axiomatic Data

Quantitative data on public and private U.S. companies



Company Background

- Established 2019
- Headquartered in New York City
- Mission is to create a database and analytics from Form 5500 filings, a
 disclosure tool used to satisfy annual reporting requirements by
 public and private companies in the U.S. for employee benefit plans
 under ERISA and the Internal Revenue Code.

Growing Academic and Commercial Interest in Form 5500 Data

The Usefulness of Selective Tax Return Disclosure: Evidence from Form 5500





July 2019

Abstract

We examine whether and why tax returns can provide decision-relevant information to equity investors. Specifically, we examine whether information regarding defined-benefit pension plans contained in a publicly disclosed tax form, Form 5500, is useful to equity investors. Using intraday returns and disclosure times obtained through a Freedom of Information Act request, we find that markets quickly react to Form 5500 information regarding pension funding and expenses. We also provide evidence that Form 5500 information is more strongly associated with market value and future cash contributions than comparable financial statement information. Further, although GAAP does not require firms to disaggregate the pension liability, we find evidence that the market values the components of the Form 5500 liability attributable to retired and terminated employees differently than the liability attributable to current employees. This paper documents that tax returns contain unique information content that investors can and do use, and contributes to the policy debate over whether corporate tax returns should be publicly disclosed.

JEL classification codes: H25, J32, M41, M48

Keywords: Tax return disclosure, Form 5500, defined benefit pensions, intra-day returns

Retirement Plan Research

Where 401(k) Design and **Corporate Profitability Cross Paths**

Important Finding

2018 Study New findings on the connections between 401(k) plan performance and corporate financial performance.

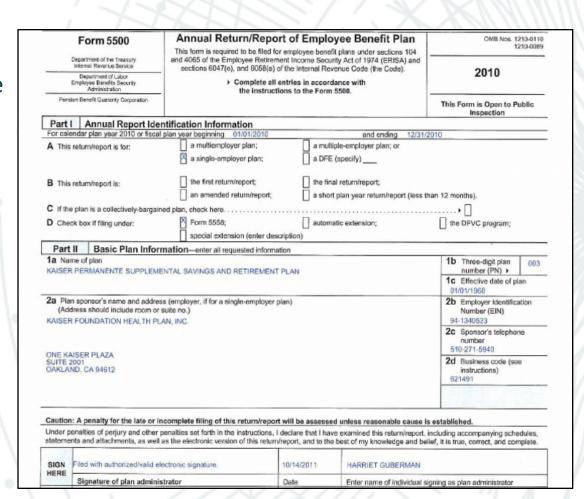
At T. Rowe Price, we believe that offering a well-designed 401(k) plan as part of a strong benefits package can help an organization attract, retain, and engage top talent. After all, an engaged, motivated workforce can directly affect a company's bottom line-at least, that's our theory. But showing the C-suite why they should invest more in the 401(k) plan has been challenging because it's difficult to demonstrate the true financial return a retirement program offers the company.

Until now. Our research reveals significant correlations between 401(k) plan performance and corporate financial performance. And the correlations don't just occur in large, highly profitable companies, but in companies of all sizes and in all industry sectors.



What is the Axiomatic database?

- Quantitative data on 1 MM U.S. public & private firms.
- Data is extracted from Form 5500 ERISA filings on welfare and retirement benefit plans.
- Benefit plan-level filings are aggregated to provide company level insights over time.
- Most pension plans covered by ERISA are required to file a Form 5500.
- Welfare plans with at least 100 participants at the beginning of the plan year are required to file a Form 5500.
- Coverage of Russell 3000 with granular data on pension plans, contributions, employment, etc.
- Data across multiple EINs, years, and schedules is harmonized for consistent insights.





Key Features

POINT IN TIME

Point in time company-level data is mapped to Russell 3000 tickers from January 2013 to December 2019 with time stamps.

RELIABLE

The data is extracted, ingested, and parsed from the DOL and IRS every month.

HARMONIZED & NORMALIZED

Plan-level data is harmonized and rolled up to company-level insights as companies may file under multiple EINs and on different schedules throughout the year.

TEST SET

Seven years of data is available for testing.



Use Cases For Public Company Investors

- For quantitative and fundamental investors: Changes in benefit plans may signal changes in growth rates and financial health.
- For short-sellers: Deceleration in employee benefit contributions and programs may signal impending or continuing stock weakness.
- For ESG investors: The ability to compare employee benefit plans across all companies and industries at a high level of granularity.
 - Employee Benefits: Do companies with better employee benefit plans outperform those with poor employee benefits?
 - Red Flags / Credit analysis: Performance of companies that stop certain employee benefit plans.
- Additional signals:
 - Growth trends: Growth rate of contributions and employees participating in benefit plans signal growth in earnings.
 - Macro signals: Aggregated data and metrics on employment, contributions, and credit enable zip code level, MSA, and industry level analysis.



Use Cases For Private Company Analysis

• Due diligence:

- High quality firmographics sourced from Form 5500 data (mandatory government filing).
- Consistent yearly longitudinal data for these companies.
- Estimated revenue for all private companies.

Benchmarks:

- Industry analysis, regional analysis and hiring trends.
- Monitor employee growth rates by company and industry.
- Compare and benchmark employee benefit plans across all US private and public companies.

Additional signals:

- Growth trends: Growth rate of contributions and employees participating in benefit plans signal growth in earnings for private companies.
- Macro signals: Aggregated data and metrics on employment, contributions, and credit for almost 1MM public and private companies enable zip code level, MSA and industry level analysis.



Sample Analyses

- Total Employer Contributions Rankings
- Correlation with Financial Performance
- **Geographic Analysis**
- **Single Company Analysis**
- Weakening Companies



Total Employer Contributions Rankings

Rankings-Total Employer Contributions to Defined Contribution Pension Plans

	sing \$ 1,3 Ils Fargo \$ 1,1 I-Mart \$ 1,0 Ik of America \$ 1,0 Ita Airlines \$ 7		2018			2019						
		Company		ibutions (mm)	Company	Contributions (mm)						
Boeing	\$	1,371.69	Boeing	\$	1,493.80	Boeing	\$	1,455.97				
Wells Fargo	\$	1,134.60	Wells Fargo	\$	1,303.90	Wal-Mart	\$	1,162.84				
Wal-Mart	\$	1,063.14	Wal-Mart	\$	1,120.24	Bank of America	\$	1,066.57				
Bank of America	\$	1,021.11	Bank of America	\$	1,046.19	Wells Fargo	\$	961.97				
Delta Airlines	\$	747.52	Delta Airlines	\$	857.15	Verizon	\$	924.39				
Southwest Airlines	\$	734.72	Southwest Airlines	\$	809.94	Delta Airlines	\$	914.22				
Verizon	\$	734.28	Verizon	\$	763.23	Southwest Airlines	\$	855.89				
American Airlines	\$	703.72	American Airlines	\$	743.70	American Airlines	\$	761.69				
AT&T	\$	632.09	AT&T	\$	663.71	Lockheed Martin	\$	650.43				
IBM	\$	626.07	IBM	\$	618.55	AT&T	\$	645.50				

- Rankings are consistent year over year for total company contributions to defined contribution benefit plans.
- Both the companies and level of contributions to DC plans are relatively consistent at the top of rankings.

Rankings-Total Employer Contributions to Defined Benefit Pension Plans

		20	18		2019					
Company Contributions (mm)		Company	Cont	ributions (mm)	Company	Contribu	Contributions (mm)			
Verizon	\$	3,005.22	General Electric	\$	6,790.75	Caterpillar	\$	1,500.00		
Delta Airlines	\$	2,905.02	UPS	\$	5,014.03	Walt Disney	\$	1,363.96		
Fedex	\$	1,839.00	Lockheed Martin	\$	4,994.34	Exxon Mobil	\$	1,022.00		
UPS	\$	1,529.00	Boeing	\$	4,000.00	UPS	\$	1,000.00		
Walt Disney	\$	1,352.40	Raytheon	\$	2,974.29	Fedex	\$	865.00		
General Electric	\$	1,256.08	Fedex	\$	2,625.00	Dow Chemical	\$	800.00		
Pfizer	\$	1,000.00	Delta	\$	2,577.05	United Airlines	\$	635.00		
Raytheon	\$	960.57	Caterpillar	\$	2,012.04	Centurylink	\$	500.00		
Kroger	\$	932.20	United Technologies	\$	1,900.00	Firstenergy	\$	500.00		
Southern Company	\$	900.00	Verizon	\$	1,597.30	Delta Airlines	\$	481.01		

Company contributions to defined benefit plans vary more year to year and are based on actuarial calculations to ensure the pension is properly funded.

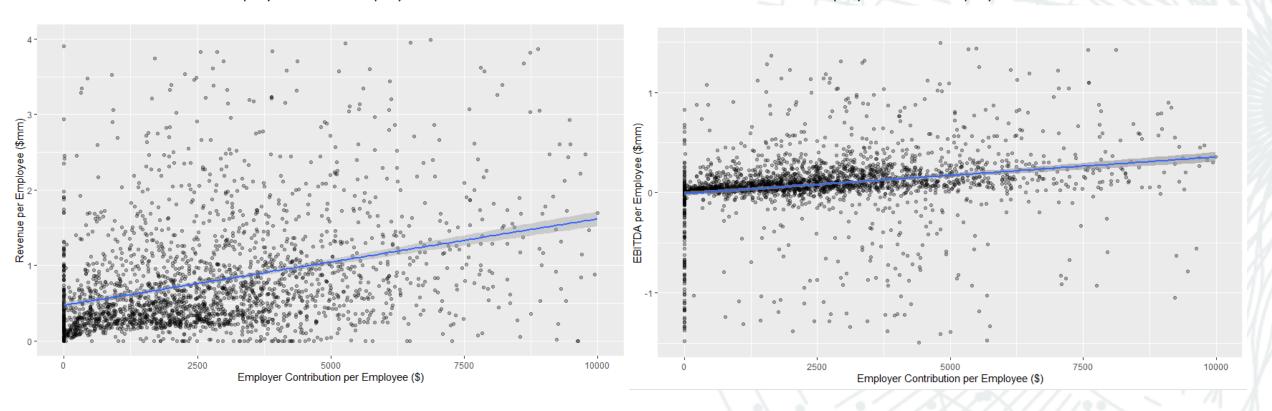


Correlation with Financial Performance

- Holding company size and industry sector constant in a regression analysis, companies with higher employer contributions per employee on average are more likely to have higher revenue and higher EBITDA per employee.
- Results are consistent with results from a 2018 study published by T-Rowe Price.

Revenue Per Employee Vs. DC Employer Contributions

EBITDA Per Employee Vs. DC Employer Contributions

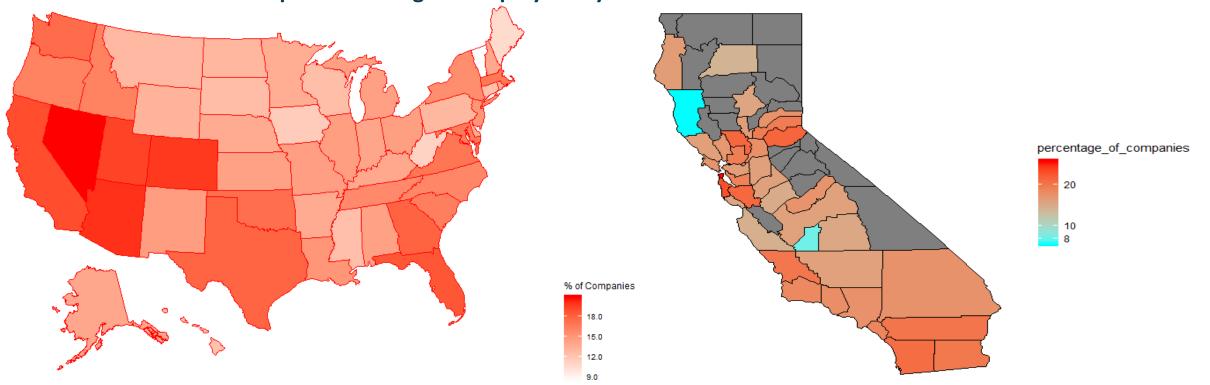




Geographic Analysis

- ■Consistent and longitudinal data allows for variety of customized macroeconomic Geo Analysis.
- Ability to perform analysis at macro-level but can also drill down to create lists of the companies themselves.

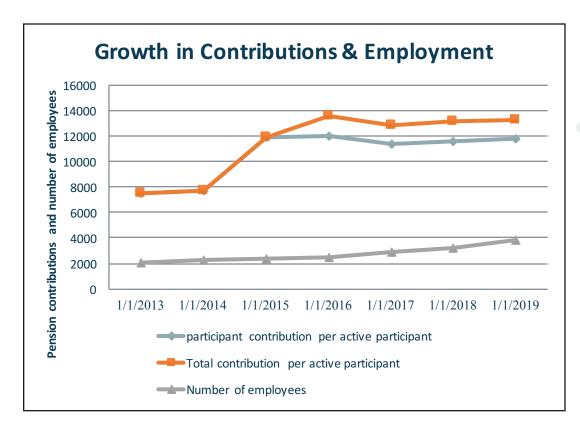
% of Companies which grew employees by at least 20% from 2018 to 2019

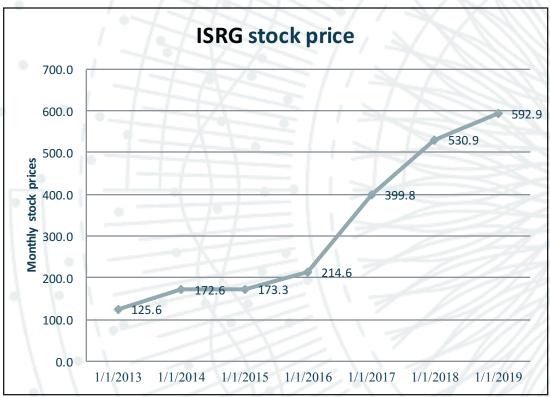


Note: Only companies with at least 20 employees were considered. California counties were excluded if the county had less than 50 companies with 20 or more employees.



Single Company Analysis: Intuitive Surgical (ISRG) **Growth in Contributions & Employment Signal Growth In Earnings**







Weakening Companies

• Companies with drop in employer contributions to defined contribution pension plans from 2017 to 2018

Ticker	Company Name	Active		DC Emp	loye	ions per Employee							
		201612	201712	201812	201912	7	201612		201712		201812		01912
CWH	CAMPING WORLD HOLDINGS	8,298	8,298	10,642	12,841	\$	138	\$	130	\$	5 F I	\$	J - [
SPTN	SPARTAN STORES	14,466	14,050	13,964	13,257	\$	756	\$	870	\$	499	\$	544
HAL	HALLIBURTON	23,463	23,463	23,611	26,171	\$	7,952	\$	7,952	\$	4,737	\$	5,232
SBH	SALLY BEAUTY HOLDINGS INC	19,596	19,909	19,934	19,493	\$	514	\$	482	\$	339	\$	326
CERN	CERNER CORP	17,185	18,758	19,895	21,962	\$	2,207	\$	1,916	\$	1,412	\$	1,870

• Companies with drop in employer contributions to defined contribution pension plan from 2018 to 2019

Ticker	Company Name Active Employees Eligible for Pensic					DC Employer Contributions per Employee								
		201612	201712	201812	201912	2	201612		201712		201812		201912	
PZZA	PAPA JOHNS INTERNATIONAL	7,410	7,245	7,262	9,428	\$	173	\$	206	\$	208	\$	72	
PLAY	DAVE AND BUSTERS ENTERTAINMENT	7,115	8,476	8,740	9,485	\$	99	\$	147	\$	121	\$	70	
ARMK	ARAMARK	83,344	79,985	81,805	77,501	\$	246	\$	277	\$	225	\$	146	
NYCB	NEW YORK COMMUNITY BANCORP	3,068	3,236	3,056	3,069	\$	2,941	\$	3,034	\$	2,964	\$	1,624	
ANAT	AMERICAN NATIONAL INSURANCE	4,607	4,606	4,548	4,638	\$	2,925	\$	2,830	\$	3,005	\$	2,089	



Appendix



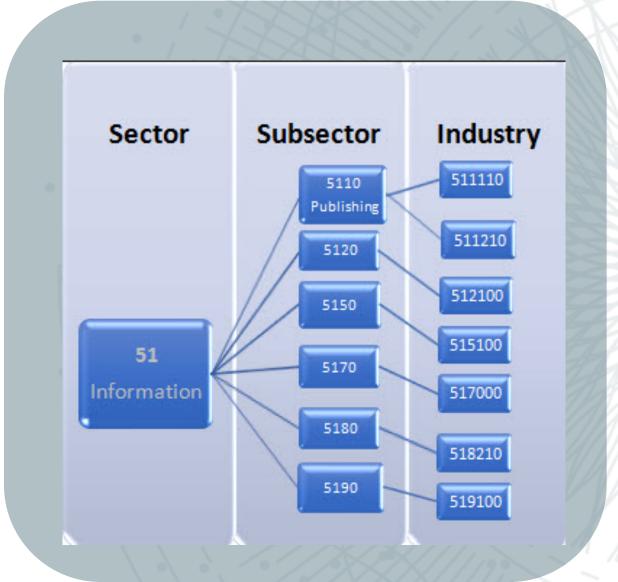
IRS Industry Classification

TREE STRUCTURE

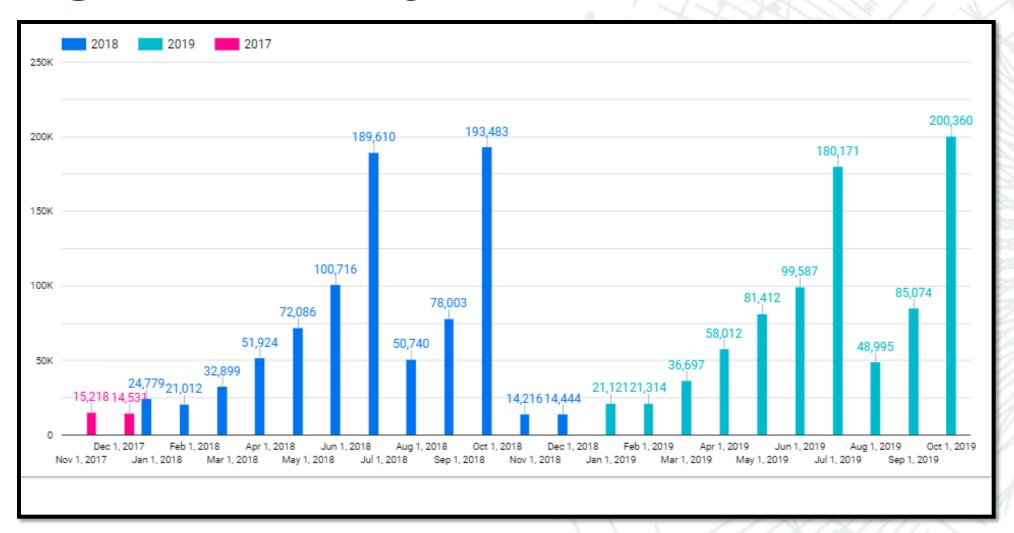
- Similar to NAICS and GICS classification in that they have the same tree structure.
- The first 2 digits represent the sector, first 4 digits the subsector & first 6 digits the industry.

GRANULARITY

- IRS industry codes are not as granular as NAICs codes but more granular than the GICS codes.
- There are 422 IRS industries, 1064 NAICS industries & 158 GICS sub-industries (most granular classification).



Filings received by month





Thank you!

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