combination of both lists.

#### File and folder structure in EDGAR (7)



## Using the link in the form.idx

- The link in the form.idx file relates to the complete submission file.
- Example
  - 10-K of AMAZON COM INC (CIK 1018724) filed on 2008-02-11.
  - Link: edgar/data/1018724/0001193125-08-024707.txt
    - > complete link: http://www.sec.gov/Archives/edgar/data/1018724/0001193125-08-024707.txt
- To get to the overview of the submitted files.
  - Replace the '.txt' by '-index.htm'
  - o http://www.sec.gov/Archives/edgar/data/1018724/0001193125-08-024707-index.htm
  - You can access the individual files of the submission directly. For example,
    - Main document's name: 'd10k.htm'
    - Delete all '-' from the original link.
    - Replace the '.txt' by '/d10k.htm'
      - → http://www.sec.gov/Archives/edgar/data/1018724/000119312508024707/d10k.htm

### Data availability (1)



## Data availability in EDGAR

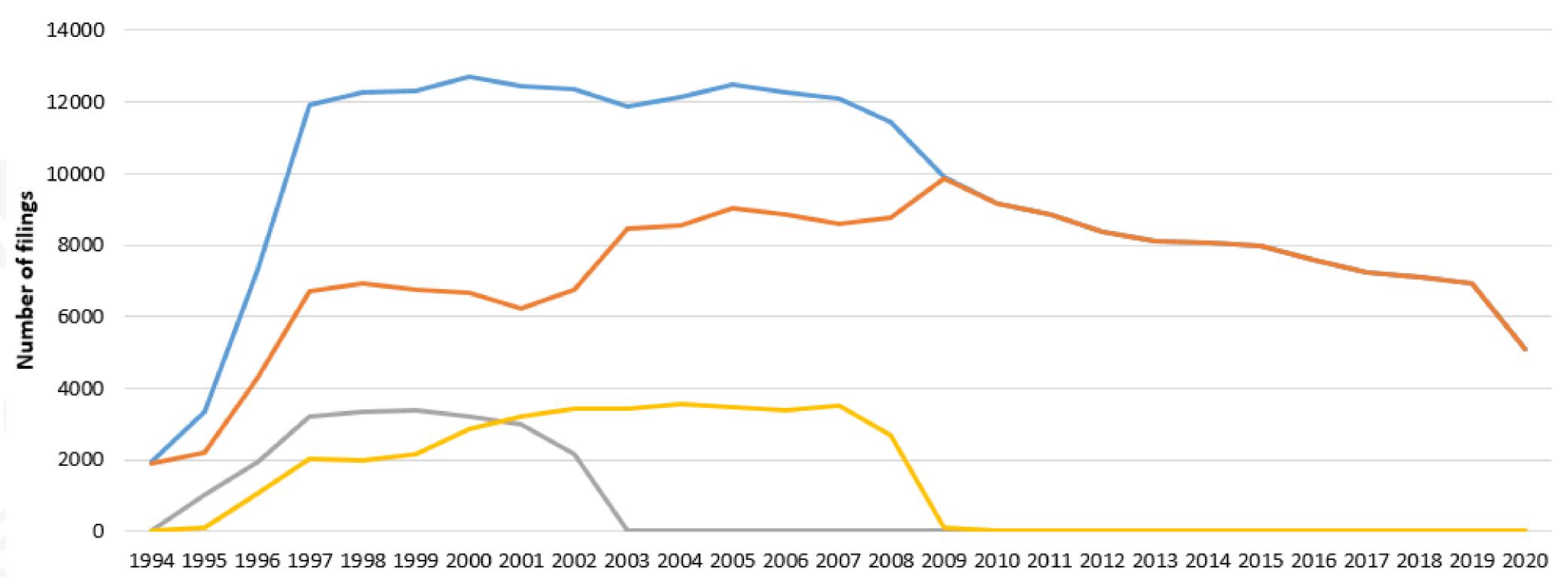
- EDGAR starts in 1994
- However, firms were not required to submit digital forms.
  - 'We begin in 1997 because this is the first year all firms are required to file digital forms.'
     Loughran and McDonald (2011, footnote 18)
  - 'Since electronic filings on EDGAR were not required until 1996, the early sample is tilted towards larger, more sophisticated companies. Larger firms tend to have longer 10-Ks.' Loughran and McDonald (2015, note 5)
  - 'Some large firms begin electronic filing in 1994. Electronic filing was required of all firms, with minor exceptions, beginning in 1996.'
     Loughran and McDonald (2016, footnote 2).

### Data availability (2)



#### Number of 10-Ks over time

#### Number of 10-K related filings over time



Filing Year

——All 10-K related filings ——10-K ——10-K 405 ——10-KSB

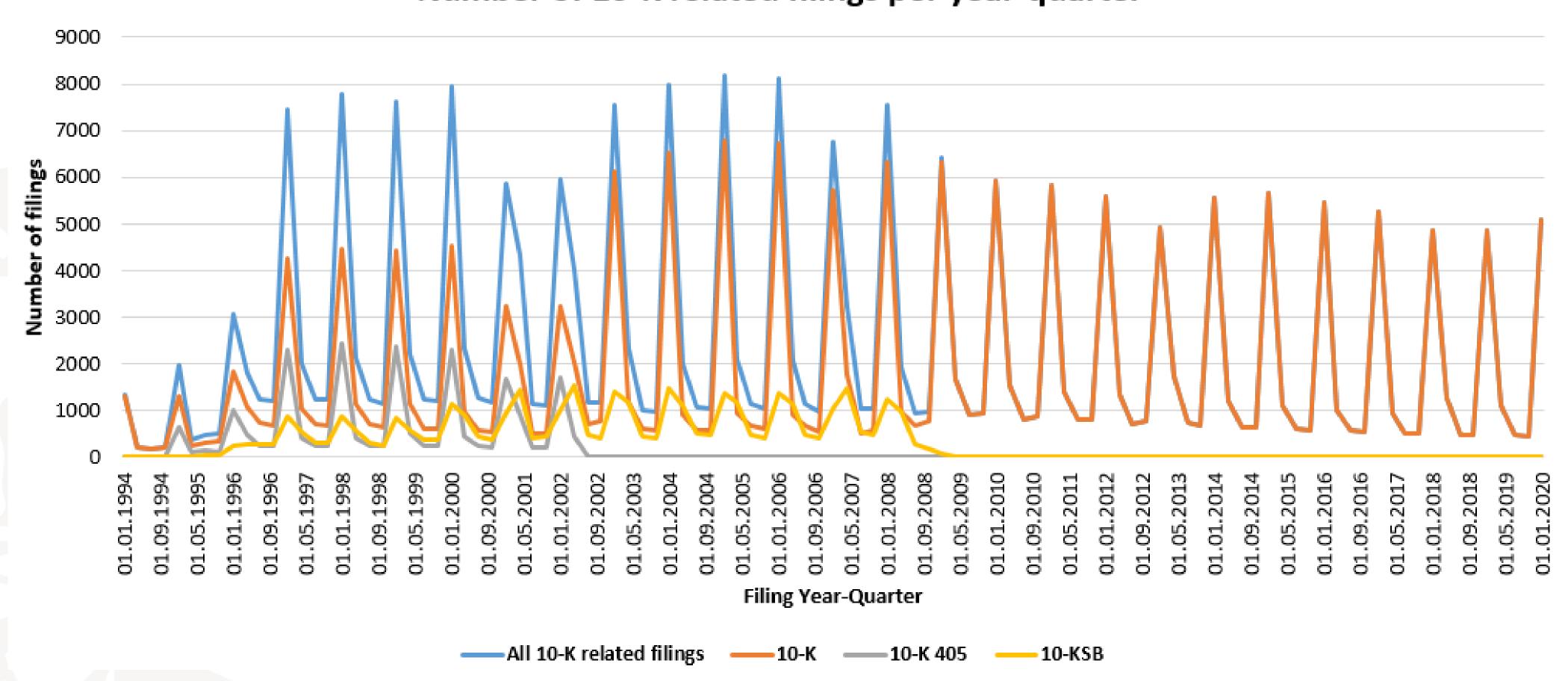
- 10-K 405: often includes incorrectly classified 10-Ks (see footnote 4 in Loughran and McDonald, 2011).
- 10-KSB: small businesses

#### Data availability (3)



## Seasonality





#### Firm identifiers in EDGAR (2)



### Ticker in EDGAR

- Search shows the filings for the stock that <u>currently</u> trades under the ticker symbol.
- Example: 'AAC'
  - AAC Holdings Inc (permno 14945, Oct 2014 Dec 2014)
  - Arcadia Financial LTD (permno 77297, May 1997 Apr 2000)
  - AbleAuctions.Com Inc (permno 88278, Jun 2000 Jan 2010)
- → When using firms' ticker symbols, pay attention to the corresponding time period.

18. Juli 2022

#### Firm identifiers in EDGAR (3)



## Identifiers for funds and investment companies

- CIK is a unique investment management company identifier.
- CIK can (but need not!) refer to a single fund, e.g., 0000061397 → Fidelity Magellan Fund
- In March 2006, the SEC introduced additional IDs:
  - Series-ID: unique portfolio (=fund) identification number.
  - Class-ID: unique share class identification number.
- Recommendation: merge with CRSP mutual fund and MFLinks by ticker.
   Alternatively, you can use name matching.



# 3. Other databases

#### Further data sources



### Transcripts of earnings conference calls

- There are several sources
  - SeekingAlpha.com collects conference call transcripts.
     <a href="http://seekingalpha.com/earnings\_center/transcripts">http://seekingalpha.com/earnings\_center/transcripts</a>
     You have to register (for free) to get full access.
  - LexisNexis FD Newswire
  - Thomson Reuters/Refinitiv
- Rapidly growing research interest in earnings calls. Prior research shows that the qualitative information is informative for future firm performance.

## **Analyst reports**

- Recommendations/estimates (without reports): I/B/E/S
- Full text available via Thomson One Banker.
- Tone of analyst reports increases the explanatory power for abnormal stock returns around the publication date.

#### What have we learnt in this part?



## What have we learnt in this part?

- LexisNexis
  - Comprehensive coverage
  - Relevance score
- SEC / EDGAR
  - Correctly linking CRSP/Compustat to EDGAR is difficult.
  - Historical ClKs are needed. Otherwise, systematic bias!
- Verbal communication: earnings conference calls

Alexander Hillert, Textual Analysis 18. Juli 2022



