

MERCER CAPITAL

# The 2019 Benchmarking Guide for Family Business Directors

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**Family business directors need the best information available when making strategic financial decisions that will help set the course of their business for years to come.**

**This *Benchmarking Guide* is the resource directors need.**

Going beyond the basics of revenue growth, profit margins, and balance sheet composition data, this *Benchmarking Guide* equips family business directors with the information needed to make informed decisions regarding capital budgeting, capital structure, and dividend policy.

Market data is transformed into meaningful information in this *Benchmarking Guide* for family business directors and their advisors. Also provided are questions and insights to help guide directors in their deliberations on these important decisions.

## About Mercer Capital

**Mercer Capital provides valuation, financial education, and other strategic financial consulting services to family businesses.**

We help family ownership groups, directors, and management teams align their perspectives on the financial realities, needs, and opportunities of the business.

We have had the privilege of working with successful family and closely held businesses for the past 35 years. Given our experience, we are convinced that an effective board of directors and an engaged shareholder base are essential for the long-term health and success of a family business. Yet, equipping family business directors and cultivating an engaged shareholder base are often difficult. We can help.

### Services Provided

- Customized Board Advisory Services
- Management Consulting
- Independent Valuation Opinions
- Transaction Advisory Services
- Confidential Shareholder Surveys
- Benchmarking / Business Intelligence
- Shareholder Engagement
- Shareholder Communication Support

The group also publishes weekly content about corporate finance & planning insights for multi-generational family businesses in the blog, *Family Business Director*.

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# Chapter 1 :: Introduction & Data Set

## INTRODUCTION

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Serving as a family business director is a daunting task. Directors are responsible for reviewing and assessing the operating and financial performance of the family business and making strategic decisions that will have a lasting impact on the family business as well as current and future generations of family shareholders.

There's an old adage that goes something like this: "Once you've seen one family business, you've seen one family business." Like most timeworn expressions, there is a lot of truth in that statement, yet it is not the whole truth. The fact that each family business truly is unique does not suggest that family business directors should evaluate financial performance or make important strategic decisions in a vacuum.

- Family business directors should – when possible – assess financial performance on both an absolute and relative basis. Absolute financial performance can simply be read off the face of the financial statements, but making appropriate relative comparisons requires reliable data on similarly-situated firms.
- Benchmarking data typically focuses on financial performance, but provides little perspective on the strategic financial decisions that can have a profound influence on the sustainability of the family business. Family business directors generally have little perspective on "how other companies do it" with regard to capital allocation, capital structure, and dividend policy. We aim to fill this unfortunate gap with the *2019 Benchmarking Guide for Family Business Directors*.

## DATA SOURCE

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Family businesses are generally very protective of their own financial performance, tightly limiting the circulation of their financial statements. While this impulse is understandable, it does limit the ability of family business directors to benchmark financial performance and strategic decisions to other privately-held family businesses. As a result, we have relied on data for public companies in the S&P 1500 index, which is the aggregation of the following three size-based indices:

- The S&P 500 Index, which consists of large capitalization companies;
- The S&P 400 Index, which tracks the performance of mid-cap public companies; and,
- The S&P 600 Index, comprising small-cap public companies.

While a universe of privately-held family businesses would be ideal in many respects, we believe the available data from public companies has a number of favorable attributes, including the breadth and depth of companies from which observations can be drawn, the quality of the available data, and the frequency with which the data is updated. Perhaps most importantly, public companies are generally managed from the perspective of increasing shareholder value. Since family dynamics can distort capital investment, financing, and dividend policy decisions, the public company data set actually provides a superior, less biased perspective, which is ideal for our purposes here.

We relied on reported financial data for each company, as compiled by S&P Capital IQ for the twelve month period ending nearest December 31, 2018. S&P Capital IQ assigns each company to one of eleven industry groups, which we find helpful for our analysis. Exhibit 1.1 summarizes the universe of public companies from which our benchmarking observations are derived.

**Exhibit 1.1 :: Composition of Data Set**

	S&P 500 Large Cap	S&P 400 Mid Cap	S&P 600 Small Cap	Total
Communication Services	22	12	16	50
Consumer Discretionary	64	58	94	216
Consumer Staples	33	14	20	67
Energy	30	25	37	92
Health Care	62	34	70	166
Industrials	69	60	98	227
Information Technology	68	54	90	212
Materials	25	29	32	86
Real Estate	32	36	38	106
Utilities	27	16	7	50
<i>Financials</i>	68	62	98	228
<b>Total</b>	<b>500</b>	<b>400</b>	<b>600</b>	<b>1,500</b>
<b>Total (Excluding Financials)</b>	<b>432</b>	<b>338</b>	<b>502</b>	<b>1,272</b>

Analysts typically evaluate financial institutions using a different set of financial metrics than operating businesses, so we have excluded the financials from our analysis in this guide. The resulting data set consists of 1,272 companies across three size categories and ten industry groupings. A complete roster of the companies included in our analysis is presented in the Appendix.

## PRESENTATION OF DATA

Each chapter presents relevant benchmarking data around a particular theme. The text of each chapter will define the various benchmarking measures referenced and provide a qualitative discussion guiding family business directors to the most appropriate use of the data. The format of many of the tables follows the general format of Table 1.1 (reproduced below).

**Table 1.1 :: Company Size (Revenue)**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	Revenue \$millions	Count	Revenue \$millions	Count	Revenue \$millions
Communication Services	75th Percentile		\$52,560		\$2,925		\$1,504
	Median	22	\$14,896	12	\$1,882	16	\$809
	25th Percentile		\$8,305		\$1,024		\$446
Consumer Discretionary	75th Percentile		\$19,516		\$5,255		\$2,619
	Median	64	\$11,128	58	\$3,167	94	\$1,219
	25th Percentile		\$6,460		\$1,680		\$685
Consumer Staples	75th Percentile		\$40,052		\$5,659		\$3,775
	Median	33	\$15,544	14	\$2,949	20	\$1,653
	25th Percentile		\$8,086		\$1,907		\$1,035
Energy	75th Percentile		\$23,716		\$3,211		\$1,430
	Median	30	\$13,081	25	\$1,899	37	\$998
	25th Percentile		\$5,848		\$1,172		\$483
Health Care	75th Percentile		\$28,873		\$2,820		\$819
	Median	62	\$11,007	34	\$1,711	70	\$431
	25th Percentile		\$3,656		\$859		\$195
Industrials	75th Percentile		\$23,121		\$4,520		\$2,054
	Median	69	\$11,458	60	\$3,247	98	\$1,373
	25th Percentile		\$5,447		\$2,481		\$811
Information Technology	75th Percentile		\$15,794		\$3,078		\$1,164
	Median	68	\$6,183	54	\$1,748	90	\$594
	25th Percentile		\$3,216		\$1,069		\$381
Materials	75th Percentile		\$16,719		\$5,409		\$1,671
	Median	25	\$9,159	29	\$3,808	32	\$1,439
	25th Percentile		\$4,700		\$2,319		\$851
Real Estate	75th Percentile		\$2,578		\$730		\$405
	Median	32	\$1,459	36	\$548	38	\$273
	25th Percentile		\$1,053		\$457		\$148
Utilities	75th Percentile		\$13,474		\$2,854		\$1,410
	Median	27	\$11,121	16	\$1,984	7	\$909
	25th Percentile		\$7,265		\$1,416		\$706

Note that, in addition to the number of companies in each industry/index grouping, three data points are provided for each subgroup: the 75<sup>th</sup> percentile, median, and 25<sup>th</sup> percentile observations. We can illustrate the derivation of each of these measures by examining the data for the 16 companies in the communication services industry from the S&P 600 index. Exhibit 1.1a presents a list of the revenue figures for each company sorted in descending order.

### Exhibit 1.1a :: Derivation of Statistical Measures

	<u>Revenue</u>	
Frontier Communications Corporation (NasdaqGS:FTR)	\$8,704	
Gannett Co., Inc. (NYSE:GCI)	\$2,788	
Scholastic Corporation (NasdaqGS:SCHL)	\$1,664	
New Media Investment Group Inc. (NYSE:NEWM)	\$1,504	
Cincinnati Bell Inc. (NYSE:CBB)	\$1,503	75th Percentile = \$1,504
Consolidated Communications Holdings, Inc. (NasdaqGS:CNSL)	\$1,411	
The E.W. Scripps Company (NasdaqGS:SSP)	\$1,040	
Vonage Holdings Corp. (NYSE:VG)	\$1,029	
The Marcus Corporation (NYSE:MCS)	\$590	Median = \$809
Iridium Communications Inc. (NasdaqGS:IRDM)	\$506	
Cogent Communications Holdings, Inc. (NasdaqGS:CCOI)	\$501	
ATN International, Inc. (NasdaqGS:ATNI)	\$451	
QuinStreet, Inc. (NasdaqGS:QNST)	\$430	25th Percentile = \$446
Care.com, Inc. (NYSE:CRCM)	\$187	
Spok Holdings, Inc. (NasdaqGS:SPOK)	\$170	
TechTarget, Inc. (NasdaqGM:TTGT)	\$120	

- The **median** observation represents the midpoint of the group. In other words, half of the observations are greater than the median, and half are less than the median. The median observation represents a measure of central tendency for a group, but unlike a group average, is not influenced by the magnitude of the extreme observations. In other words, the median of the observations presented on Exhibit 1.1a would be \$809 whether the revenue of Frontier Communications were \$3,000 or \$15,000.
- The **75<sup>th</sup> percentile** describes the point along the continuum of data for which 75% of observations are less than that point and 25% are greater than that point.
- The **25<sup>th</sup> percentile** describes the point along the continuum of data that exceeds 25% of all data observations and is less than 75% of the data points. Taken together, the percentile observations provide an intuitive measure of the dispersion for the group. In other words, the median informs us that the midpoint of the data range in Exhibit 1.2 is \$809 and the percentile measures tell us that half of all observations fall between \$446 and \$1,504.

## TABLE 1.1 :: COMPANY SIZE (MEASURED BY REVENUE)

---

There are multiple ways to measure the size of a family business. Perhaps the most common measure is revenue. Table 1.1 summarizes our benchmarking population relative to revenue for the most recent twelve month period.

Company size is often considered a proxy for risk. All else equal, smaller companies are more likely to be exposed to the types of concentrations that elevate the risk profile of a company, whether in terms of customers, management resources, product offerings, or geographic markets.

One recurring theme that will emerge throughout this benchmarking guide is the effect of company size on various financial metrics. Within our benchmarking population, the differences in size are stark. The size differences between large cap and mid cap companies is an order of magnitude, with median observations for the S&P 500 up to 8x the corresponding measures for the S&P 400. The differences between mid cap companies and small cap companies are less pronounced (in the range of 2x to 3x for most industries).

Many successful multi-generation family businesses are smaller than the small cap (S&P 600) companies in our benchmarking population. Does this render the data presented in this benchmarking guide worthless? We don't think so.

- One reason we elected to present the percentile data is to underscore that not all public companies are necessarily lumbering behemoths. For example, one-fourth of the information technology companies in the S&P 600 index reported total annual revenues *less than* \$381 million. These companies are operating at a scale that is not radically different from many multi-generation family businesses, even if the family businesses are somewhat smaller.
- Second, we believe there is value in benchmarking results to an aspirational set of peers. Benchmarking is not just about comparing your family business's results to immediate peers, but is also about evaluating key measures and strategic decisions relative to other companies that have demonstrated the ability to grow successfully. In other words, it is important to assess the attributes, qualities, and decisions of companies that are ahead of your family business.

**Table 1.1 :: Company Size (Revenue)**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		Revenue		Revenue		Revenue	
		Count	\$ <i>Millions</i>	Count	\$ <i>Millions</i>	Count	\$ <i>Millions</i>
Communication Services	75th Percentile		\$52,560		\$2,925		\$1,504
	Median	22	\$14,896	12	\$1,882	16	\$809
	25th Percentile		\$8,305		\$1,024		\$446
Consumer Discretionary	75th Percentile		\$19,516		\$5,255		\$2,619
	Median	64	\$11,128	58	\$3,167	94	\$1,219
	25th Percentile		\$6,460		\$1,680		\$685
Consumer Staples	75th Percentile		\$40,052		\$5,659		\$3,775
	Median	33	\$15,544	14	\$2,949	20	\$1,653
	25th Percentile		\$8,086		\$1,907		\$1,035
Energy	75th Percentile		\$23,716		\$3,211		\$1,430
	Median	30	\$13,081	25	\$1,899	37	\$998
	25th Percentile		\$5,848		\$1,172		\$483
Health Care	75th Percentile		\$28,873		\$2,820		\$819
	Median	62	\$11,007	34	\$1,711	70	\$431
	25th Percentile		\$3,656		\$859		\$195
Industrials	75th Percentile		\$23,121		\$4,520		\$2,054
	Median	69	\$11,458	60	\$3,247	98	\$1,373
	25th Percentile		\$5,447		\$2,481		\$811
Information Technology	75th Percentile		\$15,794		\$3,078		\$1,164
	Median	68	\$6,183	54	\$1,748	90	\$594
	25th Percentile		\$3,216		\$1,069		\$381
Materials	75th Percentile		\$16,719		\$5,409		\$1,671
	Median	25	\$9,159	29	\$3,808	32	\$1,439
	25th Percentile		\$4,700		\$2,319		\$851
Real Estate	75th Percentile		\$2,578		\$730		\$405
	Median	32	\$1,459	36	\$548	38	\$273
	25th Percentile		\$1,053		\$457		\$148
Utilities	75th Percentile		\$13,474		\$2,854		\$1,410
	Median	27	\$11,121	16	\$1,984	7	\$909
	25th Percentile		\$7,265		\$1,416		\$706

**TABLE 1.2 :: COMPANY SIZE (MEASURED BY INVESTED CAPITAL)**

Revenue is not the only relevant measure of size for a business enterprise. While revenue measures the volume of activity for a period of time as reported on the income statement, invested capital is a cumulative measure of the capital that lenders and shareholders have entrusted to the company.

The balance sheet is a record of how much capital has been invested in a business, and how that capital has been allocated by management to various operating assets (cash, working capital, net fixed assets, etc.). As illustrated in Exhibit 1.2 below, invested capital is the sum of the outstanding debt balance at the most recent date and the book value of shareholders' equity at that date. The book value of shareholders' equity represents both historical capital contributions by shareholders and the accumulated balance of retained (undistributed) earnings since the inception of the company.

**Exhibit 1.2 :: Calculation of Invested Capital**

<b>CURRENT LIABILITIES:</b>		
Current maturities of long-term debt	\$ 3,279	\$ 613
Accounts payable	176,167	132,011
Accrued compensation and benefits	87,388	69,217
Billings in excess of costs and estimated earnings	130,986	106,005
Accrued self-insurance	36,386	32,228
Other current liabilities	32,852	33,654
Total current liabilities	467,058	373,728
<b>LONG-TERM DEBT</b>	<b>73,639</b>	<b>59,926</b>
DEFERRED TAX LIABILITIES	1,387	2,263
OTHER LONG-TERM LIABILITIES	22,433	27,258
Total liabilities	564,517	463,175
<b>COMMITMENTS AND CONTINGENCIES</b>		
<b>STOCKHOLDERS' EQUITY:</b>		
Preferred stock, \$.01 par, 5,000,000 shares authorized, none issued and outstanding	—	—
Common stock, \$.01 par, 102,969,912 shares authorized, 41,123,365 and 41,123,365 shares issued, respectively	411	411
Treasury stock, at cost, 4,229,653 and 3,936,291 shares, respectively	(87,747)	(63,519)
Additional paid-in capital	316,479	312,784
Retained earnings	268,904	168,269
Total stockholders' equity	498,047	417,945
Total liabilities and stockholders' equity	\$ 1,062,564	\$ 881,120

**Calculation of Invested Capital**

Current portion of long-term debt	3,279	613
Long-term debt	73,639	59,926
Total debt	76,918	60,539
plus: Total stockholders' equity	498,047	417,945
Invested Capital	\$574,965	\$478,484

Invested capital measures the amount of capital that has been entrusted to the company by lenders and shareholders. Directors and managers then allocate that capital to a mix of assets intended to generate an appropriate return to capital providers. The size disparities among the different indices are comparable to those observed relative to revenue.

**Table 1.2 :: Company Size (Invested Capital)**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
			Invested Capital Count	Invested Capital Count	Invested Capital Count	Invested Capital Count	
		<i>\$millions</i>	<i>\$millions</i>	<i>\$millions</i>	<i>\$millions</i>	<i>\$millions</i>	<i>\$millions</i>
Communication Services	75th Percentile		\$81,803		\$4,282		\$1,671
	Median	22	\$20,817	12	\$2,922	16	\$1,029
	25th Percentile		\$9,949		\$1,595		\$570
Consumer Discretionary	75th Percentile		\$12,812		\$3,475		\$1,298
	Median	64	\$8,174	58	\$1,900	94	\$678
	25th Percentile		\$3,937		\$1,159		\$357
Consumer Staples	75th Percentile		\$26,898		\$2,945		\$1,659
	Median	33	\$18,867	14	\$1,750	20	\$1,157
	25th Percentile		\$7,473		\$1,216		\$507
Energy	75th Percentile		\$38,145		\$8,435		\$2,326
	Median	30	\$19,005	25	\$5,826	37	\$1,361
	25th Percentile		\$15,112		\$3,342		\$642
Health Care	75th Percentile		\$35,951		\$3,745		\$970
	Median	62	\$14,323	34	\$2,224	70	\$496
	25th Percentile		\$5,605		\$1,171		\$295
Industrials	75th Percentile		\$22,070		\$3,652		\$1,348
	Median	69	\$11,069	60	\$2,495	98	\$938
	25th Percentile		\$4,747		\$1,744		\$620
Information Technology	75th Percentile		\$17,754		\$3,286		\$1,018
	Median	68	\$7,860	54	\$2,136	90	\$597
	25th Percentile		\$3,054		\$1,179		\$340
Materials	75th Percentile		\$15,263		\$3,912		\$1,220
	Median	25	\$12,621	29	\$2,566	32	\$1,066
	25th Percentile		\$8,124		\$2,152		\$596
Real Estate	75th Percentile		\$19,315		\$6,470		\$2,758
	Median	32	\$12,331	36	\$4,174	38	\$1,829
	25th Percentile		\$9,835		\$3,162		\$1,199
Utilities	75th Percentile		\$39,087		\$4,854		\$4,083
	Median	27	\$26,309	16	\$4,231	7	\$2,602
	25th Percentile		\$16,576		\$4,036		\$1,627

**TABLE 1.3 :: COMPANY SIZE (MEASURED BY ENTERPRISE VALUE)**

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Invested capital measures book value and does not incorporate current market values. Our final measure of company size, enterprise value, represents the value of the operations of the company. In other words, how does the market evaluate the future prospects of the business and to what degree have the investment decisions by corporate managers and directors increased the value of the capital provided by lenders and shareholders?

The calculation of enterprise value is illustrated on Exhibit 1.3. Cash is deducted in deriving enterprise value by custom; doing so isolates the value of the operations of the business and promotes comparability among firms that may elect to hold greater or lesser amounts of cash and equivalent assets.

**Exhibit 1.3 :: Calculation of Enterprise Value**

Common Shares Outstanding	37.0
times: Market Price per Share	\$43.68
Market Value - Common Equity	<u>\$1,614</u>
plus: Preferred Equity	0
plus: Noncontrolling Interest	<u>0</u>
Market Value - Total Equity	\$1,614
plus: Total Debt	77
less: Cash & Equivalents	<u>(46)</u>
Enterprise Value	\$1,646

Whereas invested capital is a historical measure of the capital available to management of a business, enterprise value measures the present value of the anticipated future benefits accruing to capital providers from management's use of available capital.

**Table 1.3 :: Company Size (Enterprise Value)**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		Enterprise Value		Enterprise Value		Enterprise Value	
		Count	\$millions	Count	\$millions	Count	\$millions
Communication Services	75th Percentile		\$175,159		\$5,796		\$2,469
	Median	22	\$35,425	12	\$5,654	16	\$1,306
	25th Percentile		\$19,478		\$3,308		\$967
Consumer Discretionary	75th Percentile		\$31,151		\$5,736		\$2,084
	Median	64	\$15,239	58	\$3,948	94	\$1,266
	25th Percentile		\$10,684		\$2,995		\$563
Consumer Staples	75th Percentile		\$80,132		\$4,993		\$2,576
	Median	33	\$36,485	14	\$3,500	20	\$1,793
	25th Percentile		\$22,986		\$2,764		\$1,279
Energy	75th Percentile		\$53,434		\$6,014		\$1,744
	Median	30	\$27,855	25	\$4,157	37	\$1,055
	25th Percentile		\$14,056		\$2,794		\$508
Health Care	75th Percentile		\$78,258		\$6,740		\$2,067
	Median	62	\$32,308	34	\$5,129	70	\$1,130
	25th Percentile		\$15,341		\$3,791		\$731
Industrials	75th Percentile		\$47,180		\$6,316		\$2,222
	Median	69	\$23,317	60	\$4,814	98	\$1,463
	25th Percentile		\$12,606		\$3,532		\$960
Information Technology	75th Percentile		\$52,195		\$6,121		\$1,751
	Median	68	\$23,057	54	\$4,438	90	\$1,097
	25th Percentile		\$12,895		\$3,167		\$558
Materials	75th Percentile		\$28,504		\$6,576		\$1,651
	Median	25	\$16,746	29	\$4,867	32	\$1,189
	25th Percentile		\$13,937		\$3,058		\$692
Real Estate	75th Percentile		\$33,250		\$8,400		\$3,053
	Median	32	\$22,142	36	\$6,248	38	\$2,136
	25th Percentile		\$15,530		\$4,815		\$1,577
Utilities	75th Percentile		\$50,781		\$8,359		\$5,159
	Median	27	\$34,948	16	\$6,285	7	\$3,429
	25th Percentile		\$24,779		\$5,839		\$2,986

## ILLUSTRATIVE CALCULATIONS

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Throughout this guide, we illustrate the calculation of the various performance metrics presented. Our illustrative calculations are based on the financial statements for a single company, Comfort Systems USA, Inc. (ticker: FIX). Comfort Systems USA, Inc. installs, renovates, maintains, and repairs HVAC systems for commercial buildings in the United States. The company reported total revenue of approximately \$2.2 billion during 2018 and had an enterprise value of \$1.7 billion at the end of the year.

The following exhibits summarize the financial statements of Comfort Systems USA, Inc.

Comfort Systems USA, Inc.  
 Financial Information as of December 31, 2018  
 Summary Information  
 Presented in \$000,000s (except per share data)

**Business Description**

Comfort Systems USA, Inc. provides mechanical installation, renovation, maintenance, repair, and replacement services for the mechanical services industry in the United States. It is involved in the design, engineering, integration, installation, and start-up of mechanical and related systems; and maintenance, repair, replacement, renovation, expansion, reconfiguration, and monitoring of mechanical systems, including heating, ventilation, and air conditioning (HVAC) systems, as well as plumbing, piping and controls, off-site construction, electrical, monitoring, and fire protection. The company provides its services for office buildings, retail centers, apartment complexes, and manufacturing plants; and healthcare, education, and government facilities. It serves building owners and developers, general contractors, architects, consulting engineers, and property managers in the commercial, industrial, and institutional HVAC markets. Comfort Systems USA, Inc. was founded in 1917 and is headquartered in Houston, Texas.

**Capitalization**

	12/31/18
Stock Price	\$43.68
Times: Shares Outstanding	36,956
Equity Market Capitalization	\$1,614
plus: Preferred Equity	0
plus: Minority Interest	77
plus: Interest-Bearing Debt	(46)
less: Cash & Equivalents	\$1,646
Enterprise Value	

**Valuation Multiples**

	2018	Forward
Revenue	0.75x	0.70x
EBITDA	8.8x	7.6x
EBIT	11.0x	9.5x

	2018	Forward
EPS	14.6x	13.2x
Book Value	3.2x	

**Summary Performance Measures**

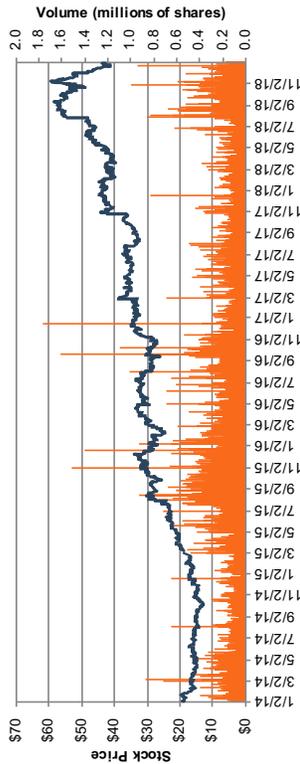
	2018	2019E	2020E
Revenue	\$2,183	\$2,367	\$2,446
EBITDA	\$192	\$215	\$224
Margin	8.8%	9.1%	9.2%
EBIT	\$149	\$172	\$180
Margin	6.8%	7.3%	7.3%
EPS	\$3.00	\$3.30	\$3.47
BVPS	\$13.53		
D&A	\$43	\$43	\$44
CapEx	(\$27)	(\$31)	(\$32)

**Volatility, Dividend & Growth Measures**

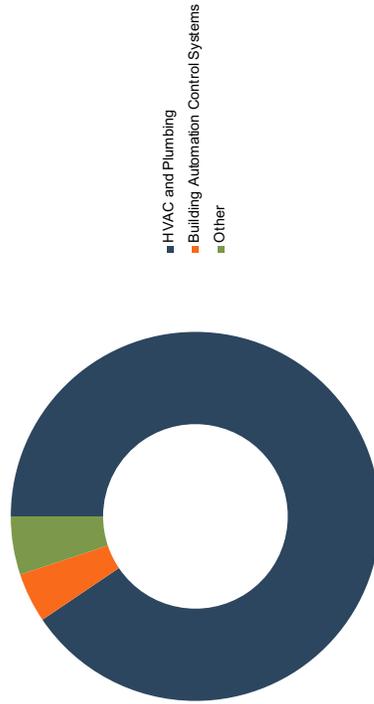
Beta (5-Year)	1.34
Return Volatility (1-Yr)	28.63%
Return Volatility (5-Yr)	28.68%
Dividends Per Share (4Q18)	\$0.09
Annualized Div. Per Share	\$0.36
Implied Dividend Yield	0.82%
Hist Rev Growth (5-Yr)	10.0%
Est Rev Growth (2-Yr)	13.3%
S&P Issuer Credit Rating	NR

**Historical Performance Measures & Multiples**

	Dec-18	Dec-17	Dec-16	Dec-15	Dec-14
Total Assets	\$1,063	\$881	\$709	\$692	\$1,063
Total Liabilities	565	463	332	327	565
Total Equity	498	418	377	365	498
Net Sales	\$2,183	\$1,788	\$1,634	\$1,581	\$1,411
EBITDA	192	138	127	113	63
EBITDA Margin	8.8%	7.7%	7.8%	7.1%	4.5%
Equity Market Capitalization	\$1,614	\$1,614	\$1,229	\$1,060	\$634
plus: Net Debt & Other	78	52	3	(15)	17
Enterprise Value	\$1,692	\$1,666	\$1,232	\$1,045	\$651
EV / Revenue	0.8x	0.9x	0.8x	0.7x	0.5x
EV / EBITDA	8.8x	12.1x	9.7x	9.3x	10.3x



**Revenue Segments**



Comfort Systems USA, Inc.  
 Financial Information as of December 31, 2018  
 Summary Information  
 Presented in \$000,000s (except per share data)

Assets	Calendar Year Ended			
	Dec-18	Dec-17	Dec-16	Dec-15
Cash & Short-term Investments	\$46	\$37	\$32	\$56
Other Current Assets	564	453	384	368
Total Current Assets	610	489	416	424
Net Fixed Assets	100	88	61	100
Goodwill & Intangibles	330	277	192	185
Other Assets	23	28	33	22
Total Assets	\$1,063	\$881	\$709	\$692

Liabilities	Calendar Year Ended			
	Dec-18	Dec-17	Dec-16	Dec-15
Current Debt	\$3	\$1	\$1	\$1
Accrued Expenses & Other	464	373	317	305
Total Current Liabilities	467	374	318	305
Non-current Debt	74	60	2	11
Other Liabilities	24	30	13	10
Total Liabilities	\$565	\$463	\$332	\$327

Shareholders' Equity	Calendar Year Ended			
	Dec-18	Dec-17	Dec-16	Dec-15
Common Equity	\$498	\$418	\$377	\$347
Preferred Equity	0	0	0	0
Minority Interest	0	0	0	18
Total Equity	498	418	377	365
Total Liabilities & Equity	\$1,063	\$881	\$709	\$692

Memo	Calendar Year Ended			
	Dec-18	Dec-17	Dec-16	Dec-15
Total Debt / EBITDA	0.4x	0.4x	0.0x	0.1x
Net Working Capital	\$100	\$80	\$67	\$63
As a % of Net Sales	4.6%	4.5%	4.1%	4.0%
Inventory	\$12	\$10	\$9	\$9
Accounts Receivable	\$529	\$413	\$319	\$302

Operating Activities	Calendar Year Ended			
	Dec-18	Dec-17	Dec-16	Dec-15
Net Income/(Loss)	\$113	\$55	\$65	\$49
plus: Depreciation & Amortization	43	37	26	23
plus/less: Other Reconciling Items	(8)	21	0	25
Cash Flow from Operating Activities	\$147	\$114	\$91	\$98

Investing Activities	Calendar Year Ended			
	Dec-18	Dec-17	Dec-16	Dec-15
Capital Expenditures	(\$27)	(\$35)	(\$23)	(\$21)
plus/less: Net Investment Activity	(68)	(94)	(56)	(5)
Cash Flow from Investing Activities	(\$96)	(\$129)	(\$79)	(\$26)

Financing Activities	Calendar Year Ended			
	Dec-18	Dec-17	Dec-16	Dec-15
Net Borrowing / (Repayment)	\$4	\$44	(\$11)	(\$29)
plus/less: Net Common Share Issuance	(27)	(8)	(13)	(6)
less: Dividends Paid	(12)	(11)	(10)	(9)
plus/less: Other Reconciling Items	(7)	(5)	(2)	(4)
Cash Flow from Financing Activities	(\$42)	\$19	(\$36)	(\$48)

Memo	Calendar Year Ended			
	Dec-18	Dec-17	Dec-16	Dec-15
Cash Flow From Acquisitions	(\$70)	(\$95)	(\$57)	(\$6)
Dividends Per Share	\$0.33	\$0.30	\$0.28	\$0.25
Common Stock Repurchases	(\$30)	(\$10)	(\$14)	(\$9)
Preferred Stock Repurchases	\$0	\$0	\$0	\$0

Income Statements	Calendar Year Ended			
	Dec-18	Dec-17	Dec-16	Dec-15
Net Sales	\$2,183	\$1,788	\$1,634	\$1,561
Cost of Sales	1,737	1,422	1,290	1,282
Gross Profit	446	366	344	250
Operating Expense	297	266	243	229
Operating Income	149	100	101	89
Other Income/(Expense)	0	0	0	0
Interest Income	(4)	(3)	(2)	(2)
Interest Expense	3	4	3	1
Other, Net	(1)	1	0	(1)
Total Other Income/(Expense)	149	101	101	89
Pre-Tax Income	36	46	36	31
Income Tax Expense/(Benefit)	113	55	65	57
Net Income - Continuing Ops	(0)	0	0	8
Disc Ops & Minority Interest	\$113	\$55	\$65	\$49
Net Income - Controlling Interest				\$23

Annual Revenue Growth 22.1% 9.4% 3.4% 12.0%

Percentage Income Statements	Calendar Year Ended			
	Dec-18	Dec-17	Dec-16	Dec-15
Net Sales	100.0%	100.0%	100.0%	100.0%
Cost of Sales	79.6%	79.5%	79.0%	79.9%
Gross Profit	20.4%	20.5%	21.0%	20.1%
Operating Expense	13.6%	14.9%	14.9%	14.5%
Operating Income	6.8%	5.6%	6.2%	5.6%
Other Income/(Expense)	0.0%	0.0%	0.0%	0.0%
Interest Income	-0.2%	-0.2%	-0.1%	-0.1%
Interest Expense	0.1%	0.2%	0.2%	0.1%
Other, Net	0.0%	0.0%	0.0%	0.0%
Total Other Income/(Expense)	6.8%	5.6%	6.2%	5.6%
Pre-Tax Income	1.6%	2.6%	2.2%	2.0%
Income Tax Expense/(Benefit)	5.2%	3.1%	4.0%	3.6%
Net Income - Continuing Ops	0.0%	0.0%	0.0%	0.5%
Disc Ops & Minority Interest	5.2%	3.1%	4.0%	3.1%

Derivation of EBIT and EBITDA	Calendar Year Ended			
	Dec-18	Dec-17	Dec-16	Dec-15
Net Income	\$113	\$55	\$65	\$49
less: Earnings - Discontinued Ops	0	0	0	0
less: Minority Interest in Earnings	0	0	0	8
less: Extraordinary Items & Acctg Change:	0	0	0	0
plus: Income Tax Expense	36	46	36	31
less: Unusual Items	(3)	(4)	(2)	(1)
less: Non-Operating Income	(0)	(0)	(0)	(0)
plus: Income from Equity Investments	0	0	0	0
plus: Net Interest Expense	4	3	2	2
EBIT	\$149	\$100	\$101	\$89
plus: Depreciation & Amortization	43	37	26	23
EBITDA	\$192	\$138	\$127	\$113
EBITDA Margin	8.8%	7.7%	7.8%	7.1%

# Chapter 2 :: Revenue & Earnings

## INTRODUCTION

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The income statement is the natural starting place for financial analysis. The earnings performance of a family business will exert significant influence on the strategic options available to the board of directors and management. In this chapter, we present benchmarking data for six financial metrics drawn from the income statement:

- Table 2.1 – Revenue Growth. Measuring revenue growth can serve as a proxy for the momentum, or lack thereof, for a business. Revenue momentum can be a result of M&A activity, strategic reinvestment, growth in market demand, or other factors.
- Table 2.2 – EBITDA Margin. For operating businesses, EBITDA is the standard measure of earnings performance. EBITDA margin measures the efficiency with which the business converts a dollar of revenue into a dollar of EBITDA.
- Table 2.3 – EBIT Margin. Not all dollars of EBITDA are equal. EBIT measures earnings after ongoing capital reinvestment needs (as proxied by depreciation and amortization charges) are met, yielding a measure of earnings that is more directly attributable to capital providers.
- Table 2.4 – Pre-tax Margin. The difference between EBIT and pre-tax income is interest expense, which is the return to lenders. As a result, pre-tax margin measures the portion of EBIT attributable to shareholders.
- Table 2.5 – Effective Tax Rate. Income taxes are broadly proportionate to pre-tax earnings. However, companies seek to identify strategies to minimize their corporate tax burden. The effective tax rate measures the portion of pre-tax income that is payable to the government rather than shareholders.
- Table 2.6 – Net Margin. Net income is the amount of earnings remaining for shareholders after provision for capital investment, return to lenders, and tax obligations have been met. It is the most comprehensive measure of how efficiently the operating business converts revenue into net income.

## TABLE 2.1 :: REVENUE GROWTH

---

We measure revenue growth as a three-year compound annual growth rate. Exhibit 2.1 illustrates the calculation of revenue growth for our benchmarking population.

### Exhibit 2.1 :: Calculation of Revenue Growth

$$\text{Revenue Growth} = \left[ \frac{2018 \text{ Revenue}}{2015 \text{ Revenue}} \right]^{1/3} - 1$$

$$11.4\% = \left[ \frac{\$2,183}{\$1,581} \right]^{1/3} - 1$$

Family business directors should evaluate revenue growth from multiple perspectives:

- How does our revenue growth compare to the overall growth of our industry?
- What distinguishes the companies gaining market share from those losing market share in our industry?
- Are there acquisition opportunities that provide the opportunity to augment the growth we could expect to achieve on a standalone basis?
- Are there adjacent products or markets that we are well-positioned to enter?
- Are our facilities, staff, procedures, and IT resources sufficient to support expected growth?
- What is the relationship between revenue growth (or an absence thereof) and profitability for our family business?

**Table 2.1 :: Revenue Growth**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	Revenue Growth	Count	Revenue Growth	Count	Revenue Growth
Communication Services	75th Percentile		18.3%		12.7%		12.5%
	Median	21	7.4%	12	6.3%	16	8.2%
	25th Percentile		2.7%		2.8%		4.8%
Consumer Discretionary	75th Percentile		9.6%		10.0%		13.4%
	Median	64	6.3%	58	4.9%	93	4.9%
	25th Percentile		2.2%		0.8%		0.1%
Consumer Staples	75th Percentile		7.0%		8.0%		11.7%
	Median	32	2.2%	14	3.1%	20	4.0%
	25th Percentile		0.0%		1.2%		-0.4%
Energy	75th Percentile		17.2%		33.2%		22.2%
	Median	30	9.8%	25	7.2%	37	3.7%
	25th Percentile		3.4%		-7.2%		-3.2%
Health Care	75th Percentile		14.1%		18.8%		18.8%
	Median	62	9.2%	34	10.7%	69	10.3%
	25th Percentile		5.8%		8.1%		3.4%
Industrials	75th Percentile		8.6%		9.5%		11.3%
	Median	69	5.4%	60	6.2%	98	5.6%
	25th Percentile		3.3%		3.4%		0.7%
Information Technology	75th Percentile		17.0%		15.6%		16.1%
	Median	68	8.9%	53	9.0%	89	8.1%
	25th Percentile		3.9%		3.5%		3.9%
Materials	75th Percentile		11.4%		7.2%		13.3%
	Median	25	6.8%	29	5.1%	32	5.4%
	25th Percentile		2.7%		2.3%		0.6%
Real Estate	75th Percentile		14.1%		11.7%		12.5%
	Median	30	5.5%	33	5.4%	38	5.9%
	25th Percentile		1.2%		2.4%		1.1%
Utilities	75th Percentile		4.6%		4.4%		5.2%
	Median	27	2.1%	16	1.5%	7	2.1%
	25th Percentile		-0.7%		0.2%		-1.2%

## TABLE 2.2 :: EBITDA MARGIN

---

EBITDA is the most commonly referenced measure of earnings for family businesses. Exhibit 2.2a depicts the relationship of EBITDA to other components of the income statement.

### Exhibit 2.2a :: EBITDA & Income Statement Components

Revenue
less: Cost of Goods Sold
Gross Profit
less: Cash Operating Expenses
<b>EBITDA (Earnings before Interest, Taxes, Depreciation &amp; Amortization)</b>
less: Depreciation & Amortization
EBIT (Earnings before Interest & Taxes)
less: Interest Expense
Pre-tax Income
less: Income Taxes
Net Income

EBITDA is appealing to many observers because it is a convenient proxy for cash flow provided by the operations of a business. EBITDA promotes comparisons across firms because it is unaffected by capital structure, tax considerations, or whether the business has grown organically or through acquisitions (which generate amortization charges).

In financial analysis, a “margin” is a ratio that has revenue as its denominator. Exhibit 2.2b illustrates the calculation of EBITDA margin.

### Exhibit 2.2b :: Calculation of EBITDA Margin

$$EBITDA \text{ Margin} = \frac{2018 \text{ EBITDA}}{2018 \text{ Revenue}}$$

$$8.8\% = \frac{\$192}{\$2,183}$$

EBITDA margin measures the efficiency with which a business converts revenue into EBITDA. Family business directors should evaluate EBITDA margin with the following questions in mind:

- When compared to benchmarking data, does our EBITDA margin conform to what we believe our corporate strategy to be? In other words, if the strategy is to sell a differentiated product at a premium price, does our EBITDA margin compare favorably to peers pursuing a low-cost, high-volume strategy?
- Does our EBITDA margin reveal any operating inefficiencies that we need to address through investments in technology, re-engineered systems or reductions in force?
- Does our EBITDA margin suggest any competitive vulnerability? As summed up by Amazon founder Jeff Bezos, our margin represents our competitor’s opportunity. What steps should our family business take to secure, protect, and extend our existing competitive advantages?

**Table 2.2 :: EBITDA Margin**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	EBITDA Margin	Count	EBITDA Margin	Count	EBITDA Margin
Communication Services	75th Percentile		33.4%		27.3%		29.1%
	Median	22	27.4%	12	22.8%	16	17.9%
	25th Percentile		16.8%		15.9%		9.4%
Consumer Discretionary	75th Percentile		22.1%		23.4%		13.3%
	Median	64	14.5%	58	14.3%	93	9.6%
	25th Percentile		10.6%		11.2%		6.9%
Consumer Staples	75th Percentile		26.3%		17.3%		14.9%
	Median	33	20.8%	14	15.8%	20	9.3%
	25th Percentile		14.4%		7.8%		4.8%
Energy	75th Percentile		56.6%		66.4%		53.5%
	Median	30	38.6%	25	37.3%	37	18.0%
	25th Percentile		15.1%		14.5%		11.3%
Health Care	75th Percentile		31.9%		25.8%		22.1%
	Median	62	26.4%	34	20.0%	69	13.0%
	25th Percentile		17.6%		14.5%		7.6%
Industrials	75th Percentile		23.6%		19.8%		16.4%
	Median	69	17.4%	60	15.9%	96	12.0%
	25th Percentile		14.4%		9.8%		8.5%
Information Technology	75th Percentile		39.9%		22.9%		18.0%
	Median	68	28.4%	54	16.9%	90	11.4%
	25th Percentile		21.1%		9.8%		5.2%
Materials	75th Percentile		27.2%		18.5%		14.9%
	Median	25	21.1%	29	15.5%	32	11.6%
	25th Percentile		16.7%		13.2%		9.3%
Real Estate	75th Percentile		74.2%		81.9%		70.4%
	Median	30	64.0%	33	60.8%	37	62.9%
	25th Percentile		61.4%		52.7%		55.0%
Utilities	75th Percentile		39.1%		35.3%		33.3%
	Median	27	31.7%	15	32.9%	7	32.0%
	25th Percentile		30.0%		20.5%		26.1%

## TABLE 2.3 :: EBIT MARGIN

---

While EBITDA is an important measure of financial performance for a business, it is not perfect. Depreciation and amortization is an imperfect proxy for ongoing capital expenditure requirements, but the fact is that some measure of ongoing capital spending will be required to sustain the family business. Moving further down the income statement, EBIT (also referred to as operating income), provides a view of the cash flow available to capital providers *after* necessary capital expenditures have been made.

Exhibit 2.3 illustrates the calculation of EBIT margin.

### Exhibit 2.3 :: Calculation of EBIT Margin

$$EBIT \text{ Margin} = \frac{2018 \text{ EBIT}}{2018 \text{ Revenue}}$$

$$6.8\% = \frac{\$149}{\$2,183}$$

As with other income statement margins, EBIT margin is an efficiency measure: how much operating income does the company wring out of a given dollar of revenue? Important considerations for family business directors evaluating EBIT margin include the following:

- How sensitive is our operating income to changes in revenue? In other words, what portion of our operating expense base is fixed rather than variable? In periods of increasing revenue, fixed costs contribute to increasing EBIT margins. But when revenue growth is anemic or negative, variable costs can help to cushion the negative impact on operating income.
- Is our physical production capacity well-maintained, or are there significant deferred capital expenditures that will create an overhang on future operating income growth?
- Does our current production capacity “fit” our operations, or are strategic acquisitions available that would enable us to leverage existing unused capacity?
- Do we have the right people in the right places in our family business to ensure long-term sustainability and success? Are we under- or over-staffed relative to current needs? What tools or investments are available to enhance workforce productivity?

**Table 2.3 :: EBIT Margin**

		S&P 500 Large Cap Stocks		S&P 400 Mid Cap Stocks		S&P 600 Small Cap Stocks	
		EBIT		EBIT		EBIT	
		Count	Margin	Count	Margin	Count	Margin
Communication Services	75th Percentile		24.0%		19.0%		13.0%
	Median	22	19.3%	12	13.6%	16	6.8%
	25th Percentile		13.1%		9.8%		4.8%
Consumer Discretionary	75th Percentile		16.8%		16.8%		9.7%
	Median	64	11.5%	58	11.7%	93	6.5%
	25th Percentile		7.4%		7.8%		3.9%
Consumer Staples	75th Percentile		22.6%		13.7%		13.2%
	Median	33	17.0%	14	11.8%	20	6.3%
	25th Percentile		12.3%		5.1%		1.6%
Energy	75th Percentile		26.1%		24.7%		18.8%
	Median	30	16.1%	25	14.2%	37	6.8%
	25th Percentile		8.1%		-1.8%		-0.7%
Health Care	75th Percentile		26.4%		16.0%		17.1%
	Median	62	17.6%	34	13.5%	69	8.4%
	25th Percentile		11.3%		9.6%		2.4%
Industrials	75th Percentile		19.5%		14.0%		11.3%
	Median	69	13.8%	60	10.9%	96	8.3%
	25th Percentile		10.8%		7.0%		5.4%
Information Technology	75th Percentile		32.6%		17.4%		12.9%
	Median	68	21.1%	54	10.7%	90	6.5%
	25th Percentile		14.5%		4.2%		1.3%
Materials	75th Percentile		17.7%		13.6%		10.4%
	Median	25	15.4%	29	9.5%	32	7.6%
	25th Percentile		11.5%		8.5%		4.0%
Real Estate	75th Percentile		41.8%		44.6%		41.2%
	Median	30	35.2%	33	29.9%	37	30.9%
	25th Percentile		29.6%		23.3%		19.5%
Utilities	75th Percentile		22.8%		22.4%		19.0%
	Median	27	19.5%	15	17.1%	7	17.4%
	25th Percentile		16.7%		12.0%		15.6%

## TABLE 2.4 :: PRE-TAX MARGIN

---

EBITDA and EBIT emphasize the *operating* performance of the business, focusing on the earnings that are available to generate returns for both lenders and shareholders. Since operating management is generally not responsible for strategic financing decisions, this is the appropriate level for assessing their performance.

Yet, family business directors do make strategic financing decisions, and shareholders are ultimately concerned with earnings remaining after lenders have been paid. Pre-tax margin reveals the efficiency with which the family business converts revenue to pre-tax income. Pre-tax margin reflects both how the business operations are being managed *and* how the directors have elected to finance those operations.

Referencing pre-tax income promotes comparability among firms that may have different tax attributes (i.e., C corps and S corps). Exhibit 2.4 illustrates the calculation of pre-tax margin.

### Exhibit 2.4 :: Calculation of Pre-tax Margin

$$\text{Pre-tax Margin} = \frac{2018 \text{ Taxable Income}}{2018 \text{ Revenue}}$$

$$6.8\% = \frac{\$149}{\$2,183}$$

Family directors should evaluate pre-tax margin with the following considerations in mind:

- How do our obligations to lenders compare to sustainable operating income?
- What is the appetite of our family shareholders for taking on additional financial risk?
- Are there opportunities to reduce our current debt costs?
- How does our current capital structure affect our family business's ability to withstand an unexpected economic downturn?

**Table 2.4 :: Pre-Tax Margin**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		Pre-Tax		Pre-Tax		Pre-Tax	
		Count	Margin	Count	Margin	Count	Margin
Communication Services	75th Percentile		18.4%		13.6%		6.9%
	Median	22	14.4%	12	10.8%	16	2.4%
	25th Percentile		10.2%		4.3%		-2.0%
Consumer Discretionary	75th Percentile		13.8%		13.3%		8.8%
	Median	64	9.0%	58	8.4%	93	4.9%
	25th Percentile		5.7%		5.8%		1.4%
Consumer Staples	75th Percentile		18.1%		10.0%		13.0%
	Median	33	12.6%	14	6.3%	20	4.3%
	25th Percentile		4.7%		3.2%		1.4%
Energy	75th Percentile		25.0%		15.0%		13.2%
	Median	30	11.3%	25	0.5%	37	3.0%
	25th Percentile		4.0%		-31.6%		-6.4%
Health Care	75th Percentile		22.1%		14.2%		11.0%
	Median	62	14.1%	34	8.4%	69	5.0%
	25th Percentile		5.9%		2.2%		-3.5%
Industrials	75th Percentile		17.4%		12.2%		9.9%
	Median	69	12.4%	60	8.3%	96	6.6%
	25th Percentile		9.6%		4.7%		3.1%
Information Technology	75th Percentile		31.7%		17.4%		12.9%
	Median	68	17.7%	54	10.7%	90	6.5%
	25th Percentile		12.6%		4.2%		1.3%
Materials	75th Percentile		14.5%		11.5%		7.7%
	Median	25	12.4%	29	6.6%	32	3.6%
	25th Percentile		9.1%		5.5%		0.7%
Real Estate	75th Percentile		42.9%		41.3%		30.7%
	Median	30	27.7%	33	19.5%	38	16.1%
	25th Percentile		17.1%		9.4%		4.8%
Utilities	75th Percentile		17.8%		18.7%		12.6%
	Median	27	14.1%	15	13.8%	7	11.7%
	25th Percentile		9.5%		8.3%		10.5%

## TABLE 2.5 :: EFFECTIVE TAX RATE

---

Actual tax rates paid by corporations only rarely match the statutory tax rate due to various tax planning strategies. Calculating the effective tax rate enables family business directors to compare the tax efficiency of their company relative to peers.

Many family businesses are organized as tax pass-through entities (S corps, LLCs) and therefore do not report income tax expense. However, that does not mean that those businesses don't pay taxes; rather, the tax obligation is paid to shareholders in the form of a dividend sufficient to enable them to pay the personal tax liability resulting from the pass-through of corporate earnings.

Exhibit 2.5 illustrates the calculation of effective tax rate.

### Exhibit 2.5 :: Calculation of Effective Tax Rate

$$\text{Effective Tax Rate} = \frac{\text{2018 Income Tax Expense}}{\text{2018 Pretax Income}}$$

$$24.1\% = \frac{\$36}{\$149}$$

Family directors should evaluate effective tax rate with the following considerations in mind:

- How does our family business's effective tax rate compare to statutory rates? What factors contribute to the difference? Are there available tax planning strategies that would help reduce the income tax burden on our business?
- For family businesses organized as tax pass-through entities, how has the Tax Cuts and Jobs Act of 2017 affected the net benefit of the family business's tax pass-through status? Should we revisit our tax status?

**Table 2.5 :: Effective Tax Rate**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	Effective Tax Rate	Count	Effective Tax Rate	Count	Effective Tax Rate
Communication Services	75th Percentile		24.2%		29.9%		35.1%
	Median	18	19.0%	10	23.9%	9	24.4%
	25th Percentile		12.2%		21.4%		12.7%
Consumer Discretionary	75th Percentile		24.1%		26.0%		27.0%
	Median	55	21.8%	50	22.0%	76	24.2%
	25th Percentile		15.9%		17.8%		19.7%
Consumer Staples	75th Percentile		24.3%		27.9%		27.4%
	Median	27	20.2%	11	24.2%	16	23.2%
	25th Percentile		17.1%		21.0%		16.5%
Energy	75th Percentile		41.7%		23.4%		21.7%
	Median	29	23.2%	11	19.6%	20	8.5%
	25th Percentile		20.8%		8.3%		1.4%
Health Care	75th Percentile		25.7%		28.1%		23.1%
	Median	50	18.8%	24	21.2%	42	20.2%
	25th Percentile		12.5%		16.2%		15.9%
Industrials	75th Percentile		24.5%		25.7%		27.3%
	Median	65	21.6%	57	22.2%	83	23.5%
	25th Percentile		15.3%		17.9%		19.2%
Information Technology	75th Percentile		24.2%		26.6%		33.1%
	Median	52	17.8%	41	20.7%	48	22.9%
	25th Percentile		11.8%		10.0%		15.0%
Materials	75th Percentile		24.0%		24.9%		30.6%
	Median	25	20.2%	26	21.0%	23	23.6%
	25th Percentile		16.9%		17.1%		14.1%
Real Estate	75th Percentile		6.3%		5.0%		1.6%
	Median	26	1.2%	29	0.9%	29	0.7%
	25th Percentile		0.0%		0.0%		0.0%
Utilities	75th Percentile		22.4%		24.9%		22.9%
	Median	24	17.5%	11	20.1%	7	19.5%
	25th Percentile		9.4%		10.8%		13.7%

## TABLE 2.6 :: NET MARGIN

---

Net income measures the increase in shareholders' equity during a period resulting from the operations of the business. It is the most comprehensive measure of corporate earnings, reflecting not only operating performance, but also the effect of financing decisions, tax structure, realized gains or losses on the disposition of corporate assets, and other extraordinary items. Net margin promotes comparability across firms of different size, and measures the efficiency with which a business converts revenue to net income.

Exhibit 2.6 illustrates the calculation of net margin.

### Exhibit 2.6 :: Calculation of Net Margin

$$\text{Net Margin} = \frac{2018 \text{ Net Income}}{2018 \text{ Revenue}}$$

$$5.2\% = \frac{\$113}{\$2,183}$$

Family directors should ask the following questions when evaluating net margin:

- Is the current level of operating income sufficient to cover interest on current borrowings?
- What unusual or non-recurring items have influenced historical earnings? What unusual items of income or expense are reasonably expected in coming years? Is our family business prepared for such events?

**Table 2.6 :: Net Margin**

		<b>S&amp;P 500 Large Cap Stocks</b>		<b>S&amp;P 400 Mid Cap Stocks</b>		<b>S&amp;P 600 Small Cap Stocks</b>	
		Count	Net Margin	Count	Net Margin	Count	Net Margin
Communication Services	75th Percentile		17.4%		11.8%		6.5%
	Median	22	11.7%	12	7.6%	16	1.5%
	25th Percentile		7.7%		5.1%		-1.3%
Consumer Discretionary	75th Percentile		12.3%		11.1%		7.1%
	Median	64	7.6%	58	6.5%	93	3.7%
	25th Percentile		4.3%		3.9%		0.6%
Consumer Staples	75th Percentile		16.1%		7.1%		8.5%
	Median	33	11.5%	14	4.4%	20	3.3%
	25th Percentile		4.0%		2.5%		0.2%
Energy	75th Percentile		19.7%		13.9%		10.4%
	Median	30	7.2%	25	0.3%	37	2.3%
	25th Percentile		1.3%		-37.5%		-6.2%
Health Care	75th Percentile		20.7%		14.4%		11.4%
	Median	62	12.2%	34	7.8%	69	4.8%
	25th Percentile		3.4%		4.0%		-2.1%
Industrials	75th Percentile		13.9%		10.1%		8.1%
	Median	69	9.9%	60	6.8%	96	5.2%
	25th Percentile		7.2%		3.5%		2.6%
Information Technology	75th Percentile		28.4%		13.5%		9.5%
	Median	68	16.0%	54	7.2%	90	4.0%
	25th Percentile		10.2%		2.5%		-0.6%
Materials	75th Percentile		11.8%		9.3%		5.8%
	Median	25	9.4%	29	5.5%	32	3.0%
	25th Percentile		6.3%		4.5%		0.3%
Real Estate	75th Percentile		42.7%		40.9%		28.4%
	Median	30	27.0%	33	17.5%	38	13.7%
	25th Percentile		17.5%		9.0%		4.5%
Utilities	75th Percentile		13.8%		16.6%		9.6%
	Median	27	11.2%	15	11.6%	7	9.3%
	25th Percentile		8.4%		6.4%		8.7%

# Chapter 3 :: Net Earning Assets

## INTRODUCTION

---

The balance sheet summarizes what a company owns (assets) and what it owes (liabilities and equity). The balance sheet presents a snapshot of family business resources at a particular point in time. In this chapter, we present benchmarking data for four financial metrics drawn from the balance sheet:

- Table 3.1 – Growth in Net Earning Assets. Asset growth provides perspective on revenue growth and signals the expectations management and directors have for the health and future of the industry.
- Table 3.2 – Earning Asset Composition. One task of senior managers is to allocate the family resources that have been entrusted to their stewardship. Examining the composition of earning assets reveals where managers believe the most attractive returns are available.
- Table 3.3 – Cash Conversion Cycle. Working capital can represent a significant investment of resources for many family businesses. The cash conversion cycle measures the efficiency of a company’s working capital management.
- Table 3.4 – Net Fixed Asset Turnover. Net fixed assets often represent the largest category of net earning assets. Turnover measures the efficiency with which investment in net fixed assets generates revenue.

**TABLE 3.1 :: GROWTH IN NET EARNING ASSETS**

---

For purposes of analysis, we find it helpful to rearrange the balance sheet a bit, as illustrated in Exhibit 3.1a.

**Exhibit 3.1a :: Derivation of Net Earning Assets**

Total Assets less: Total Liabilities plus: Interest-Bearing Debt (Current) plus: Interest-Bearing Debt (Long-Term)	equals	Total Equity plus: Interest-Bearing Debt (Current) plus: Interest-Bearing Debt (Long-Term)
<b>Net Earning Assets</b>		<b>Invested Capital</b>

We calculate growth in net earning assets for our benchmarking population as shown on Exhibit 3.1b.

**Exhibit 3.1b :: Calculation of Growth in Net Earning Assets**

$$\text{Growth in Net Earning Assets} = \left[ \frac{\text{Dec18 Net Earning Assets}}{\text{Dec15 Net Earning Assets}} \right]^{1/3} - 1$$

$$15.2\% = \left[ \frac{\$575}{\$377} \right]^{1/3} - 1$$

Family business directors should evaluate growth in net earning assets from multiple perspectives:

- How does our growth compare to the overall growth of our industry?
- Is our net earning asset base sufficient to support our strategic and operating plans?
- Are our facilities, staff, procedures, and IT resources sufficient to support expected growth?
- Does the family business own assets that are not contributing to the current or future earning capacity of the company?

**Table 3.1 :: Earning Asset Growth**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	Earn. Asset Growth	Count	Earn. Asset Growth	Count	Earn. Asset Growth
Communication Services	75th Percentile		23.7%		18.2%		15.4%
	Median	21	13.8%	12	5.0%	16	7.4%
	25th Percentile		4.3%		0.8%		3.4%
Consumer Discretionary	75th Percentile		8.1%		10.4%		11.6%
	Median	64	4.0%	58	3.4%	92	5.2%
	25th Percentile		-1.1%		-0.5%		-3.7%
Consumer Staples	75th Percentile		16.1%		12.3%		8.8%
	Median	32	7.8%	14	4.0%	20	4.2%
	25th Percentile		0.8%		0.5%		1.1%
Energy	75th Percentile		7.7%		11.2%		13.4%
	Median	30	-0.4%	24	0.3%	36	0.8%
	25th Percentile		-4.2%		-3.0%		-6.1%
Health Care	75th Percentile		17.3%		23.0%		25.4%
	Median	62	6.8%	34	11.6%	69	11.7%
	25th Percentile		0.7%		2.1%		2.2%
Industrials	75th Percentile		12.3%		12.1%		15.6%
	Median	69	6.1%	59	6.8%	97	6.9%
	25th Percentile		1.5%		2.1%		-0.2%
Information Technology	75th Percentile		16.4%		19.2%		21.1%
	Median	68	7.3%	53	10.2%	88	7.1%
	25th Percentile		0.2%		1.5%		0.0%
Materials	75th Percentile		13.0%		6.9%		12.5%
	Median	25	8.0%	29	5.0%	32	5.2%
	25th Percentile		2.9%		1.7%		-0.5%
Real Estate	75th Percentile		10.1%		15.0%		12.2%
	Median	32	3.8%	36	8.3%	38	6.1%
	25th Percentile		0.0%		2.9%		-1.9%
Utilities	75th Percentile		10.9%		10.2%		10.2%
	Median	27	7.7%	16	4.9%	7	6.2%
	25th Percentile		4.8%		2.6%		5.1%

## TABLE 3.2 :: COMPOSITION OF NET EARNING ASSETS

---

Beyond the mere quantity of net earning assets entrusted to management, it is important to understand how those resources have been allocated. For this purpose, we find it helpful to group net earning assets into four categories, as summarized on Exhibit 3.2a.

### Exhibit 3.2a :: Net Earning Asset Categories

#### Cash & Equivalents

*Cash*  
*Short-term investments*

#### Net Working Capital

*Current assets (excluding cash & equivalents), less*  
*current liabilities (excluding current portion of debt)*

#### Net Fixed Assets

#### Other Items, net

*Residual: Goodwill & intangibles, other long-term assets*  
*& other long-term liabilities*

We express the net earning asset composition of the benchmarking universe on a common-size basis, as illustrated on Exhibit 3.2b.

### Exhibit 3.2b :: Calculation Net Earning Asset Composition

$$\text{Cash \& Equivalents} = \frac{\text{Dec18 Cash \& Equivalents}}{\text{Dec18 Net Earning Assets}}$$

$$\text{Net Working Capital} = \frac{\text{Dec18 Net Working Capital}}{\text{Dec18 Net Earning Assets}}$$

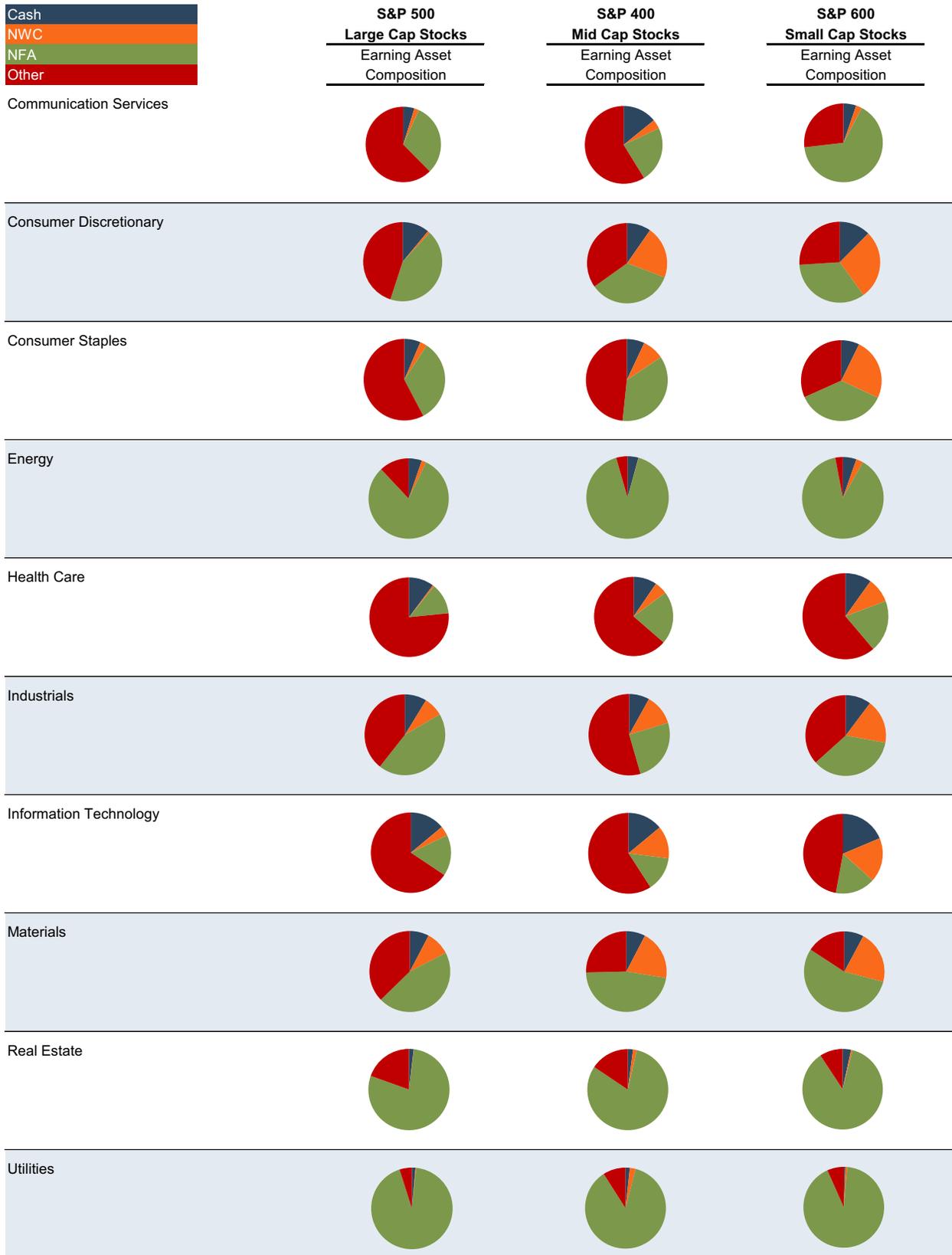
$$\text{Net Fixed Assets} = \frac{\text{Dec18 Net Fixed Assets}}{\text{Dec18 Net Earning Assets}}$$

$$\text{Other Items, net} = \frac{\text{Dec18 Other Items, net}}{\text{Dec18 Net Earning Assets}}$$

Benchmarking the composition of net earning assets should include the following considerations:

- How does the liquidity of our family business (as represented by cash & equivalents) compare to peers? Are we maintaining a prudent level of cash against known future liquidity needs, or are we harboring “lazy” capital?
- Are there opportunities to shorten our cash conversion cycle to reduce the need for working capital?
- Are there investments that we can make to enhance the efficiency of our net fixed assets? Or, are there attractive opportunities to move productive assets off the balance sheet through leasing or similar arrangements?
- Have prior acquisitions – as manifest in the other items – provided the anticipated returns? In other words, do we have a history of overpaying for acquisitions? Alternatively, are there accretive acquisitions that we have failed to make in the past or need to make now?

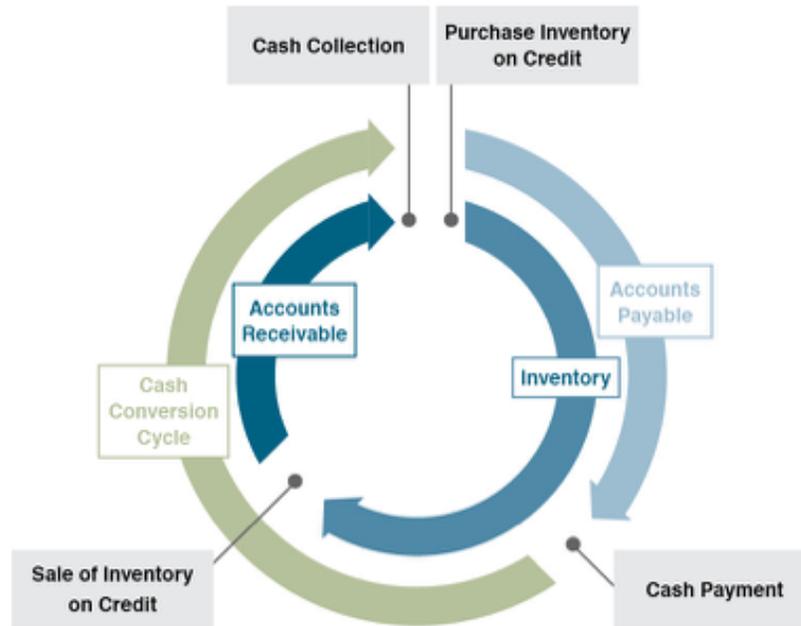
**Table 3.2 :: Earning Asset Composition**



**TABLE 3.3 :: CASH CONVERSION CYCLE**

Working capital can consume a lot of your family business’s resources without generating a significant return on capital. The cash conversion cycle is a measure of the efficiency with which a company manages working capital. The shorter the cash conversion cycle, measured in days, the less family wealth is tied up in low-yielding working capital. As depicted in Exhibit 3.3a, the cash conversion cycle measures the time from cash outflows for inventory purchases to cash inflows from collection of receivables.

**Exhibit 3.3a :: Cash Conversion Cycle**



As shown above, the cash conversion cycle is a function of three distinct metrics: days of inventory on hand, days payables outstanding, and days sales outstanding. Exhibit 3.3b illustrates the calculation of these metrics.

**Exhibit 3.3b :: Calculation of Working Capital Metrics**

$$\text{Days of Inventory On Hand} = \frac{2018 \text{ Avg Inventory}}{2018 \text{ COGS}/365}$$

$$\text{Days Payables Outstanding} = \frac{2018 \text{ Avg Current Liabilities} - \text{CPLTD}}{(2018 \text{ Revenue} - 2018 \text{ EBITDA})/365}$$

$$\text{Days Sales Outstanding} = \frac{2018 \text{ Avg Receivables}}{2018 \text{ Revenue}/365}$$

When evaluating your family business's cash conversion cycle, it is helpful to consider the following questions:

- What portion of our inventory consists of slow-moving or obsolete items? Is our inventory primarily in the form of raw materials, work-in-process, or finished goods?
- Are there any supply chain modifications that can be implemented to reduce inventory lead times?
- Are we taking advantage of supplier discounts for prompt payment? The effective interest rate on a 2/10, net 30 invoice is over 35%.
- How closely do our receivables collection practices conform to our stated terms? Do we often make concessions regarding payment terms? If so, do we have a persuasive business case for doing so?

**Table 3.3 :: Cash Conversion Cycle**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		Cash Conv.		Cash Conv.		Cash Conv.	
		Count	Cycle	Count	Cycle	Count	Cycle
Communication Services	75th Percentile		(33.5)		(14.9)		(9.5)
	Median	22	(69.3)	12	(41.4)	16	(44.4)
	25th Percentile		(116.6)		(61.0)		(69.6)
Consumer Discretionary	75th Percentile		58.6		63.5		77.9
	Median	63	18.2	58	10.2	93	28.8
	25th Percentile		(57.0)		(46.4)		(5.2)
Consumer Staples	75th Percentile		13.1		43.4		101.9
	Median	33	(7.9)	14	22.8	20	45.5
	25th Percentile		(51.0)		10.8		21.5
Energy	75th Percentile		(2.7)		(4.5)		23.2
	Median	30	(64.1)	25	(75.7)	37	1.0
	25th Percentile		(176.4)		(244.6)		(123.7)
Health Care	75th Percentile		66.0		80.2		136.4
	Median	62	24.8	34	48.2	67	38.3
	25th Percentile		(17.4)		(19.3)		(7.0)
Industrials	75th Percentile		18.0		57.7		73.3
	Median	69	(6.4)	60	33.9	96	41.0
	25th Percentile		(47.3)		(0.2)		10.6
Information Technology	75th Percentile		33.5		47.3		85.6
	Median	67	(73.2)	54	11.8	90	46.0
	25th Percentile		(183.1)		(52.8)		3.7
Materials	75th Percentile		47.2		81.6		72.1
	Median	25	25.1	29	44.5	32	51.1
	25th Percentile		10.2		21.3		21.5
Real Estate	75th Percentile		nm		nm		nm
	Median	nm	nm	nm	nm	nm	nm
	25th Percentile		nm		nm		nm
Utilities	75th Percentile		nm		nm		nm
	Median	nm	nm	nm	nm	nm	nm
	25th Percentile		nm		nm		nm

## TABLE 3.4 :: NET FIXED ASSET TURNOVER

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Investments in long-term productive assets are among the largest and most consequential decisions family business directors are called upon to make. Fixed asset turnover is a measure of the efficiency with which a company's net fixed assets generate revenue. We calculate fixed asset turnover for our benchmarking universe as shown on Exhibit 3.4.

### Exhibit 3.4 :: Calculation of Net Fixed Asset Turnover

$$\text{Net Fixed Asset Turnover} = \frac{2018 \text{ Revenue}}{2018 \text{ Avg Net Fixed Assets}}$$

$$23.3 = \frac{\$2,183}{\$94}$$

Key questions to ask while evaluating net fixed asset turnover include the following:

- Do we have any excess productive capacity? If so, is there a plan to generate enough sales volume to use the capacity, or should it be liquidated? Can excess capacity be used to perform contract manufacturing for others?
- Are there deferred capital expenditures that would enhance the productivity of our net fixed assets?
- What strategies are available to leverage our existing productive capacity into higher-value added uses?

**Table 3.4 :: Net Fixed Asset Turnover**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		NFA		NFA		NFA	
		Count	Turnover	Count	Turnover	Count	Turnover
Communication Services	75th Percentile		17.0		10.0		12.4
	Median	22	8.4	12	6.5	16	3.2
	25th Percentile		2.4		2.5		0.8
Consumer Discretionary	75th Percentile		9.1		9.5		15.6
	Median	64	5.7	58	6.7	93	8.6
	25th Percentile		3.7		3.3		5.0
Consumer Staples	75th Percentile		6.5		6.2		12.6
	Median	33	4.3	14	4.9	20	7.2
	25th Percentile		3.7		2.9		4.7
Energy	75th Percentile		2.7		1.4		2.2
	Median	30	0.7	25	0.3	37	1.0
	25th Percentile		0.4		0.3		0.4
Health Care	75th Percentile		10.8		18.6		28.4
	Median	62	6.0	34	5.2	70	9.3
	25th Percentile		3.9		2.9		5.4
Industrials	75th Percentile		9.3		14.6		11.3
	Median	69	7.1	60	7.6	96	6.3
	25th Percentile		3.5		5.7		4.1
Information Technology	75th Percentile		14.7		47.3		85.6
	Median	68	8.7	54	11.8	90	46.0
	25th Percentile		5.8		(52.8)		3.7
Materials	75th Percentile		3.9		4.3		4.7
	Median	25	1.9	28	3.0	32	2.8
	25th Percentile		1.0		2.1		2.2
Real Estate	75th Percentile		0.3		0.3		0.2
	Median	32	0.2	36	0.2	38	0.2
	25th Percentile		0.1		0.1		0.1
Utilities	75th Percentile		0.4		0.6		0.4
	Median	27	0.3	15	0.4	7	0.3
	25th Percentile		0.3		0.3		0.3

# Chapter 4 :: Return on Invested Capital

## INTRODUCTION

---

Return on invested capital, or ROIC, is the single best comprehensive measure of operating performance for family businesses. For directors, it is important to understand the various components of ROIC and how those components reflect the strategy of the family business and its relative performance across time and compared to peers. In this chapter, we present benchmarking data for three measures:

- Table 4.1 – Capital Efficiency. Capital efficiency measures the rate at which a given amount of invested capital generates revenue. All else equal, the greater a business's capital efficiency, the higher the ROIC.
- Table 4.2 – Profitability. The second component of ROIC is profitability. The NOPAT margin measures how each dollar of revenue is converted into operating profit. For a given level of capital efficiency, greater profitability results in a higher ROIC.
- Table 4.3 – Return on Invested Capital. Return on invested capital is the product of capital efficiency and profitability. ROIC measures the annual return attributable to capital providers per dollar of invested capital provided to the business.

## TABLE 4.1 :: CAPITAL EFFICIENCY

---

Capital efficiency is the first of two components of ROIC. We calculate capital efficiency for our benchmarking population as shown in Exhibit 4.1.

### Exhibit 4.1 :: Calculation of Capital Efficiency

$$\text{Capital Efficiency} = \frac{2018 \text{ Revenue}}{2018 \text{ Avg Invested Capital}}$$

$$4.14x = \frac{\$2,183}{\$527}$$

Family business directors should consider the following questions when evaluating capital efficiency:

- Are we letting unproductive or low-yielding assets sit on the balance sheet? If so, how can we most efficiently rationalize the balance sheet and return capital that is not essential to operating the business?
- How much cash is required to operate our business?
- How do our working capital levels compare to peers? Tightening collection practices and streamlining inventory management are often immediate steps available for improving capital returns.
- Do we currently have underutilized production capacity? If so, what strategies are available for increasing capacity utilization?
- Have historical acquisitions lived up to expectations? In other words, has our acquisition strategy been an efficient use of capital?

**Table 4.1 :: Capital Efficiency**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		Count	Capital Efficiency	Count	Capital Efficiency	Count	Capital Efficiency
Communication Services	75th Percentile		1.12x		1.14x		1.21x
	Median	22	0.79x	12	0.89x	16	0.80x
	25th Percentile		0.55x		0.65x		0.57x
Consumer Discretionary	75th Percentile		2.79x		2.98x		2.78x
	Median	64	1.74x	58	2.17x	93	2.12x
	25th Percentile		1.05x		0.75x		1.43x
Consumer Staples	75th Percentile		1.98x		2.24x		3.76x
	Median	33	1.19x	14	1.62x	20	1.91x
	25th Percentile		0.62x		1.05x		1.52x
Energy	75th Percentile		0.81x		0.74x		1.15x
	Median	30	0.58x	25	0.33x	37	0.66x
	25th Percentile		0.42x		0.23x		0.38x
Health Care	75th Percentile		1.14x		1.07x		1.42x
	Median	62	0.79x	34	0.77x	70	0.83x
	25th Percentile		0.54x		0.61x		0.57x
Industrials	75th Percentile		1.83x		2.34x		2.13x
	Median	69	1.26x	60	1.53x	98	1.48x
	25th Percentile		0.89x		1.01x		1.14x
Information Technology	75th Percentile		1.32x		1.46x		1.55x
	Median	68	0.93x	54	1.00x	90	1.10x
	25th Percentile		0.67x		0.72x		0.76x
Materials	75th Percentile		1.30x		1.71x		1.98x
	Median	25	0.83x	29	1.37x	32	1.43x
	25th Percentile		0.61x		1.10x		0.94x
Real Estate	75th Percentile		0.22x		0.31x		0.18x
	Median	32	0.15x	36	0.16x	38	0.14x
	25th Percentile		0.13x		0.12x		0.12x
Utilities	75th Percentile		0.43x		0.68x		0.45x
	Median	27	0.36x	16	0.39x	7	0.43x
	25th Percentile		0.32x		0.32x		0.39x

## TABLE 4.2 :: PROFITABILITY

---

In the context of calculating ROIC, profitability is measured with reference to net operating profit after tax, or NOPAT. Exhibit 4.2a summarizes the calculation of NOPAT:

### Exhibit 4.2a :: Calculation of NOPAT

Revenue	\$2,183
less: COGS & Cash Operating Expenses	1,991
EBITDA	<u>\$192</u>
less: Depreciation & Amortization	43
Operating Profit (EBIT)	<u>\$149</u>
less: Pro Forma Taxes	26.0%
Net Operating Profit After Tax	<u>\$110</u>

As the name suggests, NOPAT is based on operating profit, but is reduced by taxes that would be paid if operating profit were taxable income. In other words, NOPAT is a measure of after-tax income available to all capital providers (both shareholders and lenders). This measure is appropriate because ROIC is measuring the returns available to all capital providers.

NOPAT margin measures how effectively a business converts revenue into NOPAT, and is calculated as shown on Exhibit 4.2b:

### Exhibit 4.2b :: Calculation of NOPAT Margin

$$NOPAT \text{ Margin} = \frac{2018 \text{ NOPAT}}{2018 \text{ Revenue}}$$

$$5.1\% = \frac{\$110}{\$2,183}$$

Benchmarking the NOPAT margin for your family business should include the following considerations:

- When comparing to the NOPAT margins for our peer group, are differences attributable to strategy decisions or relative operating performance?
- What is the approximate break-even level of revenue for our family business?
- If the NOPAT margin for our family business were to increase by 1.0%, what would be the primary factor contributing to the improvement?

**Table 4.2 :: NOPAT Margin**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		NOPAT		NOPAT		NOPAT	
		Count	Margin	Count	Margin	Count	Margin
Communication Services	75th Percentile		17.8%		12.9%		9.0%
	Median	22	14.2%	12	9.6%	16	5.0%
	25th Percentile		9.7%		6.8%		3.6%
Consumer Discretionary	75th Percentile		11.6%		12.3%		7.2%
	Median	64	8.5%	58	8.7%	93	4.8%
	25th Percentile		5.4%		5.8%		2.8%
Consumer Staples	75th Percentile		16.7%		10.1%		9.8%
	Median	33	12.6%	14	8.7%	20	4.7%
	25th Percentile		9.1%		3.7%		1.2%
Energy	75th Percentile		19.0%		18.3%		13.5%
	Median	30	11.9%	25	10.5%	37	5.0%
	25th Percentile		6.0%		-1.3%		-0.5%
Health Care	75th Percentile		19.6%		11.8%		13.4%
	Median	62	13.0%	34	10.0%	70	6.2%
	25th Percentile		7.7%		7.1%		1.9%
Industrials	75th Percentile		14.5%		10.3%		8.3%
	Median	69	10.2%	60	7.6%	96	6.1%
	25th Percentile		7.8%		5.2%		4.0%
Information Technology	75th Percentile		23.6%		12.9%		9.5%
	Median	68	15.3%	54	7.9%	90	4.8%
	25th Percentile		10.7%		3.1%		0.9%
Materials	75th Percentile		13.1%		10.1%		7.7%
	Median	25	11.4%	29	7.0%	32	5.6%
	25th Percentile		8.5%		6.3%		3.0%
Real Estate	75th Percentile		27.0%		23.9%		27.4%
	Median	32	21.8%	36	19.2%	37	21.6%
	25th Percentile		17.6%		13.1%		12.7%
Utilities	75th Percentile		16.5%		16.6%		14.1%
	Median	27	14.4%	15	12.7%	7	12.9%
	25th Percentile		12.4%		8.9%		11.6%

## TABLE 4.3 :: RETURN ON INVESTED CAPITAL

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Return on invested capital measures the efficiency with which a business uses capital provided by shareholders and lenders to generate operating profit. As shown in Exhibit 4.3a, ROIC can be expressed as the product of capital efficiency and profitability:

### Exhibit 4.3a :: Calculation of Return on Invested Capital

$$\text{Return on Invested Capital} = \text{Capital Efficiency} \times \text{Profitability}$$

$$21.0\% = 4.14 \times 5.1\%$$

$$\text{Return on Invested Capital} = \frac{2018 \text{ Revenue}}{2018 \text{ Avg Invested Capital}} \times \frac{2018 \text{ NOPAT}}{2018 \text{ Revenue}}$$

$$21.0\% = \frac{\$2,183}{\$527} \times \frac{\$110}{\$2,183}$$

Or, more simply, return on invested capital can be calculated directly, as demonstrated in Exhibit 4.3b:

### Exhibit 4.3b :: Calculation of Return on Invested Capital

$$\text{Return on Invested Capital} = \frac{2018 \text{ NOPAT}}{2018 \text{ Avg Invested Capital}}$$

$$21.0\% = \frac{\$110}{\$527}$$

Family business directors should consider the following when evaluating ROIC:

- Do the relative components of ROIC cohere with our business strategy?
- What is the most effective path available to us for increasing ROIC: improving capital efficiency or increasing profitability?
- What tangible steps are available to the business for enhancing either component of ROIC?

**Table 4.3 :: Return on Invested Capital**

		<b>S&amp;P 500 Large Cap Stocks</b>		<b>S&amp;P 400 Mid Cap Stocks</b>		<b>S&amp;P 600 Small Cap Stocks</b>	
		<b>Count</b>	<b>ROIC</b>	<b>Count</b>	<b>ROIC</b>	<b>Count</b>	<b>ROIC</b>
Communication Services	75th Percentile		15.6%		11.7%		8.0%
	Median	22	10.3%	12	10.0%	16	5.2%
	25th Percentile		7.3%		4.8%		4.0%
Consumer Discretionary	75th Percentile		20.8%		20.3%		13.2%
	Median	64	13.3%	58	14.6%	93	9.2%
	25th Percentile		8.5%		8.5%		6.7%
Consumer Staples	75th Percentile		20.8%		18.4%		16.0%
	Median	33	12.3%	14	8.8%	20	7.5%
	25th Percentile		9.0%		6.0%		4.3%
Energy	75th Percentile		10.6%		7.9%		9.7%
	Median	30	6.8%	25	5.6%	37	4.3%
	25th Percentile		4.4%		-0.8%		-0.4%
Health Care	75th Percentile		16.4%		12.0%		10.6%
	Median	62	11.0%	34	7.9%	70	6.0%
	25th Percentile		7.1%		5.4%		2.8%
Industrials	75th Percentile		17.5%		16.2%		12.7%
	Median	69	12.7%	60	11.4%	96	9.2%
	25th Percentile		9.4%		7.0%		6.1%
Information Technology	75th Percentile		23.6%		10.9%		10.0%
	Median	68	16.6%	54	8.4%	90	5.9%
	25th Percentile		8.5%		5.9%		0.9%
Materials	75th Percentile		13.6%		11.3%		10.5%
	Median	25	10.2%	29	10.4%	32	8.5%
	25th Percentile		6.6%		7.9%		5.7%
Real Estate	75th Percentile		5.5%		5.1%		4.2%
	Median	32	3.2%	36	3.7%	37	3.0%
	25th Percentile		2.7%		2.3%		2.2%
Utilities	75th Percentile		6.0%		6.1%		5.6%
	Median	27	5.1%	15	5.5%	7	5.1%
	25th Percentile		4.7%		5.0%		4.6%

# Chapter 5 :: Investment Activity (Capital Expenditures / M&A)

## INTRODUCTION

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In Chapter 3, we presented data regarding the composition of net earning assets. This data reveals how management teams allocate the capital provided by shareholders and lenders to productive assets. In Chapter 4, we calculated return on invested capital, which measures how effectively a business's portfolio of earning assets generates operating profit for the benefit of shareholders and lenders. In this chapter, we present data reflecting the investment decisions companies make which influence the composition of net earning assets at the margin. In doing so, we integrate measures from the income statement, balance sheet, and statement of cash flows.

- Table 5.1 – Capital Expenditures as a Percentage of Revenue. Broadly speaking, there are two classes of capital expenditure: those required to maintain existing production capacity and those made to spur organic growth of the business. Financial statements do not allow us to distinguish between the two, but the aggregate figure does reveal the degree to which peer companies are reinvesting operating cash flow with an eye toward organic growth.
- Table 5.2 – Depreciation & Amortization as a Percentage of Revenue. From an accounting perspective, depreciation and amortization expenses are allocations of cash outlays made in prior periods for the benefit of operations in the current period. Viewed together, they are a measure of the capital intensity of a business, and can serve as a rough proxy of ongoing capital reinvestment needs.
- Table 5.3 – M&A Frequency. In contrast to capital expenditures, M&A activity occurs sporadically. In this table, we present data summarizing the proportion of peer group members that completed a business acquisition during the year. This data provides a proxy for consolidation activity in an industry.
- Table 5.4 – M&A Magnitude. This table is a companion to 5.3, presenting data to indicate the relative size of business combinations completed during the year.
- Table 5.5 – Goodwill and Intangibles as a Percentage of Net Earning Assets. The data in this table provides a proxy for cumulative M&A activity (not just transactions during the most recent year).

## TABLE 5.1 :: CAPITAL EXPENDITURES AS A PERCENTAGE OF REVENUE

---

Capital expenditures are a principal component of the investing section of the statement of cash flows, and represent the aggregate spending during the year on property, plant & equipment. Since capital expenditures are expected to provide benefits to a company over multiple years, the amount spent is recorded on the balance sheet, and charged to operations over the expected useful life of the asset through depreciation charges.

Because capital expenditures relate to acquisition of long-lived assets, they can be somewhat “lumpy.” As a result, we present average data for the most recent three years in Table 5.1. Exhibit 5.1 summarizes the calculation of this measure:

### Exhibit 5.1 :: Calculation of Capital Expenditures as a Percentage of Revenue

$$\text{CapEx as a \% of Revenue} = \frac{\text{Aggregate CapEx (2016 to 2018)}}{\text{Aggregate Revenue (2016 to 2018)}}$$

$$1.5\% = \frac{\$86}{\$5,605}$$

Key questions to ask while evaluating capital expenditures include the following:

- How do the relative capital expenditures for our family business correlate to relative revenue and profit growth? In other words, have our capital expenditures been generating appropriate financial returns?
- How well does our capital expenditure history cohere with our family business strategy? Is our strategy determining what capital investment are made, or are we letting the capital expenditures we make dictate our business strategy?
- Do we have a robust capital budgeting process that contemplates both the strategic fit and financial feasibility of proposed expenditures?
- Do we have a review mechanism for evaluating prior capital expenditure decisions?

**Table 5.1 :: CapEx % Revenue**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		CapEx		CapEx		CapEx	
		Count	% Revenue	Count	% Revenue	Count	% Revenue
Communication Services	75th Percentile		12.7%		7.1%		15.0%
	Median	22	3.6%	12	3.7%	16	4.7%
	25th Percentile		1.8%		2.8%		2.2%
Consumer Discretionary	75th Percentile		5.9%		4.7%		4.4%
	Median	64	4.1%	58	3.2%	93	2.6%
	25th Percentile		2.9%		2.4%		1.5%
Consumer Staples	75th Percentile		4.5%		4.8%		3.8%
	Median	33	3.6%	14	3.2%	20	2.2%
	25th Percentile		2.6%		2.6%		1.4%
Energy	75th Percentile		43.8%		58.7%		44.7%
	Median	30	24.5%	25	25.2%	37	16.8%
	25th Percentile		7.0%		6.2%		6.2%
Health Care	75th Percentile		5.5%		6.2%		4.5%
	Median	62	3.7%	34	4.2%	70	2.8%
	25th Percentile		2.2%		2.4%		1.1%
Industrials	75th Percentile		8.4%		4.7%		4.5%
	Median	69	3.0%	60	2.5%	98	2.7%
	25th Percentile		2.0%		1.9%		1.7%
Information Technology	75th Percentile		4.9%		4.7%		4.3%
	Median	68	3.1%	54	2.8%	90	2.6%
	25th Percentile		2.2%		1.7%		1.7%
Materials	75th Percentile		12.2%		6.3%		5.8%
	Median	25	6.1%	29	4.6%	32	4.1%
	25th Percentile		4.5%		3.7%		2.5%
Real Estate	75th Percentile		0.9%		0.2%		1.2%
	Median	32	0.0%	36	0.0%	38	0.0%
	25th Percentile		0.0%		0.0%		0.0%
Utilities	75th Percentile		37.1%		31.2%		29.6%
	Median	27	34.2%	16	22.8%	7	28.1%
	25th Percentile		26.7%		18.2%		25.9%

## TABLE 5.2 :: DEPRECIATION & AMORTIZATION AS % OF REVENUE

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While capital expenditures are inherently “lumpy,” depreciation and amortization expenses can serve as a proxy for the ongoing annual capital reinvestment needs of the business. While there may be significant variation from year-to-year, capital expenditures need to be equal to at least depreciation charges over time if a company’s fixed asset base is not to shrink. Ideally, one would isolate depreciation from amortization charges, but the data to do so is not generally available.

Exhibit 5.2 summarizes the calculation of this measure:

### **Exhibit 5.2 :: Calculation of Depreciation & Amortization as a Percentage of Revenue**

$$D\&A \text{ as a \% of Revenue} = \frac{2018 \text{ Depreciation \& Amortization Expense}}{2018 \text{ Revenue}}$$

$$2.0\% = \frac{\$43}{\$2,183}$$

When evaluating depreciation & amortization charges, it is helpful to consider the following questions:

- When presented with the option of purchasing or leasing productive assets, do we have a framework for making that decision?
- Does a comparison of depreciation charges to capital expenditures over time reveal any deferred capital expenditures at the business?

**Table 5.2 :: Depreciation & Amortization % Revenue**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	D&A % Revenue	Count	D&A % Revenue	Count	D&A % Revenue
Communication Services	75th Percentile		8.2%		4.5%		16.4%
	Median	22	2.8%	12	2.5%	16	4.1%
	25th Percentile		1.5%		1.9%		3.0%
Consumer Discretionary	75th Percentile		4.5%		4.1%		4.1%
	Median	64	3.1%	58	2.7%	93	2.5%
	25th Percentile		2.0%		1.8%		1.2%
Consumer Staples	75th Percentile		3.6%		3.4%		2.6%
	Median	33	2.6%	14	2.8%	20	1.6%
	25th Percentile		1.6%		2.2%		1.1%
Energy	75th Percentile		24.8%		33.5%		27.5%
	Median	30	16.0%	25	27.1%	37	13.8%
	25th Percentile		5.0%		10.5%		8.2%
Health Care	75th Percentile		3.1%		4.4%		3.4%
	Median	62	2.2%	34	2.9%	70	2.2%
	25th Percentile		1.2%		1.7%		0.8%
Industrials	75th Percentile		4.4%		3.4%		3.3%
	Median	69	2.2%	60	2.3%	96	2.4%
	25th Percentile		1.7%		1.1%		1.5%
Information Technology	75th Percentile		3.9%		3.2%		3.5%
	Median	68	2.8%	54	2.3%	90	2.3%
	25th Percentile		2.0%		1.6%		1.4%
Materials	75th Percentile		8.2%		5.3%		4.6%
	Median	25	4.6%	29	3.7%	32	3.6%
	25th Percentile		2.5%		2.5%		2.7%
Real Estate	75th Percentile		30.5%		28.9%		30.1%
	Median	32	24.1%	36	24.5%	38	22.5%
	25th Percentile		17.8%		17.1%		15.6%
Utilities	75th Percentile		15.5%		14.2%		13.9%
	Median	27	13.8%	15	11.9%	7	12.0%
	25th Percentile		11.4%		8.4%		8.6%

## TABLE 5.3 :: M&A FREQUENCY

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While capital expenditures are “lumpy,” they do generally occur in some measure each year. In contrast, business acquisitions occur only sporadically for many companies. Some companies may complete multiple acquisitions in a given year, while others will not do any.

The following questions are helpful when evaluating M&A frequency among industry peers:

- What screening criteria do we employ to identify potentially attractive acquisition targets?
- In the context of industry dynamics, do we believe that growth is better achieved through acquisition (“buy it”) or organically (“build it”)?
- What are current trends in transaction pricing in the industry?

**Table 5.3 :: M&A Frequency**

	S&P 500 Large Cap Stocks			S&P 400 Mid Cap Stocks			S&P 600 Small Cap Stocks		
	Count	M&A Yes	M&A No	Count	M&A Yes	M&A No	Count	M&A Yes	M&A No
	Communication Services	22	16	6	12	7	5	16	7
Consumer Discretionary	64	29	35	58	29	29	94	36	58
Consumer Staples	33	18	15	14	6	8	20	13	7
Energy	30	12	18	25	10	15	37	12	25
Health Care	62	50	12	34	27	7	70	28	42
Industrials	69	51	18	60	42	18	98	59	39
Information Technology	68	54	14	54	29	25	90	50	40
Materials	25	19	6	29	19	10	32	15	17
Real Estate	32	12	20	36	12	24	38	7	31
Utilities	27	10	17	16	7	9	7	1	6

## TABLE 5.4 :: M&A MAGNITUDE

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The data in the prior table reveals how often transactions occur, but does not provide any sense of the size of the transactions that have occurred. In Table 5.4, we relate amounts spent on the acquisition of businesses to the net earning assets of the acquirers.

Exhibit 5.4 details the calculation of M&A magnitude:

### Exhibit 5.4 :: Calculation of M&A Magnitude

$$M\&A\ Magnitude = \frac{2018\ Cash\ Flow : Business\ Combinations}{2018\ Cash\ Flow : Operations}$$

$$47.7\% = \frac{\$70}{\$147}$$

Key questions to assist in evaluating the magnitude of M&A activity include the following:

- What is our process for pricing acquisition targets?
- What are the primary cultural or other barriers to integrating a significant acquisition to our family business?

**Table 5.4 :: M&A Magnitude**

	<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
	<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
	Count	M&A Magnitude	Count	M&A Magnitude	Count	M&A Magnitude
Communication Services	22	6.2%	12	18.7%	16	40.1%
Consumer Discretionary	64	13.6%	58	16.6%	93	39.5%
Consumer Staples	33	14.7%	14	44.9%	20	39.4%
Energy	30	4.4%	25	27.9%	37	6.9%
Health Care	62	56.3%	34	72.6%	70	65.6%
Industrials	69	22.2%	60	28.4%	98	56.6%
Information Technology	68	17.3%	54	32.6%	90	51.7%
Materials	25	24.8%	29	29.9%	32	83.1%
Real Estate	32	49.2%	36	29.4%	38	18.7%
Utilities	27	4.2%	16	5.5%	7	0.9%

## TABLE 5.5 :: GOODWILL & INTANGIBLES AS A PERCENTAGE OF NET EARNING ASSETS

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When a business combination occurs, the assets acquired can be grouped into two broad categories: (1) tangible assets (working capital, equipment, real estate and the like), and (2) intangible assets, such as tradenames, intellectual property, customer relationships and goodwill. Both categories are recorded at fair value when the business combination is completed. As a result, the balance of goodwill and intangible assets on the balance sheet provides a rough cumulative index of a company's reliance on merger & acquisition activity to fuel growth.

Exhibit 5.5 depicts our calculation of this measure:

### **Exhibit 5.5 :: Calculation of Goodwill & Intangibles as a Percentage of Net Earning Assets**

$$G\&I \text{ as } \% \text{ of Earning Assets} = \frac{\text{Dec18 Goodwill \& Intangible Assets}}{\text{Dec18 Avg Net Earning Assets}}$$

$$62.7\% = \frac{\$330}{\$527}$$

When analyzing goodwill and intangible assets, the following questions are often helpful:

- Has the company reported any impairment charges as a result of transactions that have not met expectations?
- What process does the board use for approving transactions? Does the process include a mechanism for tracking the performance of the acquired business following the transaction?
- Relative to peers, has our family business relied more upon organic or acquisition-related growth historically? Why?
- Looking forward, are there attractive capital projects available to fuel organic growth or is there existing industry capacity that can be assimilated through acquisition?

**Table 5.5 :: Goodwill & Intangibles % Net Earning Asserts**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		GW & Intang.		GW & Intang.		GW & Intang.	
		Count	% NEA	Count	% NEA	Count	% NEA
Communication Services	75th Percentile		90.6%		95.3%		62.2%
	Median	22	69.9%	12	60.8%	16	43.8%
	25th Percentile		52.9%		31.5%		15.6%
Consumer Discretionary	75th Percentile		51.7%		48.2%		43.8%
	Median	64	22.0%	58	22.6%	93	18.4%
	25th Percentile		4.3%		5.2%		5.3%
Consumer Staples	75th Percentile		86.4%		62.7%		35.7%
	Median	33	65.3%	14	37.2%	20	17.8%
	25th Percentile		40.7%		24.7%		6.2%
Energy	75th Percentile		20.1%		12.0%		9.4%
	Median	30	4.2%	25	0.0%	37	0.9%
	25th Percentile		0.1%		0.0%		0.0%
Health Care	75th Percentile		86.3%		79.3%		72.6%
	Median	62	60.1%	34	54.9%	70	48.1%
	25th Percentile		38.7%		17.7%		22.1%
Industrials	75th Percentile		82.7%		66.6%		59.3%
	Median	69	51.7%	60	46.4%	96	46.6%
	25th Percentile		20.5%		25.3%		18.6%
Information Technology	75th Percentile		80.1%		77.8%		61.9%
	Median	68	50.5%	54	50.8%	90	38.3%
	25th Percentile		31.6%		30.8%		12.3%
Materials	75th Percentile		64.7%		47.9%		39.3%
	Median	25	41.8%	29	31.5%	32	21.4%
	25th Percentile		19.8%		11.2%		3.4%
Real Estate	75th Percentile		8.0%		5.5%		3.3%
	Median	32	1.5%	36	2.0%	38	1.0%
	25th Percentile		0.2%		0.7%		0.0%
Utilities	75th Percentile		12.6%		8.4%		9.5%
	Median	27	6.0%	15	6.0%	7	1.5%
	25th Percentile		1.8%		0.9%		0.7%

# Chapter 6 :: Capital Structure & Financing Decisions

## INTRODUCTION

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The consequences of capital structure decisions persist for years, or even decades, after they are made. As a result, family business directors need to make such decisions very deliberately. The peer data presented in this chapter is selected to assist directors with these critical long-term decisions.

- Table 6.1 – Composition of Invested Capital (Book Values). Capital to fund a business comes from either shareholders or lenders. The proportions of debt and equity in the capital structure of a company influence the risk borne by shareholders and lenders.
- Table 6.2 – Capital Structure (Market Values). Reported shareholders' equity is an amalgamation of historical cost basis in assets, retained earnings over potentially long stretches of time, and periodic capital raises. When making long-term capital structure decisions, it is often helpful to supplement the book value perspective with calculations based on the market value of equity.
- Table 6.3 – Marginal Financing Decisions. The data in the first two tables provide perspective on cumulative financing decisions; in this table, we present data that captures the trend in capital structure, isolating recent capital structure decisions at the margin.
- Table 6.4 – Cash Flow Leverage. Market participants frequently evaluate the financial leverage used by a company with reference to EBITDA.
- Table 6.5 – Debt Ratings. Most public borrowers are rated by one or more of the major rating agencies. Issuer ratings influence the cost of borrowing, and reflect historical financial performance, leverage trends, and the outlook for future economic, industry, and company performance.
- Table 6.6 – Effective Interest Rate. The cost of borrowings is a key component of capital structure decisions for family businesses. The effective interest rate for a company reflects the risk perceived by creditors, and influences the overall cost of capital.

**TABLE 6.1 :: COMPOSITION OF INVESTED CAPITAL (BOOK VALUES)**

As noted in Chapter 3, we prefer to rearrange the balance sheet for purposes of analysis. As shown in Exhibit 6.1a, invested capital is sum of shareholders' equity and interest-bearing debt. Invested capital is equal to net earning assets.

**Exhibit 6.1a :: Derivation of Invested Capital**

Total Assets less: Total Liabilities plus: Interest-Bearing Debt (Current) plus: Interest-Bearing Debt (Long-Term)	equals	Total Equity plus: Interest-Bearing Debt (Current) plus: Interest-Bearing Debt (Long-Term)
<b>Net Earning Assets</b>		<b>Invested Capital</b>

Exhibit 6.1b illustrates how we measure the composition of invested capital for the peer companies:

**Exhibit 6.1b :: Measuring the Composition of Invested Capital**

$$\text{Debt as a \% of Invested Capital} = \frac{\text{Dec18 Interest Bearing Debt}}{\text{Dec18 Invested Capital}}$$

$$13.4\% = \frac{\$77}{\$575}$$

$$\text{Equity as a \% of Invested Capital} = \frac{\text{Dec18 Total Equity}}{\text{Dec18 Invested Capital}}$$

$$86.6\% = \frac{\$498}{\$575}$$

Family business directors should ask the following questions when evaluating the composition of invested capital:

- Does our family business have a target level of borrowings? If so, does it differ from current borrowings?
- How well does our current financing mix reflect the risk preferences and tolerances of our family shareholders? How do we measure our family shareholders' attitudes toward risk?
- How does the composition of net earning assets influence the target financing mix for our family business?

**Table 6.1 :: Invested Capital Composition**

		S&P 500 Large Cap Stocks			S&P 400 Mid Cap Stocks			S&P 600 Small Cap Stocks		
			Equity	Debt		Equity	Debt		Equity	Debt
		Count	% IC	% IC	Count	% IC	% IC	Count	% IC	% IC
Communication Services	75th Percentile		85.5%	14.5%		68.9%	31.1%		92.3%	7.7%
	Median	22	49.5%	50.5%	12	50.6%	49.4%	16	63.4%	36.6%
	25th Percentile		37.9%	62.1%		38.4%	61.6%		37.5%	62.5%
Consumer Discretionary	75th Percentile		69.6%	30.4%		80.3%	19.7%		93.6%	6.4%
	Median	64	51.3%	48.7%	58	49.3%	50.7%	93	76.1%	23.9%
	25th Percentile		19.8%	80.2%		19.1%	80.9%		54.4%	45.6%
Consumer Staples	75th Percentile		57.7%	42.3%		89.0%	11.0%		86.5%	13.5%
	Median	33	40.4%	59.6%	14	56.0%	44.0%	20	58.1%	41.9%
	25th Percentile		26.2%	73.8%		50.5%	49.5%		46.8%	53.2%
Energy	75th Percentile		76.1%	23.9%		66.6%	33.4%		81.3%	18.7%
	Median	30	68.5%	31.5%	25	61.6%	38.4%	37	67.8%	32.2%
	25th Percentile		60.9%	39.1%		52.9%	47.1%		46.8%	53.2%
Health Care	75th Percentile		69.1%	30.9%		89.3%	10.7%		98.8%	1.2%
	Median	62	59.6%	40.4%	34	65.9%	34.1%	70	75.0%	25.0%
	25th Percentile		47.4%	52.6%		47.5%	52.5%		55.0%	45.0%
Industrials	75th Percentile		64.9%	35.1%		73.5%	26.5%		88.6%	11.4%
	Median	69	52.8%	47.2%	60	61.9%	38.1%	96	68.3%	31.7%
	25th Percentile		40.6%	59.4%		49.7%	50.3%		50.3%	49.7%
Information Technology	75th Percentile		81.8%	18.2%		84.0%	16.0%		99.8%	0.2%
	Median	68	60.1%	39.9%	54	66.3%	33.7%	90	79.7%	20.3%
	25th Percentile		41.5%	58.5%		48.8%	51.2%		60.5%	39.5%
Materials	75th Percentile		68.8%	31.2%		62.1%	37.9%		74.8%	25.2%
	Median	25	53.9%	46.1%	29	52.7%	47.3%	32	60.7%	39.3%
	25th Percentile		48.8%	51.2%		38.9%	61.1%		36.8%	63.2%
Real Estate	75th Percentile		58.6%	41.4%		58.1%	41.9%		57.1%	42.9%
	Median	32	53.1%	46.9%	36	49.8%	50.2%	38	47.3%	52.7%
	25th Percentile		38.5%	61.5%		41.4%	58.6%		39.1%	60.9%
Utilities	75th Percentile		45.9%	54.1%		56.2%	43.8%		45.3%	54.7%
	Median	27	43.0%	57.0%	15	50.4%	49.6%	7	45.0%	55.0%
	25th Percentile		38.5%	61.5%		46.3%	53.7%		44.6%	55.4%

## TABLE 6.2 :: CAPITAL STRUCTURE (MARKET VALUES)

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For most corporate finance applications, a firm's capital structure is properly measured with respect to the market value of equity rather than book value. As noted in Exhibit 6.2a, we rely on book value as a sufficient approximation for the market value of interest-bearing debt.

### Exhibit 6.2a :: Measuring the Market Value of Total Capital

Common Shares Outstanding	37.0
times: Current Market Price	\$43.68
Market Value of Common Equity	<u>\$1,614</u>
plus: Book Value of Interest-Bearing Debt	77
plus: Book Value of Preferred Equity	0
plus: Book Value of Noncontrolling Interests	<u>0</u>
Market Value of Total Capital	\$1,691

The capital structure components are calculated in the same manner as the composition of invested capital. "Market Value of Total Equity" in Exhibit 6.2b is the sum of the market value of common equity, book value of preferred equity, and book value of noncontrolling interests.

### Exhibit 6.2b :: Measuring Capital Structure (Market Values)

$$\text{Debt as a \% of MVTC} = \frac{\text{Dec18 Interest Bearing Debt}}{\text{Dec18 Market Value of Total Capital}}$$

$$4.5\% = \frac{\$77}{\$1,691}$$

$$\text{Equity as a \% of MVTC} = \frac{\text{Dec18 Market Value of Total Equity}}{\text{Dec18 Market Value of Total Capital}}$$

$$95.5\% = \frac{\$1,614}{\$1,691}$$

When evaluating capital structure, family business directors should consider the following questions:

- Do we have a reliable estimate of the market value of the equity in our family business?
- What are the principal causes of the difference – if any – between the book value and market value of equity?
- How does our current capital structure compare to the peer group? Should our target capital structure use more or less financial leverage than the peers?

**Table 6.2 :: MVTC Composition**

		S&P 500 Large Cap Stocks			S&P 400 Mid Cap Stocks			S&P 600 Small Cap Stocks		
		Equity		Debt	Equity		Debt	Equity		Debt
		Count	% MVTC	% MVTC	Count	% MVTC	% MVTC	Count	% MVTC	% MVTC
Communication Services	75th Percentile		95.9%	4.1%		88.2%	11.8%		96.6%	3.4%
	Median	22	81.7%	18.3%	12	74.1%	25.9%	16	78.7%	21.3%
	25th Percentile		60.6%	39.4%		61.5%	38.5%		60.4%	39.6%
Consumer Discretionary	75th Percentile		91.6%	8.4%		91.4%	8.6%		96.9%	3.1%
	Median	64	82.6%	17.4%	58	72.9%	27.1%	92	83.8%	16.2%
	25th Percentile		65.1%	34.9%		53.2%	46.8%		61.7%	38.3%
Consumer Staples	75th Percentile		88.7%	11.3%		94.8%	5.2%		97.4%	2.6%
	Median	33	80.7%	19.3%	14	80.1%	19.9%	20	74.0%	26.0%
	25th Percentile		68.5%	31.5%		68.9%	31.1%		52.5%	47.5%
Energy	75th Percentile		82.0%	18.0%		68.3%	31.7%		74.8%	25.2%
	Median	30	77.2%	22.8%	25	47.5%	52.5%	37	53.6%	46.4%
	25th Percentile		66.8%	33.2%		38.6%	61.4%		37.4%	62.6%
Health Care	75th Percentile		92.6%	7.4%		97.3%	2.7%		99.8%	0.2%
	Median	62	87.6%	12.4%	34	87.7%	12.3%	70	92.0%	8.0%
	25th Percentile		76.2%	23.8%		75.3%	24.7%		79.0%	21.0%
Industrials	75th Percentile		88.9%	11.1%		91.5%	8.5%		94.3%	5.7%
	Median	69	83.2%	16.8%	60	82.7%	17.3%	97	84.8%	15.2%
	25th Percentile		76.7%	23.3%		71.4%	28.6%		67.7%	32.3%
Information Technology	75th Percentile		97.3%	2.7%		93.0%	7.0%		99.9%	0.1%
	Median	68	90.0%	10.0%	54	85.1%	14.9%	90	89.1%	10.9%
	25th Percentile		83.6%	16.4%		69.7%	30.3%		76.9%	23.1%
Materials	75th Percentile		83.2%	16.8%		77.1%	22.9%		85.7%	14.3%
	Median	25	79.4%	20.6%	29	70.6%	29.4%	32	69.1%	30.9%
	25th Percentile		68.5%	31.5%		59.9%	40.1%		49.5%	50.5%
Real Estate	75th Percentile		78.6%	21.4%		74.2%	25.8%		74.4%	25.6%
	Median	32	75.6%	24.4%	36	68.1%	31.9%	38	60.4%	39.6%
	25th Percentile		70.2%	29.8%		53.9%	46.1%		45.4%	54.6%
Utilities	75th Percentile		65.5%	34.5%		74.6%	25.4%		71.4%	28.6%
	Median	27	63.3%	36.7%	15	71.1%	28.9%	7	65.1%	34.9%
	25th Percentile		57.7%	42.3%		67.4%	32.6%		59.5%	40.5%

## TABLE 6.3 :: MARGINAL FINANCING DECISIONS

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The composition of invested capital at a given date reflects the cumulative financing decisions made since the inception of the company. While this cumulative view is important, it is also helpful to have a sense for how recent financing decisions have influenced a company's capital structure at the margin.

We calculate the components of marginal financing decisions as noted in Exhibit 6.3.

### Exhibit 6.3 :: Calculation of Marginal Financing Components

$$\text{Debt as a \% of Invested Capital} = \frac{\Delta \text{ in Interest Bearing Debt during 2018}}{\Delta \text{ in Invested Capital during 2018}}$$

$$17.0\% = \frac{\$77 - \$61}{\$575 - \$478}$$

$$\text{Equity as a \% of Invested Capital} = \frac{\Delta \text{ in Total Equity during 2018}}{\Delta \text{ in Invested Capital during 2018}}$$

$$83.0\% = \frac{\$498 - \$418}{\$575 - \$478}$$

Critical questions to help family business directors evaluate marginal financing decisions include:

- How does our current financing mix compare to our target mix?
- What are our principal sources of financing at the margin? How much capacity do we have under existing credit facilities?
- Do we have a preferred hierarchy of financing sources? How does the outlook for financing cost and availability affect our marginal financing decisions?

**Table 6.3 :: Marginal Financing**

	S&P 500 Large Cap Stocks			S&P 400 Mid Cap Stocks			S&P 600 Small Cap Stocks		
	Count	Marginal Equity	Marginal Debt	Count	Marginal Equity	Marginal Debt	Count	Marginal Equity	Marginal Debt
	Communication Services	22	68.0%	32.0%	12	41.1%	58.9%	16	178.9%
Consumer Discretionary	64	-19.2%	119.2%	58	0.7%	99.3%	93	4.1%	95.9%
Consumer Staples	33	0.3%	99.7%	14	33.7%	66.3%	20	-0.4%	100.4%
Energy	30	90.2%	9.8%	25	nm	nm	37	73.0%	27.0%
Health Care	62	25.2%	74.8%	34	-64.9%	164.9%	70	56.2%	43.8%
Industrials	69	-46.7%	146.7%	60	-16.4%	116.4%	97	69.1%	30.9%
Information Technology	68	62.1%	37.9%	54	45.9%	54.1%	90	30.9%	69.1%
Materials	25	78.2%	21.8%	29	88.9%	11.1%	32	94.4%	5.6%
Real Estate	32	51.8%	48.2%	36	51.7%	48.3%	38	36.6%	63.4%
Utilities	27	58.8%	41.2%	16	175.7%	-75.7%	7	16.6%	83.4%

## TABLE 6.4 :: CASH FLOW LEVERAGE

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In addition to balance-sheet driven measures, lenders and other market participants often measure capital structure decisions by comparing balance sheet and income statement measures. The most common such ratio is the relationship of total interest-bearing debt to EBITDA.

Exhibit 6.4 summarizes our calculation of financial leverage for the peer companies:

### Exhibit 6.4 :: Calculation of EBITDA Leverage

$$EBITDA \text{ Leverage} = \frac{\text{Dec18 Interest Bearing Debt}}{2018 EBITDA}$$

$$0.4x = \frac{\$77}{\$192}$$

When evaluating EBITDA leverage, family business directors should consider the following questions:

- Are there underperforming earning assets that can be liquidated to reduce indebtedness with limited impact on EBITDA?
- How do current leverage levels compare to financial covenants in credit facilities?
- What levels of EBITDA leverage are our family shareholders comfortable with at this point in the business cycle?

**Table 6.4 :: EBITDA Leverage**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	EBITDA Leverage	Count	EBITDA Leverage	Count	EBITDA Leverage
Communication Services	75th Percentile		3.7x		3.8x		4.8x
	Median	22	2.6x	12	2.6x	16	2.3x
	25th Percentile		0.7x		1.9x		0.6x
Consumer Discretionary	75th Percentile		3.2x		4.3x		2.9x
	Median	64	2.0x	58	2.1x	93	1.1x
	25th Percentile		1.3x		1.0x		0.3x
Consumer Staples	75th Percentile		4.1x		3.5x		4.2x
	Median	33	2.7x	14	2.3x	20	2.7x
	25th Percentile		2.0x		0.7x		0.5x
Energy	75th Percentile		2.6x		3.8x		3.6x
	Median	30	1.7x	25	2.3x	37	1.8x
	25th Percentile		1.1x		2.0x		0.6x
Health Care	75th Percentile		3.1x		3.9x		3.3x
	Median	62	2.4x	34	2.6x	70	1.7x
	25th Percentile		1.4x		0.7x		0.0x
Industrials	75th Percentile		2.8x		3.0x		3.0x
	Median	69	2.2x	60	1.9x	96	1.8x
	25th Percentile		1.4x		1.1x		0.4x
Information Technology	75th Percentile		2.5x		1.0x		1.0x
	Median	68	1.5x	54	0.9x	90	1.0x
	25th Percentile		0.8x		0.4x		0.3x
Materials	75th Percentile		3.0x		3.6x		4.0x
	Median	25	2.3x	29	2.6x	32	2.5x
	25th Percentile		1.8x		1.9x		1.3x
Real Estate	75th Percentile		6.4x		7.0x		8.2x
	Median	32	5.5x	36	5.7x	37	6.8x
	25th Percentile		5.1x		4.9x		4.6x
Utilities	75th Percentile		5.7x		5.1x		5.5x
	Median	27	5.2x	15	3.9x	7	4.4x
	25th Percentile		4.4x		3.5x		4.2x

## TABLE 6.5 :: DEBT RATINGS

An issuer credit rating represents the rating agency's opinion regarding the issuer's overall creditworthiness, emphasizing the capacity and willingness to meet financial commitments as they come due. Table 6.5 summarizes issuer credit ratings from Standard & Poor's (S&P) for our universe of peer companies.

S&P issuer credit ratings are summarized in Exhibit 6.5:

**Exhibit 6.5 :: S&P Issuer Credit Ratings**

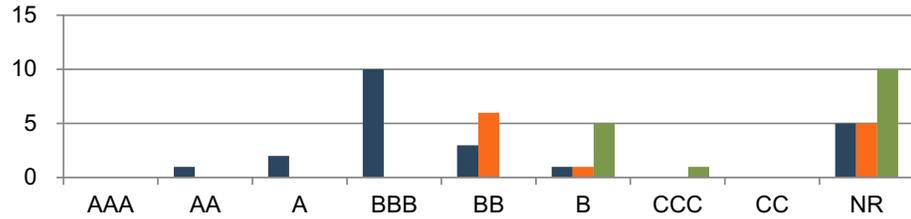
	Rating	Summary Description
Investment Grade	AAA	Extremely strong capacity to meet financial commitments
	AA	Very strong capacity to meet financial commitments
	A	Strong capacity to meet financial commitments
	BBB	Adequate capacity to meet financial commitments
Below Investment Grade	BB	Major ongoing uncertainties and exposure to adverse business, financial, or economic conditions could lead to inadequate capacity
	B	Adverse business, financial, or economic conditions will likely impair capacity to meet financial commitments
	CCC	Currently vulnerable and dependent upon favorable business, financial, and economic conditions to meet financial commitments
	CC	Highly vulnerable; default expected to be a virtual certainty

Source: Standard & Poor's

**Table 6.5 :: S&P Credit Rating**

S&P 500
S&P 400
S&P 600

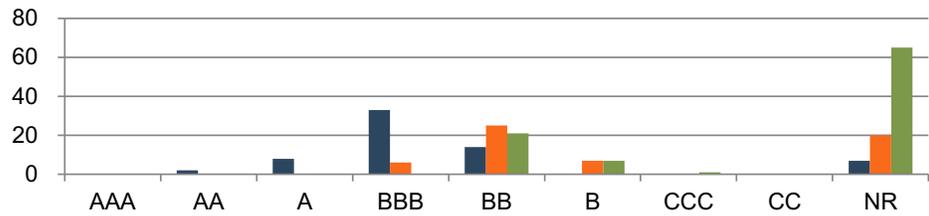
Communication Services



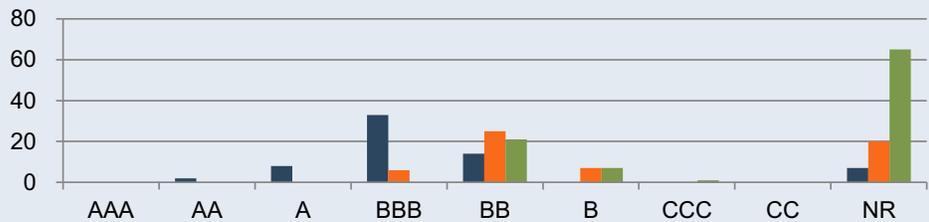
Consumer Discretionary



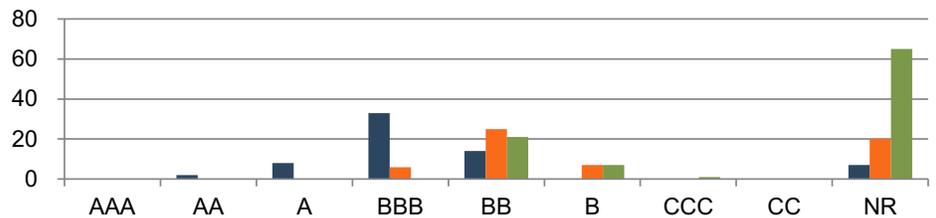
Consumer Staples



Energy



Health Care



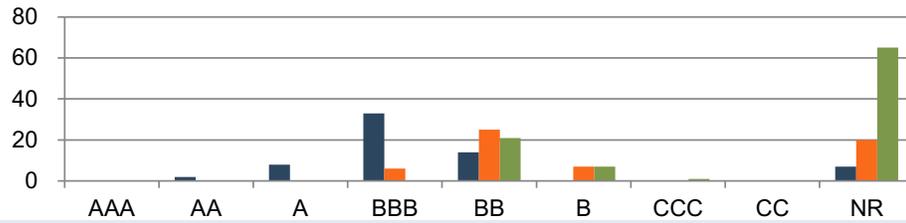
**Table 6.5 (cont) :: S&P Credit Rating**

S&P 500
S&P 400
S&P 600

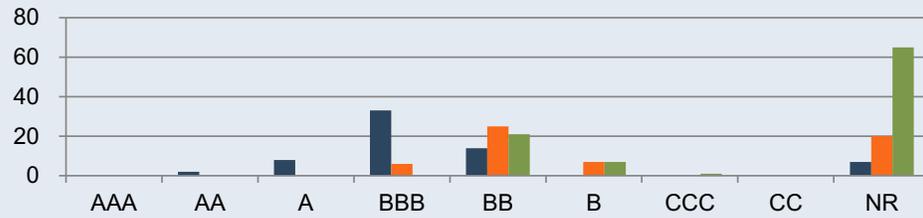
**Industrials**



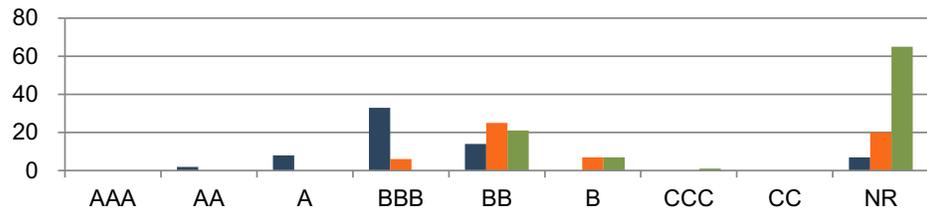
**Information Technology**



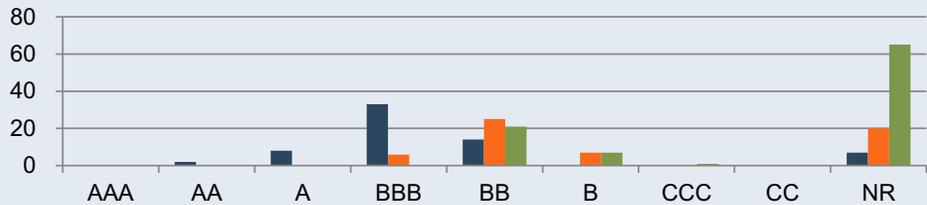
**Materials**



**Real Estate**



**Utilities**



## TABLE 6.6 :: EFFECTIVE INTEREST RATE

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The cost of borrowing for a company reflects the risk of repayment perceived by lenders, and the term and structure of borrowings. The effective interest rate for the peer companies provides an important benchmark for directors to evaluate the current and prospective borrowing cost for their family business.

Exhibit 6.6 illustrates the calculation of effective interest rate for the peer group:

### Exhibit 6.6 :: Calculation of Effective Interest Rate

$$\text{Effective Interest Rate} = \frac{2018 \text{ Interest Expense}}{2018 \text{ Average Interest Bearing Debt}}$$

$$5.40\% = \frac{\$4}{\$69}$$

When evaluating effective interest rate, family business directors should consider the following questions:

- What is our current mix of fixed-rate and floating-rate obligations? Have we considered the desirability of hedges against changing market interest rates?
- What is the remaining term on our borrowings?
- Are there attractive refinancing options available that could reduce our effective interest rate? Are there prepayment penalties or other provisions that limit our ability to refinance?
- What strategies are available to reduce the risk profile of our family business from the perspective of lenders?

**Table 6.6 :: Effective Interest Expense**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		Count	Effective Int. Rate	Count	Effective Int. Rate	Count	Effective Int. Rate
Communication Services	75th Percentile		4.9%		7.1%		7.5%
	Median	21	4.6%	11	6.3%	13	6.5%
	25th Percentile		3.8%		5.0%		4.5%
Consumer Discretionary	75th Percentile		4.9%		5.7%		7.2%
	Median	61	3.8%	55	5.1%	75	5.0%
	25th Percentile		3.2%		3.9%		3.5%
Consumer Staples	75th Percentile		4.0%		5.4%		6.2%
	Median	32	3.7%	12	4.4%	19	4.8%
	25th Percentile		3.0%		4.0%		4.2%
Energy	75th Percentile		5.1%		6.5%		9.0%
	Median	30	4.7%	24	6.1%	33	7.5%
	25th Percentile		3.6%		5.1%		6.3%
Health Care	75th Percentile		4.1%		6.2%		7.8%
	Median	59	3.6%	29	5.2%	57	6.0%
	25th Percentile		3.1%		4.3%		4.5%
Industrials	75th Percentile		4.5%		5.3%		6.1%
	Median	67	3.7%	60	4.1%	84	4.8%
	25th Percentile		3.4%		3.4%		4.0%
Information Technology	75th Percentile		4.5%		6.3%		7.0%
	Median	64	3.6%	46	5.1%	70	4.9%
	25th Percentile		3.0%		4.2%		3.9%
Materials	75th Percentile		4.5%		5.2%		7.0%
	Median	25	4.0%	29	4.7%	31	5.4%
	25th Percentile		3.5%		4.3%		4.4%
Real Estate	75th Percentile		4.2%		4.8%		4.6%
	Median	32	3.9%	36	4.1%	37	4.3%
	25th Percentile		3.4%		3.5%		3.8%
Utilities	75th Percentile		4.6%		4.9%		5.3%
	Median	27	4.3%	16	4.5%	7	4.7%
	25th Percentile		4.1%		4.1%		4.0%

# Chapter 7 :: Weighted Average Cost of Capital

## INTRODUCTION

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The weighted average cost of capital (WACC) is a critical component in the dividend policy, capital structure, and capital budgeting decisions family business directors are called upon to make on behalf of family shareholders. The weighted average cost of capital is the blended (after-tax) cost of funds from shareholders and lenders. As such, it is an estimate of the returns available to capital providers from investments of comparable risk, and serves as the appropriate hurdle rate for making capital budgeting and related dividend policy decisions. In this chapter, we present data that sheds light on the weighted average cost of capital for our benchmarking population.

- Table 7.1 – Beta. The cost of equity capital (a significant component of the WACC) is not directly observable. The most common economic model for estimating the cost of equity relies on a measure of systematic risk for the subject company, referred to as beta.
- Table 7.2 – Estimated Cost of Equity (CAPM). Based on observed betas and size factors, we estimate the cost of equity for the peer companies using the size-adjusted capital asset pricing model.
- Table 7.3 – Estimated WACC (Build-Up Approach). The build-up approach to estimating the WACC for a subject company consists of estimating the costs of equity and debt capital, respectively, and then weighing those estimates in proportion to the prevailing capital structure.
- Table 7.4 – Enterprise Value / Trailing Revenue. Although the WACC of a company is not directly observable, valuation multiples can provide perspective on market return expectations. The ratio of enterprise value to trailing revenue can be especially useful for companies with atypical profit margins.
- Table 7.5 – Enterprise Value / Trailing EBITDA. The EBITDA multiple is the most commonly cited valuation multiple for middle market operating companies. EBITDA multiples reflect market participant expectations regarding risk, growth, and cash flow conversion.
- Table 7.6 – Market Value of Total Capital / Invested Capital – Comparing the market value of total capital to invested capital reveals the degree to which the market believes that management’s stewardship of invested capital has created value.
- Table 7.7 – Estimated WACC (Supply-Side Approach). In contrast to the build-up approach, the supply-side approach infers a company’s WACC by comparing the current market value of the company to expected future enterprise cash flows.

**TABLE 7.1 :: BETA**

The weighted average cost of capital reflects the blended cost of debt and equity capital. Market bond yields provide a reasonably reliable market-derived estimate of the cost of debt capital. A reliable estimate of the cost of equity is more elusive. The economic model for estimating the cost of equity capital for public companies favored by most observers is the Size-Adjusted Capital Asset Pricing Model, (CAPM), summarized in Exhibit 7.1a.

**Exhibit 7.1a :: Size-Adjusted Capital Asset Pricing Model**

$$k_e = RFR + [\beta \times ERP] + SP$$

where:

*k<sub>e</sub>* = Cost of Equity Capital

*RFR* = Risk-Free Rate

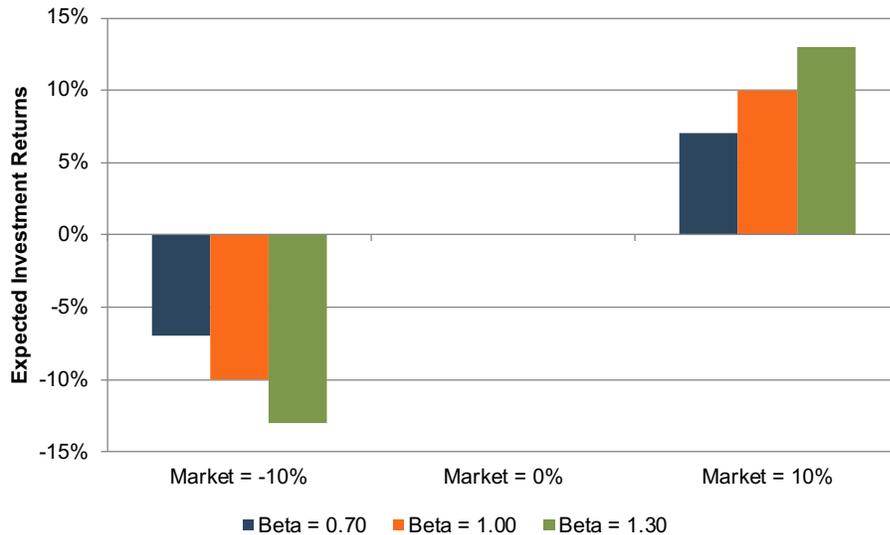
*β* = Beta

*ERP* = Equity Risk Premium

*SP* = Size Premium

The only component of the CAPM that is specific to the subject company is beta. Beta is a measure of systematic risk. Under modern portfolio theory, systematic risk is relevant to investors because it cannot be mitigated through diversification. Beta can be interpreted as the expected movement in the price of an individual security relative to changes in the market as a whole, as depicted in Exhibit 7.1b:

**Exhibit 7.1b :: Size-Adjusted Capital Asset Pricing Model**



For companies having betas less than 1.0, stock returns are expected to be less volatile than corresponding market moves, while betas greater than 1.0 signal an expectation of return volatility in excess of market levels.

Directors should assess the risk of their public company relative to the companies comprising their peer group to determine whether the beta applicable to their family business should be above or below the observed betas for the peer companies

- Does our family business operate in a cyclical or counter-cyclical industry?
- Does our capital structure include more or less debt than the peer companies?

**Table 7.1 :: Beta**

		<b>S&amp;P 500 Large Cap Stocks</b>		<b>S&amp;P 400 Mid Cap Stocks</b>		<b>S&amp;P 600 Small Cap Stocks</b>	
		5 Year		5 Year		5 Year	
		Count	Beta	Count	Beta	Count	Beta
Communication Services	75th Percentile		1.33		1.17		1.27
	Median	22	1.06	12	1.05	16	0.92
	25th Percentile		0.76		0.92		0.68
Consumer Discretionary	75th Percentile		1.26		1.33		1.32
	Median	64	1.00	58	0.93	94	0.96
	25th Percentile		0.67		0.58		0.60
Consumer Staples	75th Percentile		0.76		0.66		1.20
	Median	33	0.62	14	0.56	20	0.85
	25th Percentile		0.40		0.45		0.48
Energy	75th Percentile		1.44		2.11		2.29
	Median	30	1.18	25	1.57	37	1.46
	25th Percentile		0.95		1.10		0.93
Health Care	75th Percentile		1.20		1.38		1.58
	Median	62	1.05	34	1.19	70	1.19
	25th Percentile		0.84		0.92		0.72
Industrials	75th Percentile		1.34		1.54		1.67
	Median	69	1.18	60	1.31	98	1.38
	25th Percentile		1.00		1.09		0.99
Information Technology	75th Percentile		1.40		1.51		1.42
	Median	68	1.13	54	1.20	90	1.16
	25th Percentile		0.94		0.86		0.82
Materials	75th Percentile		1.48		1.53		1.88
	Median	25	1.16	29	1.33	32	1.57
	25th Percentile		0.90		0.99		1.18
Real Estate	75th Percentile		0.86		1.08		1.21
	Median	32	0.63	36	0.85	38	0.94
	25th Percentile		0.48		0.68		0.74
Utilities	75th Percentile		0.37		0.49		0.46
	Median	27	0.28	16	0.36	7	0.39
	25th Percentile		0.17		0.26		0.30

## TABLE 7.2 :: ESTIMATED COST OF EQUITY (CAPM)

We use the size-adjusted capital asset pricing model (Exhibit 7.1a) to estimate the cost of equity for each of the companies in our peer universe. We applied the following parameters in our application of the CAPM.

- Risk-Free Rate (RFR). We use the yield to maturity on 20-year U.S. Treasury bonds, which was 2.87% at December 31, 2018.
- Beta. We use the observed beta for each company, as presented in Table 7.1.
- Equity Risk Premium (ERP). The market risk premium measures the incremental return expected on a market portfolio of equity securities over the risk-free rate. The market risk premium is not directly observable, and most academic studies suggest that the equity risk premium is on the order of 4.0% to 7.0%. We assume an equity risk premium of 5.5%.
- Size Premium (SP). Realized investment returns have historically been higher for smaller public companies. We apply the size premiums listed in Exhibit 7.2 based on the equity market capitalization of each company.

**Exhibit 7.2 :: Size Premiums Applied in CAPM**

Size Decile	Minimum Market Cap \$millions	Size Premium
1	\$29,429	-0.30%
2	\$13,513	0.52%
3	\$7,276	0.81%
4	\$4,504	0.85%
5	\$2,996	1.28%
6	\$1,962	1.50%
7	\$1,293	1.58%
8	\$730	1.80%
9	\$325	2.46%
10	\$0	5.22%

Source: Duff & Phelps Cost of Capital Navigator

When evaluating the overall cost of equity capital, family business directors should consider the following:

- How do the indicated costs for the peer companies compare to the *expected* returns on the part of our family shareholders?
- How do the indicated costs for the peer companies compare to the *historical* returns provided to our family shareholders? What are the sources of the variance?
- How do we communicate return expectations to our family shareholders?
- What, if any, premium to the CAPM-indicated return should our family shareholders expect because of risk differences between our family business and the public peer companies?

**Table 7.2 :: Estimated Cost of Equity (CAPM)**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	Cost of Equity (CAPM)	Count	Cost of Equity (CAPM)	Count	Cost of Equity (CAPM)
Communication Services	75th Percentile		10.4%		10.5%		12.7%
	Median	22	9.0%	12	10.0%	16	11.4%
	25th Percentile		7.5%		9.4%		8.4%
Consumer Discretionary	75th Percentile		10.1%		11.8%		12.6%
	Median	64	8.8%	58	9.3%	94	10.2%
	25th Percentile		6.8%		7.3%		8.1%
Consumer Staples	75th Percentile		7.6%		7.7%		11.6%
	Median	33	6.4%	14	7.2%	20	9.3%
	25th Percentile		5.0%		6.5%		7.9%
Energy	75th Percentile		11.6%		16.0%		17.6%
	Median	30	9.8%	25	13.3%	37	14.0%
	25th Percentile		8.0%		10.4%		10.6%
Health Care	75th Percentile		10.0%		11.7%		13.3%
	Median	62	8.7%	34	10.4%	70	11.5%
	25th Percentile		7.4%		9.0%		8.9%
Industrials	75th Percentile		10.7%		12.6%		13.9%
	Median	69	9.7%	60	11.4%	98	12.4%
	25th Percentile		8.7%		9.7%		10.2%
Information Technology	75th Percentile		10.8%		12.2%		12.9%
	Median	68	9.4%	54	10.7%	90	11.6%
	25th Percentile		8.5%		8.9%		9.2%
Materials	75th Percentile		11.6%		12.9%		15.4%
	Median	25	9.9%	29	11.5%	32	13.2%
	25th Percentile		7.9%		9.3%		11.5%
Real Estate	75th Percentile		8.2%		10.1%		11.5%
	Median	32	6.8%	36	8.8%	38	10.0%
	25th Percentile		6.1%		7.8%		8.4%
Utilities	75th Percentile		5.3%		6.7%		7.0%
	Median	27	4.8%	16	6.1%	7	6.5%
	25th Percentile		4.1%		5.6%		5.9%

## TABLE 7.3 :: ESTIMATED WACC (BUILD-UP APPROACH)

Under the build-up approach, we use the estimated cost of debt and equity capital to derive the weighted average cost of capital, as illustrated in Exhibit 7.3a:

### Exhibit 7.3a :: Estimated WACC (Build-Up Approach)

$$WACC = (k_e \times w_e) + (k_d \times w_d)$$

where:

$k_e$  = Cost of Equity Capital

$w_e$  = Proportion of Equity in Capital Structure (at market)

$k_d$  = Cost of Debt Capital

$w_d$  = Proportion of Debt in Capital Structure (at market)

We estimate the cost of debt relative to the subject company's issuer credit rating (Table 6.5). Exhibit 7.3b summarizes the pre-tax and after-tax costs of debt capital corresponding to each credit rating. We have assumed an effective blended (state & federal) tax rate of 26% for all companies.

### Exhibit 7.3b :: Cost of Debt Capital

Issuer Credit Rating	Pre-tax Cost	After-tax Cost
AAA	3.53%	2.61%
AA	3.51%	2.60%
A	3.90%	2.89%
BBB	4.69%	3.47%
BB	6.18%	4.57%
B	8.28%	6.13%
CCC or below	13.55%	10.03%

Source: Pre-tax yields as of December 31, 2018  
(Federal Reserve Bank of St. Louis)

Family business directors should consider the following questions regarding the weighted average cost of capital:

- How do the WACC estimates for the peer companies compare to the hurdle rate we use for capital budgeting?
- Would a shift in our target capital structure be likely to impact the overall weighted average cost of capital for our family business?

**Table 7.3 :: Estimated WACC (Build-Up)**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	WACC (Build-Up)	Count	WACC (Build-Up)	Count	WACC (Build-Up)
Communication Services	75th Percentile		8.9%		9.5%		11.0%
	Median	22	7.6%	12	8.7%	16	8.9%
	25th Percentile		6.5%		7.3%		7.3%
Consumer Discretionary	75th Percentile		8.5%		9.0%		10.3%
	Median	64	7.5%	58	7.9%	92	8.6%
	25th Percentile		6.1%		6.7%		7.3%
Consumer Staples	75th Percentile		6.3%		7.1%		9.1%
	Median	33	5.4%	14	6.3%	20	8.2%
	25th Percentile		4.8%		6.0%		7.1%
Energy	75th Percentile		8.7%		10.3%		12.0%
	Median	30	8.0%	25	9.0%	37	9.1%
	25th Percentile		6.9%		7.6%		7.3%
Health Care	75th Percentile		8.5%		10.1%		11.7%
	Median	62	7.5%	34	9.5%	70	10.1%
	25th Percentile		6.7%		7.8%		8.0%
Industrials	75th Percentile		9.4%		10.4%		11.7%
	Median	69	8.6%	60	9.7%	97	10.2%
	25th Percentile		7.5%		8.3%		8.8%
Information Technology	75th Percentile		9.5%		10.9%		11.7%
	Median	68	8.7%	54	9.6%	90	9.9%
	25th Percentile		7.8%		7.8%		8.9%
Materials	75th Percentile		9.3%		10.0%		11.6%
	Median	25	8.1%	29	8.6%	32	10.0%
	25th Percentile		7.1%		8.0%		8.9%
Real Estate	75th Percentile		6.7%		7.7%		8.5%
	Median	32	5.8%	36	6.8%	38	7.2%
	25th Percentile		5.2%		6.0%		6.3%
Utilities	75th Percentile		4.5%		5.8%		5.9%
	Median	27	4.1%	15	5.1%	7	5.8%
	25th Percentile		3.7%		5.0%		4.8%

## TABLE 7.4 :: ENTERPRISE VALUE / TRAILING REVENUE

Since the WACC is not directly observable, it can be helpful to assess other market-derived data points to evaluate the WACC. Valuation multiples provide a composite view of how market participants evaluate a company along multiple axes, including the WACC. All else equal, higher valuation multiples correspond to lower WACCs.

For multiples of trailing revenue and EBITDA, we use enterprise value as the numerator. Enterprise value is equal to the market value of total capital less cash & equivalents, as indicated in Exhibit 7.4a.

### Exhibit 7.4a :: Measuring Enterprise Value

Common Shares Outstanding	37.0
times: Current Market Price	\$43.68
Market Value of Common Equity	<u>\$1,614</u>
plus: Book Value of Interest-Bearing Debt	77
plus: Book Value of Preferred Equity	0
plus: Book Value of Noncontrolling Interests	<u>0</u>
Market Value of Total Capital	\$1,691
less: Cash & Equivalents	<u>(46)</u>
Enterprise Value	\$1,646

Revenue multiples are positively related to the profitability of the subject company. In other words, a dollar of revenue that creates more profitability will be worth more.

We calculate revenue multiples as illustrated in Exhibit 7.4b.

### Exhibit 7.4b :: Calculating the Revenue Multiple

$$\text{Revenue Multiple} = \frac{\text{Dec18 Enterprise Value}}{\text{2018 Revenue}}$$

$$0.75x = \frac{\$1,646}{\$2,183}$$

Observed revenue multiples reflect the following market assessments of the peer companies:

- Weighted Average Cost of Capital. What is the relative riskiness of the subject company?
- Profitability. How much EBITDA does each dollar of revenue generate?
- Cash Flow Conversion. How much net operating cash flow comes from each dollar of EBITDA?
- Growth Prospects: How fast are operating cash flows expected to grow from the current base?

**Table 7.4 :: Enterprise Value / Trailing Revenue**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
			EV /		EV /		EV /
		Count	Revenue	Count	Revenue	Count	Revenue
Communication Services	75th Percentile		4.32x		2.97x		2.44x
	Median	22	3.26x	12	1.95x	16	1.93x
	25th Percentile		1.95x		1.73x		1.46x
Consumer Discretionary	75th Percentile		2.79x		2.86x		1.18x
	Median	64	1.48x	58	1.29x	93	0.70x
	25th Percentile		1.08x		0.72x		0.39x
Consumer Staples	75th Percentile		4.28x		2.21x		1.98x
	Median	33	2.97x	14	1.20x	20	0.93x
	25th Percentile		1.99x		1.00x		0.58x
Energy	75th Percentile		3.38x		3.21x		2.04x
	Median	30	2.37x	25	2.47x	37	1.23x
	25th Percentile		1.18x		1.27x		0.67x
Health Care	75th Percentile		5.54x		4.80x		4.57x
	Median	62	4.33x	34	3.28x	70	2.80x
	25th Percentile		1.93x		2.04x		1.65x
Industrials	75th Percentile		3.61x		2.21x		1.71x
	Median	69	2.04x	60	1.33x	96	1.17x
	25th Percentile		1.36x		0.77x		0.71x
Information Technology	75th Percentile		7.04x		3.98x		2.71x
	Median	68	4.33x	54	2.32x	90	1.70x
	25th Percentile		2.68x		1.34x		0.80x
Materials	75th Percentile		3.84x		1.97x		1.18x
	Median	25	2.24x	29	1.12x	32	0.99x
	25th Percentile		1.46x		0.80x		0.62x
Real Estate	75th Percentile		15.28x		12.26x		13.07x
	Median	32	12.45x	36	10.04x	38	9.78x
	25th Percentile		10.47x		6.39x		5.11x
Utilities	75th Percentile		4.93x		4.78x		4.39x
	Median	27	4.29x	15	4.02x	7	4.11x
	25th Percentile		3.46x		2.30x		3.56x

## TABLE 7.5 :: ENTERPRISE VALUE / TRAILING EBITDA

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EBITDA multiples are commonly referenced by market participants, investment bankers, and lenders. EBITDA is generally viewed as a readily calculated proxy for cash flow available to capital providers. As with revenue multiples, higher EBITDA multiples correspond to lower WACCs, all else equal.

Exhibit 7.5 depicts our calculation of the EBITDA multiple for our peer universe:

### Exhibit 7.5 :: Calculating the EBITDA Multiple

$$EBITDA \text{ Multiple} = \frac{\text{Dec18 Enterprise Value}}{2018 EBITDA}$$

$$8.6x = \frac{\$1,646}{\$192}$$

Observed EBITDA multiples reflect the following market assessments of the peer companies:

- Weighted Average Cost of Capital. What is the relative riskiness of the subject company?
- Cash Flow Conversion. How much net operating cash flow comes from each dollar of EBITDA?
- Growth Prospects: How fast are operating cash flows expected to grow from the current base?

**Table 7.5 :: Enterprise Value / Trailing EBITDA**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	EV / EBITDA	Count	EV / EBITDA	Count	EV / EBITDA
Communication Services	75th Percentile		16.6x		20.6x		24.9x
	Median	22	10.5x	12	10.8x	16	9.0x
	25th Percentile		8.3x		7.8x		6.6x
Consumer Discretionary	75th Percentile		15.2x		12.3x		10.6x
	Median	64	11.8x	58	9.3x	93	7.9x
	25th Percentile		7.9x		6.3x		4.3x
Consumer Staples	75th Percentile		16.5x		17.3x		17.8x
	Median	33	13.3x	14	11.6x	20	10.1x
	25th Percentile		10.7x		8.9x		8.2x
Energy	75th Percentile		9.3x		11.3x		8.0x
	Median	30	6.6x	25	5.4x	37	4.4x
	25th Percentile		4.9x		4.4x		3.0x
Health Care	75th Percentile		20.7x		23.7x		20.9x
	Median	62	14.4x	34	16.1x	70	14.5x
	25th Percentile		10.5x		11.0x		9.4x
Industrials	75th Percentile		14.5x		13.5x		12.2x
	Median	69	12.5x	60	10.1x	96	9.6x
	25th Percentile		9.4x		8.0x		7.7x
Information Technology	75th Percentile		22.1x		24.3x		17.2x
	Median	68	15.9x	54	13.2x	90	10.6x
	25th Percentile		9.5x		10.1x		7.0x
Materials	75th Percentile		14.4x		11.3x		11.4x
	Median	25	9.6x	29	8.5x	32	8.4x
	25th Percentile		6.6x		6.4x		6.0x
Real Estate	75th Percentile		24.0x		21.4x		20.1x
	Median	32	22.7x	36	16.5x	37	17.0x
	25th Percentile		19.3x		12.7x		12.4x
Utilities	75th Percentile		14.4x		14.0x		17.0x
	Median	27	12.9x	15	13.0x	7	15.3x
	25th Percentile		10.6x		11.3x		12.0x

## TABLE 7.6 :: MARKET VALUE OF TOTAL CAPITAL / INVESTED CAPITAL

---

Invested capital multiples reveal the extent to which management's allocation of the capital provided by shareholders and lenders has created value. If the return on invested capital is expected to remain persistently below the WACC, the market value of total capital will be less than invested capital (multiple of less than 1.0x). A valuation multiple greater than 1.0x signals that market participants expect ROIC to exceed the WACC.

Exhibit 7.6 summarizes the calculation of the invested capital multiple.

### Exhibit 7.6 :: Calculating the Invested Capital Multiple

$$\text{Invested Capital Multiple} = \frac{\text{Dec18 Market Value of Total Capital}}{\text{Dec18 Invested Capital}}$$

$$2.94x = \frac{\$1,691}{\$575}$$

Observed invested capital multiples reflect the following market assessments of the peer companies:

- Weighted Average Cost of Capital. What is the relative riskiness of the subject company?
- Capital Efficiency. How much revenue does each dollar of invested capital generate?
- Profitability: How much NOPAT is derived from each dollar of revenue?

**Table 7.6 :: Market Value of Total Capital / Invested Capital**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		MVTC /		MVTC /		MVTC /	
		Count	IC	Count	IC	Count	IC
Communication Services	75th Percentile		3.80x		3.74x		2.65x
	Median	22	2.15x	12	1.79x	16	1.29x
	25th Percentile		1.41x		1.44x		1.00x
Consumer Discretionary	75th Percentile		4.61x		3.36x		2.45x
	Median	64	2.51x	58	2.06x	93	1.43x
	25th Percentile		1.54x		1.36x		0.95x
Consumer Staples	75th Percentile		5.37x		2.98x		3.64x
	Median	33	3.18x	14	2.41x	20	2.01x
	25th Percentile		1.59x		1.52x		1.04x
Energy	75th Percentile		1.54x		1.11x		1.07x
	Median	30	1.27x	25	0.91x	37	0.85x
	25th Percentile		1.07x		0.69x		0.62x
Health Care	75th Percentile		4.39x		4.32x		3.75x
	Median	62	2.84x	34	2.48x	70	2.54x
	25th Percentile		2.02x		1.36x		1.65x
Industrials	75th Percentile		3.94x		2.90x		2.31x
	Median	69	2.75x	60	1.83x	96	1.68x
	25th Percentile		1.84x		1.33x		1.25x
Information Technology	75th Percentile		7.43x		3.76x		2.59x
	Median	68	4.09x	54	2.15x	90	1.85x
	25th Percentile		2.61x		1.39x		1.29x
Materials	75th Percentile		2.64x		2.38x		1.72x
	Median	25	1.98x	29	1.54x	32	1.28x
	25th Percentile		1.51x		1.24x		1.11x
Real Estate	75th Percentile		2.30x		1.74x		1.69x
	Median	32	1.79x	36	1.50x	38	1.24x
	25th Percentile		1.62x		1.34x		1.03x
Utilities	75th Percentile		1.61x		1.66x		1.86x
	Median	27	1.50x	15	1.59x	7	1.46x
	25th Percentile		1.33x		1.49x		1.37x

## TABLE 7.7 :: ESTIMATED WACC (SUPPLY-SIDE APPROACH)

The weighted average cost of capital is the discount rate that equates the expected future enterprise cash flows to the current enterprise value. For the peer companies, the current enterprise value is known, and consensus analyst estimates are available with which one can construct a forecast of expected future enterprise cash flows. The supply-side approach infers the WACC for a company by comparing the current enterprise value with expected future enterprise cash flows, as indicated in Exhibit 7.7a.

### Exhibit 7.7a :: Estimating the WACC (Supply-Side Approach)

$$EV = \frac{CF_{2019}}{(1 + WACC)^1} + \frac{CF_{2020}}{(1 + WACC)^2} + \dots + \frac{CF_n}{(1 + WACC)^n}$$

We use a two stage discounted cash flow model, with a discrete cash flow forecast for the first five years (2019 through 2023), and a constant inflationary long-term growth rate thereafter. We use consensus analyst estimates of operating income (EBIT), depreciation & amortization, and capital expenditures for 2019 and 2020 as the base of our discrete cash flow forecast. From 2021 to 2023, we assume cash flow growth moderates to a long-term inflationary rate.

Exhibit 7.7b depicts our calculation of enterprise cash flow:

### Exhibit 7.7b :: Calculating Enterprise Cash Flow

Operating Income (EBIT)	\$149
less: Pro Forma Taxes	26.0%
Net Operating Profit After Tax (NOPAT)	<u>\$110</u>
plus: Depreciation & Amortization	43
less: Capital Expenditures	(27)
less: Incremental Working Capital	<u>(21)</u>
Enterprise Cash Flow	\$105

We estimate incremental working capital needs based on the historical relationship of net working capital to revenue for the subject company.

The following questions are important when evaluating the weighted average cost of capital:

- How do the WACC estimates for the peer companies compare to the hurdle rate we use for capital budgeting?
- Would a shift in our target capital structure be likely to impact the overall weighted average cost of capital for our family business?

**Table 7.7 :: Estimated WACC (Supply-Side)**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		Count	WACC (Supply-Side)	Count	WACC (Supply-Side)	Count	WACC (Supply-Side)
Communication Services	75th Percentile		10.5%		11.4%		8.0%
	Median	22	8.9%	12	7.6%	15	5.5%
	25th Percentile		5.8%		6.8%		4.1%
Consumer Discretionary	75th Percentile		9.5%		10.6%		11.0%
	Median	62	7.3%	57	8.4%	85	7.5%
	25th Percentile		6.3%		6.5%		5.3%
Consumer Staples	75th Percentile		7.6%		8.6%		6.3%
	Median	33	6.7%	14	7.0%	18	4.1%
	25th Percentile		5.8%		5.2%		1.7%
Energy	75th Percentile		10.0%		11.1%		10.6%
	Median	29	7.5%	18	5.9%	34	8.2%
	25th Percentile		5.4%		4.8%		5.8%
Health Care	75th Percentile		10.1%		8.9%		8.8%
	Median	61	7.4%	34	7.2%	60	5.9%
	25th Percentile		5.3%		5.3%		4.1%
Industrials	75th Percentile		7.3%		10.6%		8.7%
	Median	69	5.9%	55	9.1%	95	6.7%
	25th Percentile		4.7%		6.8%		5.3%
Information Technology	75th Percentile		7.9%		11.9%		9.5%
	Median	68	5.5%	53	8.8%	81	6.3%
	25th Percentile		4.2%		6.0%		3.4%
Materials	75th Percentile		7.4%		10.5%		9.6%
	Median	25	6.0%	28	7.9%	32	8.2%
	25th Percentile		4.4%		7.2%		6.2%
Real Estate	75th Percentile		nm		nm		nm
	Median	nm	nm	nm	nm	nm	nm
	25th Percentile		nm		nm		nm
Utilities	75th Percentile		nm		nm		nm
	Median	nm	nm	nm	nm	nm	nm
	25th Percentile		nm		nm		nm

# Chapter 8 :: Dividend Policy & Share Repurchases

## INTRODUCTION

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The most transparent measure of corporate performance for family shareholders is the payment of dividends. Financial reports may or may not get read, but dividend checks always get cashed.

One of the most challenging decisions facing directors is determining what portion of family business earnings should be reinvested to support future growth and what portion should be distributed to family shareholders. The benchmarking data presented in this chapter provides important market perspective to assist family business directors in these deliberations.

- Table 8.1 – Dividend Payout Ratio. The dividend payout ratio is the most basic expression of the inherent tension between reinvestment and distribution, or capital appreciation and current income.
- Table 8.2 – Changes in Per Share Dividend. Shareholder prefer dividends that are stable and, preferably, growing. We examine the change in per share dividend to assess the degree to which companies are able to meet this demand.
- Table 8.3 – Aggregate Payout Ratio. Since shareholders crave dividend stability, public companies often prefer to use share repurchases as a second means of distributing cash to shareholders without necessarily creating the expectation of continued payment.
- Table 8.4 – Dividends Compared to Share Repurchases. Finally, we examine the relative magnitude of dividend payments and share repurchases as means of distributing cash to shareholders.

## TABLE 8.1 :: DIVIDEND PAYOUT RATIO

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The dividend payout ratio compares the aggregate dividend paid by a company to net income for the corresponding period. The dividend payout ratio reveals how directors balance the availability of attractive investment opportunities with shareholder preferences for current income.

Exhibit 8.1 depicts our calculation of dividend payout ratio:

### Exhibit 8.1 :: Calculating the Dividend Payout Ratio

$$\text{Dividend Payout Ratio} = \frac{2018 \text{ Dividends Paid}}{2018 \text{ Net Income}}$$

$$10.9\% = \frac{\$12}{\$113}$$

Family business directors should consider the following when evaluation the dividend payout ratio:

- If our dividend payout ratio is above or below the peer group, does the variance correspond to our assessment of the availability of attractive investment opportunities?
- When we retain earnings, are those funds invested in productive assets or do they accumulate in low-yielding assets?
- Are the most attractive investment opportunities for our family business relate to geographic expansion, enhancing productive capacity, promoting efficiency, or diversifying operations?
- What are the expectations / desires of our family shareholders regarding dividends? Do dividends provide a source of wealth accumulation for family members, or are dividends essential to meeting living expenses?

**Table 8.1 :: Dividend Payout Ratio**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		Dividend		Dividend		Dividend	
		Count	Payout Ratio	Count	Payout Ratio	Count	Payout Ratio
Communication Services	75th Percentile		22.6%		39.9%		104.7%
	Median	22	0.0%	12	17.9%	16	0.0%
	25th Percentile		0.0%		0.0%		-15.3%
Consumer Discretionary	75th Percentile		45.5%		31.9%		32.7%
	Median	64	29.2%	58	12.1%	93	0.0%
	25th Percentile		0.0%		0.0%		0.0%
Consumer Staples	75th Percentile		57.3%		44.5%		46.6%
	Median	33	39.4%	14	11.8%	20	17.0%
	25th Percentile		23.5%		0.0%		0.0%
Energy	75th Percentile		64.0%		7.3%		0.0%
	Median	30	21.5%	25	0.0%	37	0.0%
	25th Percentile		4.5%		0.0%		0.0%
Health Care	75th Percentile		28.0%		0.0%		0.0%
	Median	62	0.0%	34	0.0%	70	0.0%
	25th Percentile		0.0%		0.0%		0.0%
Industrials	75th Percentile		41.7%		31.7%		25.8%
	Median	69	29.6%	60	18.4%	96	10.1%
	25th Percentile		18.3%		4.4%		0.0%
Information Technology	75th Percentile		43.4%		23.4%		6.9%
	Median	68	21.5%	54	0.0%	90	0.0%
	25th Percentile		0.0%		0.0%		0.0%
Materials	75th Percentile		49.2%		50.4%		31.9%
	Median	25	33.1%	29	34.3%	32	5.8%
	25th Percentile		24.8%		14.9%		0.0%
Real Estate	75th Percentile		174.1%		196.6%		250.4%
	Median	32	119.2%	36	131.5%	38	116.6%
	25th Percentile		91.3%		88.3%		71.0%
Utilities	75th Percentile		71.3%		65.0%		75.7%
	Median	27	61.6%	15	55.4%	7	68.2%
	25th Percentile		55.8%		49.8%		64.2%

## TABLE 8.2 :: CHANGE IN PER SHARE DIVIDENDS

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In our experience, when it comes to dividends, family shareholders crave predictability above all else. Close behind, however, is the desire for the dividend stream to grow over time. The tradeoff between the amount of dividends paid today and the growth of that dividend stream over time is critical for both directors and family shareholders to understand.

We calculate the change in per share dividends as shown in Exhibit 8.2:

### Exhibit 8.2 :: Calculating the Change in Per Share Dividends

$$\Delta \text{ in Per Share Dividends} = \frac{2018 \text{ Dividend per Share} - 2017 \text{ Dividend per Share}}{2017 \text{ Dividend per Share}}$$

$$11.9\% = \frac{\$0.33 - \$0.30}{\$0.30}$$

When evaluating the change in per share dividends, family business directors should consider the following questions:

- What long-term growth in dividend per share will be necessary to preserve the real purchasing power of our dividends on a per capita basis?
- Does the family business have opportunities to reinvest earnings at attractive risk-adjusted returns, or would family shareholders be better off pursuing their own reinvestment opportunities through a larger dividend payment?

**Table 8.2 :: Changes in Per Share Dividend**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	Δ Per Share Dividend	Count	Δ Per Share Dividend	Count	Δ Per Share Dividend
Communication Services	75th Percentile		7.7%		5.9%		4.2%
	Median	22	2.1%	12	3.2%	16	0.0%
	25th Percentile		0.0%		0.0%		0.0%
Consumer Discretionary	75th Percentile		18.3%		19.7%		22.9%
	Median	64	9.2%	58	12.0%	93	5.9%
	25th Percentile		0.3%		5.8%		0.0%
Consumer Staples	75th Percentile		12.4%		10.9%		25.7%
	Median	33	7.6%	14	7.4%	20	9.1%
	25th Percentile		3.1%		4.5%		3.1%
Energy	75th Percentile		36.0%		0.0%		0.0%
	Median	30	13.3%	25	0.0%	37	0.0%
	25th Percentile		0.5%		0.0%		-75.0%
Health Care	75th Percentile		13.8%		10.4%		5.6%
	Median	62	7.9%	34	7.5%	70	0.0%
	25th Percentile		2.3%		4.6%		0.0%
Industrials	75th Percentile		16.9%		14.0%		10.7%
	Median	69	10.0%	60	7.8%	96	3.2%
	25th Percentile		4.4%		2.6%		0.0%
Information Technology	75th Percentile		23.7%		28.6%		11.7%
	Median	68	13.3%	54	9.5%	90	0.0%
	25th Percentile		7.8%		0.0%		0.0%
Materials	75th Percentile		13.1%		9.2%		10.1%
	Median	25	8.2%	29	4.8%	32	3.9%
	25th Percentile		3.0%		0.0%		0.0%
Real Estate	75th Percentile		8.1%		6.2%		4.8%
	Median	32	5.6%	36	3.8%	38	1.9%
	25th Percentile		2.8%		0.0%		0.0%
Utilities	75th Percentile		8.4%		7.3%		6.7%
	Median	27	6.1%	15	6.4%	7	4.2%
	25th Percentile		3.9%		3.9%		3.3%

## TABLE 8.3 :: AGGREGATE PAYOUT RATIO

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In addition to dividend payments, public companies often use share repurchases to return cash to shareholders. Whereas dividend reductions are received as a negative signal by the market, public companies can be more tactical in their share repurchase strategy, increasing purchases when the share price is depressed and/or when alternative investment opportunities are scarce.

We calculate the aggregate payout ratio as indicated in Exhibit 8.3:

### Exhibit 8.3 :: Calculating the Aggregate Payout Ratio

$$\text{Aggregate Payout Ratio} = \frac{2018 \text{ Dividends Paid} + 2018 \text{ Share Repurchases}}{2018 \text{ Net Income}}$$

$$34.8\% = \frac{\$12 + \$27}{\$113}$$

Family business directors should contemplate the following with regard to the aggregate payout ratio:

- Do we have a share redemption strategy? Would our family shareholders benefit from an ongoing share redemption program?
- At what “level of value” do we offer liquidity to family shareholders? Should selling shares in the family business be discouraged?
- Are periodic special dividends an appropriate mechanism for distributing “excess” cash flow to shareholders without creating the expectation that such dividends will persist?

**Table 8.3 :: Aggregate Payout Ratio**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		Count	Aggregate Payout Ratio	Count	Aggregate Payout Ratio	Count	Aggregate Payout Ratio
Communication Services	75th Percentile		75.2%		89.1%		267.0%
	Median	22	45.3%	12	69.3%	16	57.3%
	25th Percentile		2.2%		42.2%		nm
Consumer Discretionary	75th Percentile		133.0%		142.4%		107.9%
	Median	64	91.0%	58	80.8%	93	51.9%
	25th Percentile		45.0%		39.1%		1.5%
Consumer Staples	75th Percentile		101.8%		102.2%		66.4%
	Median	33	68.8%	14	76.0%	20	20.7%
	25th Percentile		46.1%		21.4%		1.2%
Energy	75th Percentile		124.4%		28.3%		12.0%
	Median	30	69.5%	25	0.0%	37	0.0%
	25th Percentile		6.7%		nm		nm
Health Care	75th Percentile		105.9%		68.2%		24.4%
	Median	62	64.5%	34	16.9%	70	2.5%
	25th Percentile		13.8%		0.3%		0.0%
Industrials	75th Percentile		113.1%		94.4%		62.9%
	Median	69	82.3%	60	74.9%	96	31.4%
	25th Percentile		62.3%		30.6%		4.5%
Information Technology	75th Percentile		156.6%		186.9%		75.9%
	Median	68	101.8%	54	74.3%	90	13.2%
	25th Percentile		73.8%		30.3%		nm
Materials	75th Percentile		128.4%		113.2%		57.6%
	Median	25	75.5%	29	74.0%	32	27.9%
	25th Percentile		57.7%		46.3%		0.0%
Real Estate	75th Percentile		214.2%		222.8%		264.4%
	Median	32	132.4%	36	141.6%	38	153.5%
	25th Percentile		99.4%		94.3%		81.6%
Utilities	75th Percentile		82.8%		65.0%		81.8%
	Median	27	62.0%	15	59.0%	7	68.2%
	25th Percentile		57.8%		54.2%		64.2%

## TABLE 8.4 :: DIVIDENDS AS A % OF TOTAL SHAREHOLDER CASH FLOWS

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Finally, we present the mix of total shareholder cash flows for the peer companies. Exhibit 8.4 details the calculation of this ratio:

### **Exhibit 8.4 :: Calculating Dividends as a Percentage of Total Shareholder Cash Flows**

$$\text{Dividends as \% of Shareholder Cash Flows} = \frac{2018 \text{ Dividends Paid}}{2018 \text{ Dividends Paid} + 2018 \text{ Share Repurchases}}$$

$$31.3\% = \frac{\$12}{\$12 + \$27}$$

The following considerations are important when evaluating this metric:

- How do cash flow needs and preferences vary among our family shareholder base?
- Are there shareholders for whom share redemptions are more attractive than ongoing dividends?
- How do dividends and share repurchases influence estate planning objectives of individual family shareholders?

**Table 8.4 :: Dividends Compared to Share Repurchases**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	Dividends % Shareholder Cash Flow	Count	Dividends % Shareholder Cash Flow	Count	Dividends % Shareholder Cash Flow
Communication Services	75th Percentile		97.8%		89.2%		96.4%
	Median	22	48.5%	12	59.2%	16	86.7%
	25th Percentile		0.0%		0.0%		36.1%
Consumer Discretionary	75th Percentile		48.1%		33.1%		49.1%
	Median	64	28.5%	58	16.5%	93	0.0%
	25th Percentile		10.5%		0.0%		0.0%
Consumer Staples	75th Percentile		87.0%		54.2%		95.0%
	Median	33	66.4%	14	23.3%	20	75.6%
	25th Percentile		44.8%		0.0%		0.3%
Energy	75th Percentile		87.2%		92.9%		0.0%
	Median	30	42.9%	25	44.0%	37	0.0%
	25th Percentile		20.8%		0.0%		0.0%
Health Care	75th Percentile		38.1%		15.8%		0.0%
	Median	62	20.8%	34	0.0%	70	0.0%
	25th Percentile		0.0%		0.0%		0.0%
Industrials	75th Percentile		55.9%		57.5%		80.7%
	Median	69	38.0%	60	25.4%	96	31.4%
	25th Percentile		22.5%		11.7%		0.0%
Information Technology	75th Percentile		35.0%		186.9%		75.9%
	Median	68	21.1%	54	74.3%	90	13.2%
	25th Percentile		0.0%		30.3%		-0.4%
Materials	75th Percentile		66.1%		85.7%		97.3%
	Median	25	45.6%	29	34.1%	32	72.0%
	25th Percentile		30.1%		24.4%		0.0%
Real Estate	75th Percentile		100.0%		100.0%		100.0%
	Median	32	98.5%	36	98.7%	38	99.2%
	25th Percentile		86.8%		95.2%		80.7%
Utilities	75th Percentile		100.0%		100.0%		100.0%
	Median	27	100.0%	15	98.3%	7	100.0%
	25th Percentile		98.5%		94.6%		97.8%

# Chapter 9 :: Shareholder Returns

## INTRODUCTION

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Family business directors are stewards of family wealth. Shareholder return is the most comprehensive measure of how successfully directors are discharging their fiduciary responsibilities. That said, shareholder returns are best judged on a relative, rather than absolute, basis. The data presented in this chapter is designed to allow family business directors to critically evaluate the shareholder returns generated by their family business compared to relevant peer benchmarks.

- Table 9.1 – Dividend Yield (Realized). There are two components of total shareholder return. The first component, dividend yield, represents the current income available for consumption or reinvestment elsewhere.
- Table 9.2 – Capital Appreciation. Capital appreciation is the second component of total shareholder return, representing the change in share value during the period. The capital appreciation component of total return is, by its nature, more volatile than dividend yield, as it is influenced by both company performance and external market factors (investor sentiment, interest rates, etc.).
- Table 9.3 – Total Shareholder Return. Total shareholder return is the sum of the realized dividend yield and capital appreciation.
- Table 9.4 – Dividend Yield (Prospective). The prospective dividend yield is calculated with reference to the end-of-year stock price and annualized dividends per share as of the end of the year.

## TABLE 9.1 :: DIVIDEND YIELD (REALIZED)

---

Dividend yield is the current income component of total shareholder return. We calculate the realized dividend yield as shown in Exhibit 9.1.

### Exhibit 9.1 :: Calculating the Dividend Yield (Realized)

$$\text{Dividend Yield (Realized)} = \frac{2018 \text{ Dividends per Share}}{\text{Dec17 Share Price}}$$

$$0.76\% = \frac{\$0.33}{\$43.65}$$

Family business directors should evaluate dividend yield with respect to the following considerations:

- What are shareholder preferences for the composition of total return?
- Given peer characteristics and our position within our industry, what return profile would constitute the most natural “fit” for our family business?
- What is a sustainable dividend per share that would not necessarily be imperiled by a brief downturn in our business?
- Are we consistently and effectively communicating our intentions regarding dividend payments and policy to our family shareholders?

**Table 9.1 :: Dividend Yield (Realized)**

		<b>S&amp;P 500</b>		<b>S&amp;P 400</b>		<b>S&amp;P 600</b>	
		<b>Large Cap Stocks</b>		<b>Mid Cap Stocks</b>		<b>Small Cap Stocks</b>	
		Count	Div. Yield (Realized)	Count	Div. Yield (Realized)	Count	Div. Yield (Realized)
Communication Services	75th Percentile		2.6%		2.1%		3.6%
	Median	21	0.6%	12	1.3%	16	1.3%
	25th Percentile		0.0%		0.0%		0.0%
Consumer Discretionary	75th Percentile		2.9%		1.9%		1.7%
	Median	64	1.8%	57	1.0%	92	0.0%
	25th Percentile		0.2%		0.0%		0.0%
Consumer Staples	75th Percentile		3.1%		1.9%		2.2%
	Median	33	2.3%	14	1.0%	20	1.2%
	25th Percentile		2.0%		0.0%		0.0%
Energy	75th Percentile		3.4%		0.5%		0.0%
	Median	30	2.1%	23	0.0%	35	0.0%
	25th Percentile		0.8%		0.0%		0.0%
Health Care	75th Percentile		1.7%		0.0%		0.0%
	Median	62	0.5%	34	0.0%	70	0.0%
	25th Percentile		0.0%		0.0%		0.0%
Industrials	75th Percentile		2.1%		1.6%		1.4%
	Median	69	1.6%	58	1.0%	97	0.8%
	25th Percentile		1.0%		0.4%		0.0%
Information Technology	75th Percentile		2.4%		1.0%		0.9%
	Median	68	1.3%	53	0.0%	89	0.0%
	25th Percentile		0.0%		0.0%		0.0%
Materials	75th Percentile		2.5%		2.3%		2.2%
	Median	25	1.7%	29	1.8%	32	0.9%
	25th Percentile		1.1%		1.4%		0.0%
Real Estate	75th Percentile		4.2%		5.6%		6.3%
	Median	32	3.4%	36	3.8%	38	4.8%
	25th Percentile		3.0%		3.2%		3.4%
Utilities	75th Percentile		4.0%		3.1%		3.0%
	Median	27	3.3%	16	2.7%	7	2.6%
	25th Percentile		3.2%		2.5%		1.7%

## TABLE 9.2 :: CAPITAL APPRECIATION

---

Capital appreciation is the second, and more volatile, component of total shareholder return. Capital appreciation measures the change in share price during the period, as depicted in Exhibit 9.2:

### Exhibit 9.2 :: Calculating Capital Appreciation

$$\text{Capital Appreciation} = \frac{\text{Dec18 Share Price} - \text{Dec17 Share Price}}{\text{Dec17 Share Price}}$$
$$0.07\% = \frac{\$43.68 - \$43.65}{\$43.65}$$

When evaluating capital appreciation, family business directors should ask the following questions:

- Do we know the value of our family business? Do we have a regular appraisal process? If not, what process do we use to estimate value?
- What are the principal factors that caused the value of our family business to change during the year? How do those compare to the factors influencing the value of the peer companies?
- What strategies are we pursuing to promote sustainable increases in the value of our family business over time?

**Table 9.2 :: Capital Appreciation**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	Capital Appreciation	Count	Capital Appreciation	Count	Capital Appreciation
Communication Services	75th Percentile		2.3%		16.7%		12.6%
	Median	21	-9.2%	12	2.1%	16	-6.2%
	25th Percentile		-25.7%		-21.7%		-20.8%
Consumer Discretionary	75th Percentile		7.1%		5.5%		8.2%
	Median	64	-10.3%	57	-15.9%	92	-16.4%
	25th Percentile		-28.6%		-40.2%		-35.2%
Consumer Staples	75th Percentile		2.2%		10.0%		3.9%
	Median	33	-6.5%	14	-4.9%	20	-9.9%
	25th Percentile		-30.8%		-23.9%		-19.8%
Energy	75th Percentile		-15.0%		-32.1%		-21.4%
	Median	30	-22.9%	23	-41.2%	35	-42.0%
	25th Percentile		-34.7%		-46.8%		-59.7%
Health Care	75th Percentile		17.2%		12.7%		27.2%
	Median	62	1.9%	34	0.2%	70	-4.0%
	25th Percentile		-14.9%		-23.4%		-29.8%
Industrials	75th Percentile		2.3%		-7.6%		1.1%
	Median	69	-16.5%	58	-18.0%	97	-14.3%
	25th Percentile		-23.4%		-30.6%		-34.0%
Information Technology	75th Percentile		13.4%		5.6%		10.0%
	Median	68	-3.3%	53	-13.3%	89	-11.9%
	25th Percentile		-10.6%		-27.7%		-30.9%
Materials	75th Percentile		-4.0%		-9.8%		-15.5%
	Median	25	-21.1%	29	-23.7%	32	-31.1%
	25th Percentile		-24.9%		-34.3%		-46.6%
Real Estate	75th Percentile		0.7%		-6.2%		-0.1%
	Median	32	-4.8%	36	-14.8%	38	-14.9%
	25th Percentile		-14.4%		-23.9%		-27.7%
Utilities	75th Percentile		6.6%		9.2%		3.2%
	Median	27	1.6%	16	2.2%	7	-1.4%
	25th Percentile		-0.8%		-1.6%		-10.2%

## TABLE 9.3 :: TOTAL SHAREHOLDER RETURN

---

Total shareholder return is the most fundamental measure of investor success over time, and is the sum of realized dividend yield and capital appreciation.

### **Exhibit 9.3 :: Calculating Total Shareholder Return**

*Total Shareholder Return = Dividend Yield + Capital Appreciation*

$$0.82\% = 0.76\% + 0.07\%$$

Family business directors should evaluate total shareholder return in the context of the following factors:

- Performance of broad market indexes over a comparable time period
- Performance of selected peer companies
- Financial performance during the period, relative to both budgeted and prior results
- Family shareholder expectations

**Table 9.3 :: Total Shareholder Return**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	Total Return	Count	Total Return	Count	Total Return
Communication Services	75th Percentile		6.5%		18.1%		12.9%
	Median	21	-6.2%	12	4.0%	16	-2.2%
	25th Percentile		-24.7%		-18.7%		-15.8%
Consumer Discretionary	75th Percentile		9.6%		5.8%		9.8%
	Median	64	-8.6%	57	-12.9%	92	-14.8%
	25th Percentile		-27.3%		-39.9%		-33.6%
Consumer Staples	75th Percentile		5.6%		10.0%		6.7%
	Median	33	-4.2%	14	-3.5%	20	-9.7%
	25th Percentile		-28.4%		-22.6%		-19.2%
Energy	75th Percentile		-12.5%		-31.8%		-20.3%
	Median	30	-21.2%	23	-41.2%	35	-42.0%
	25th Percentile		-33.5%		-46.8%		-59.7%
Health Care	75th Percentile		17.9%		13.0%		27.6%
	Median	62	2.7%	34	0.5%	70	-3.4%
	25th Percentile		-13.1%		-23.4%		-29.8%
Industrials	75th Percentile		3.6%		-6.0%		2.7%
	Median	69	-14.3%	58	-17.1%	97	-13.3%
	25th Percentile		-21.8%		-29.4%		-32.9%
Information Technology	75th Percentile		14.8%		8.3%		11.8%
	Median	68	-1.3%	53	-12.5%	89	-11.9%
	25th Percentile		-9.0%		-27.7%		-30.9%
Materials	75th Percentile		-3.2%		-9.8%		-13.6%
	Median	25	-18.6%	29	-22.0%	32	-30.9%
	25th Percentile		-22.8%		-32.6%		-44.1%
Real Estate	75th Percentile		4.1%		-0.5%		4.3%
	Median	32	-1.5%	36	-10.4%	38	-8.4%
	25th Percentile		-11.1%		-19.8%		-21.3%
Utilities	75th Percentile		10.5%		10.8%		4.5%
	Median	27	5.0%	16	5.1%	7	1.6%
	25th Percentile		2.1%		1.8%		-7.1%

## TABLE 9.4 :: DIVIDEND YIELD (PROSPECTIVE)

---

In addition to a measure of historical return, investors often refer to dividend yield as a current measure of relative value for a company's shares. As such, it reflects market participant expectations for the growth of the dividend over time and expected returns relative to expectations for capital appreciation.

### Exhibit 9.4 :: Calculating the Dividend Yield (Prospective)

$$\text{Dividend Yield (Prospective)} = \frac{\text{Annualized Dividends per Share (Dec18)}}{\text{Dec18 Share Price}}$$

$$0.82\% = \frac{\$0.36}{\$43.68}$$

Family business directors should consider the following questions when evaluating the prospective dividend yield:

- How well are we communicating dividend expectations and the value of the business to our family shareholders?
- Does the comparison of our prospective dividend yield with that of peer companies cohere with our business strategy and the overall meaning of the family business to our family?

**Table 9.4 :: Dividend Yield (Prospective)**

		S&P 500		S&P 400		S&P 600	
		Large Cap Stocks		Mid Cap Stocks		Small Cap Stocks	
		Count	Div. Yield (Prospective)	Count	Div. Yield (Prospective)	Count	Div. Yield (Prospective)
Communication Services	75th Percentile		3.1%		2.6%		2.2%
	Median	21	0.8%	12	0.9%	16	0.5%
	25th Percentile		0.0%		0.0%		0.0%
Consumer Discretionary	75th Percentile		3.8%		2.8%		2.1%
	Median	64	2.1%	58	1.1%	93	0.0%
	25th Percentile		0.3%		0.0%		0.0%
Consumer Staples	75th Percentile		3.6%		2.2%		2.3%
	Median	33	2.8%	14	1.0%	20	1.1%
	25th Percentile		2.0%		0.0%		0.0%
Energy	75th Percentile		4.7%		0.8%		0.0%
	Median	30	2.7%	25	0.0%	37	0.0%
	25th Percentile		1.4%		0.0%		0.0%
Health Care	75th Percentile		1.7%		0.0%		0.0%
	Median	62	0.4%	34	0.0%	70	0.0%
	25th Percentile		0.0%		0.0%		0.0%
Industrials	75th Percentile		2.6%		2.2%		1.7%
	Median	69	2.1%	60	1.3%	98	0.9%
	25th Percentile		1.4%		0.3%		0.0%
Information Technology	75th Percentile		2.7%		1.4%		1.0%
	Median	68	1.6%	54	0.0%	90	0.0%
	25th Percentile		0.0%		0.0%		0.0%
Materials	75th Percentile		2.9%		3.2%		2.7%
	Median	25	2.2%	29	2.6%	32	1.2%
	25th Percentile		1.3%		1.6%		0.0%
Real Estate	75th Percentile		4.9%		6.0%		7.4%
	Median	32	4.0%	36	4.7%	38	5.6%
	25th Percentile		3.4%		3.6%		4.5%
Utilities	75th Percentile		4.1%		3.3%		3.4%
	Median	27	3.5%	16	2.8%	7	3.1%
	25th Percentile		3.3%		2.5%		2.4%

# Roster of Companies

## Index :: Roster of Companies

Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Communication Services	S&P 500	NasdaqGS:ATVI	Activision Blizzard, Inc.	\$7,500	\$34,781
Communication Services	S&P 500	NasdaqGS:GOOG.L	Alphabet Inc.	\$136,819	\$621,035
Communication Services	S&P 500	NYSE:T	AT&T Inc.	\$170,756	\$385,258
Communication Services	S&P 500	NYSE:CBS	CBS Corporation	\$14,514	\$26,036
Communication Services	S&P 500	NYSE:CTL	CenturyLink, Inc.	\$23,443	\$52,509
Communication Services	S&P 500	NasdaqGS:CHTR	Charter Communications, Inc.	\$43,634	\$145,220
Communication Services	S&P 500	NasdaqGS:CMCS.A	Comcast Corporation	\$94,507	\$219,318
Communication Services	S&P 500	NasdaqGS:DISC.A	Discovery, Inc.	\$10,052	\$36,070
Communication Services	S&P 500	NasdaqGS:DISH	DISH Network Corporation	\$13,621	\$25,408
Communication Services	S&P 500	NasdaqGS:EA	Electronic Arts Inc.	\$5,294	\$20,289
Communication Services	S&P 500	NasdaqGS:FB	Facebook, Inc.	\$55,838	\$335,589
Communication Services	S&P 500	NasdaqGS:NFLX	Netflix, Inc.	\$15,794	\$121,992
Communication Services	S&P 500	NasdaqGS:NWSA	News Corporation	\$9,189	\$7,799
Communication Services	S&P 500	NYSE:OMC	Omnicom Group Inc.	\$15,290	\$20,052
Communication Services	S&P 500	NasdaqGS:TTWO	Take-Two Interactive Software, Inc.	\$2,580	\$10,692
Communication Services	S&P 500	NYSE:IPG	The Interpublic Group of Companies, Inc.	\$8,032	\$9,605
Communication Services	S&P 500	NYSE:DIS	The Walt Disney Company	\$59,386	\$185,139
Communication Services	S&P 500	NasdaqGS:TRIP	TripAdvisor, Inc.	\$1,615	\$6,763
Communication Services	S&P 500	NasdaqGS:FOXA	Fox Corporation	\$10,981	\$0
Communication Services	S&P 500	NYSE:TWTR	Twitter, Inc.	\$3,042	\$18,558
Communication Services	S&P 500	NYSE:VZ	Verizon Communications Inc.	\$130,863	\$345,611
Communication Services	S&P 500	NasdaqGS:VIAB	Viacom Inc.	\$12,960	\$19,287
Communication Services	S&P 400	NasdaqGS:AMCX	AMC Networks Inc.	\$2,972	\$5,951
Communication Services	S&P 400	NYSE:CABO	Cable One, Inc.	\$1,072	\$5,607
Communication Services	S&P 400	NYSE:CARS	Cars.com Inc.	\$662	\$2,159
Communication Services	S&P 400	NYSE:CNK	Cinemark Holdings, Inc.	\$2,943	\$5,865
Communication Services	S&P 400	NYSE:JW.A	John Wiley & Sons, Inc.	\$1,786	\$3,107
Communication Services	S&P 400	NYSE:LYV	Live Nation Entertainment, Inc.	\$10,788	\$11,776
Communication Services	S&P 400	NYSE:MDP	Meredith Corporation	\$2,441	\$5,701
Communication Services	S&P 400	NYSE:TGNA	TEGNA Inc.	\$2,207	\$5,306
Communication Services	S&P 400	NYSE:TDS	Telephone and Data Systems, Inc.	\$5,109	\$5,773
Communication Services	S&P 400	NYSE:NYT	The New York Times Company	\$1,601	\$3,375
Communication Services	S&P 400	NYSE:WWE	World Wrestling Entertainment, Inc.	\$930	\$5,728
Communication Services	S&P 400	NYSE:YELP	Yelp Inc.	\$943	\$2,070
Communication Services	S&P 600	NasdaqGS:ATNI	ATN International, Inc.	\$451	\$1,203
Communication Services	S&P 600	NYSE:CRCM	Care.com, Inc.	\$192	\$547
Communication Services	S&P 600	NYSE:CBB	Cincinnati Bell Inc.	\$1,378	\$2,443
Communication Services	S&P 600	NasdaqGS:CCOI	Cogent Communications Holdings, Inc.	\$508	\$2,548
Communication Services	S&P 600	NasdaqGS:CNSL	Consolidated Communications Holdings, Inc.	\$1,399	\$3,038
Communication Services	S&P 600	NasdaqGS:FTR	Frontier Communications Corporation	\$8,611	\$17,420
Communication Services	S&P 600	NYSE:GCI	Gannett Co., Inc.	\$2,724	\$1,194
Communication Services	S&P 600	NasdaqGS:IRDM	Iridium Communications Inc.	\$523	\$3,713
Communication Services	S&P 600	NYSE:NEWM	New Media Investment Group Inc.	\$1,526	\$1,047
Communication Services	S&P 600	NasdaqGS:QNST	QuinStreet, Inc.	\$446	\$729
Communication Services	S&P 600	NasdaqGS:SCHL	Scholastic Corporation	\$1,664	\$1,074
Communication Services	S&P 600	NasdaqGS:SPOK	Spok Holdings, Inc.	\$169	\$163
Communication Services	S&P 600	NasdaqGM:TTGT	TechTarget, Inc.	\$121	\$334
Communication Services	S&P 600	NasdaqGS:SSP	The E.W. Scripps Company	\$1,140	\$1,828
Communication Services	S&P 600	NYSE:MCS	The Marcus Corporation	\$595	\$1,408
Communication Services	S&P 600	NYSE:VG	Vonage Holdings Corp.	\$1,049	\$2,276

**Index :: Roster of Companies**

Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Consumer Discretionary	S&P 500	NYSE:AAP	Advance Auto Parts, Inc.	\$9,581	\$11,553
Consumer Discretionary	S&P 500	NasdaqGS:AMZN	Amazon.com, Inc.	\$232,887	\$751,870
Consumer Discretionary	S&P 500	NYSE:APTV	Aptiv PLC	\$14,435	\$19,760
Consumer Discretionary	S&P 500	NYSE:AZO	AutoZone, Inc.	\$11,274	\$25,977
Consumer Discretionary	S&P 500	NYSE:BBY	Best Buy Co., Inc.	\$42,879	\$14,124
Consumer Discretionary	S&P 500	NasdaqGS:BKNG	Booking Holdings Inc.	\$14,527	\$81,377
Consumer Discretionary	S&P 500	NYSE:BWA	BorgWarner Inc.	\$10,530	\$9,114
Consumer Discretionary	S&P 500	NYSE:CPRI	Capri Holdings Limited	\$5,074	\$6,393
Consumer Discretionary	S&P 500	NYSE:KMX	CarMax, Inc.	\$17,939	\$24,620
Consumer Discretionary	S&P 500	NYSE:CCL	Carnival Corporation	\$18,881	\$43,584
Consumer Discretionary	S&P 500	NYSE:CMG	Chipotle Mexican Grill, Inc.	\$4,865	\$11,327
Consumer Discretionary	S&P 500	NYSE:DHI	D.R. Horton, Inc.	\$15,875	\$14,886
Consumer Discretionary	S&P 500	NYSE:DRI	Darden Restaurants, Inc.	\$8,297	\$13,226
Consumer Discretionary	S&P 500	NYSE:DG	Dollar General Corporation	\$25,625	\$31,056
Consumer Discretionary	S&P 500	NasdaqGS:DLTR	Dollar Tree, Inc.	\$22,823	\$25,829
Consumer Discretionary	S&P 500	NasdaqGS:EBAY	eBay Inc.	\$10,746	\$31,437
Consumer Discretionary	S&P 500	NasdaqGS:EXPE	Expedia Group, Inc.	\$11,223	\$18,691
Consumer Discretionary	S&P 500	NYSE:FL	Foot Locker, Inc.	\$7,939	\$5,382
Consumer Discretionary	S&P 500	NYSE:F	Ford Motor Company	\$148,320	\$160,385
Consumer Discretionary	S&P 500	NasdaqGS:GRMN	Garmin Ltd.	\$3,347	\$10,725
Consumer Discretionary	S&P 500	NYSE:GM	General Motors Company	\$133,045	\$133,727
Consumer Discretionary	S&P 500	NYSE:GPC	Genuine Parts Company	\$18,735	\$16,699
Consumer Discretionary	S&P 500	NYSE:HRB	H&R Block, Inc.	\$3,155	\$6,105
Consumer Discretionary	S&P 500	NYSE:HBI	Hanesbrands Inc.	\$6,804	\$8,505
Consumer Discretionary	S&P 500	NYSE:HOG	Harley-Davidson, Inc.	\$4,969	\$12,011
Consumer Discretionary	S&P 500	NasdaqGS:HAS	Hasbro, Inc.	\$4,580	\$11,062
Consumer Discretionary	S&P 500	NYSE:HLT	Hilton Worldwide Holdings Inc.	\$3,570	\$28,253
Consumer Discretionary	S&P 500	NYSE:KSS	Kohl's Corporation	\$19,167	\$13,829
Consumer Discretionary	S&P 500	NYSE:LB	L Brands, Inc.	\$13,237	\$12,586
Consumer Discretionary	S&P 500	NYSE:LEG	Leggett & Platt, Incorporated	\$4,270	\$5,668
Consumer Discretionary	S&P 500	NYSE:LEN	Lennar Corporation	\$19,704	\$22,450
Consumer Discretionary	S&P 500	NasdaqGS:LKQ	LKQ Corporation	\$11,877	\$11,684
Consumer Discretionary	S&P 500	NYSE:LOW	Lowe's Companies, Inc.	\$71,309	\$87,862
Consumer Discretionary	S&P 500	NYSE:M	Macy's, Inc.	\$24,971	\$13,932
Consumer Discretionary	S&P 500	NasdaqGS:MAR	Marriott International, Inc.	\$5,273	\$45,987
Consumer Discretionary	S&P 500	NasdaqGS:MAT	Mattel, Inc.	\$4,511	\$6,364
Consumer Discretionary	S&P 500	NYSE:MCD	McDonald's Corporation	\$21,025	\$166,240
Consumer Discretionary	S&P 500	NYSE:MGM	MGM Resorts International	\$11,338	\$30,217
Consumer Discretionary	S&P 500	NYSE:MHK	Mohawk Industries, Inc.	\$9,984	\$11,489
Consumer Discretionary	S&P 500	NasdaqGS:NWL	Newell Brands Inc.	\$8,631	\$16,880
Consumer Discretionary	S&P 500	NYSE:NKE	NIKE, Inc.	\$38,095	\$117,182
Consumer Discretionary	S&P 500	NYSE:JWN	Nordstrom, Inc.	\$15,480	\$9,358
Consumer Discretionary	S&P 500	NYSE:NCLH	Norwegian Cruise Line Holdings Ltd.	\$6,055	\$15,592
Consumer Discretionary	S&P 500	NasdaqGS:ORLY	O'Reilly Automotive, Inc.	\$9,536	\$30,717
Consumer Discretionary	S&P 500	NYSE:PHM	PulteGroup, Inc.	\$9,983	\$9,818
Consumer Discretionary	S&P 500	NYSE:PVH	PVH Corp.	\$9,657	\$9,795
Consumer Discretionary	S&P 500	NYSE:RL	Ralph Lauren Corporation	\$6,337	\$7,388
Consumer Discretionary	S&P 500	NasdaqGS:ROST	Ross Stores, Inc.	\$14,984	\$29,881
Consumer Discretionary	S&P 500	NYSE:RCL	Royal Caribbean Cruises Ltd.	\$9,494	\$30,947
Consumer Discretionary	S&P 500	NasdaqGS:SBUX	Starbucks Corporation	\$23,026	\$80,457
Consumer Discretionary	S&P 500	NYSE:TPR	Tapestry, Inc.	\$5,988	\$10,319
Consumer Discretionary	S&P 500	NYSE:TGT	Target Corporation	\$74,433	\$47,523
Consumer Discretionary	S&P 500	NYSE:GPS	The Gap, Inc.	\$16,580	\$9,821
Consumer Discretionary	S&P 500	NasdaqGS:GT	The Goodyear Tire & Rubber Company	\$15,475	\$10,580
Consumer Discretionary	S&P 500	NYSE:HD	The Home Depot, Inc.	\$108,203	\$218,095
Consumer Discretionary	S&P 500	NYSE:TJX	The TJX Companies, Inc.	\$38,973	\$54,692
Consumer Discretionary	S&P 500	NYSE:TIF	Tiffany & Co.	\$4,442	\$10,122
Consumer Discretionary	S&P 500	NasdaqGS:TSCO	Tractor Supply Company	\$7,911	\$10,719
Consumer Discretionary	S&P 500	NasdaqGS:ULTA	Ulta Beauty, Inc.	\$6,717	\$14,225
Consumer Discretionary	S&P 500	NYSE:UAA	Under Armour, Inc.	\$5,193	\$8,218
Consumer Discretionary	S&P 500	NYSE:VFC	V.F. Corporation	\$13,507	\$31,682
Consumer Discretionary	S&P 500	NYSE:WHR	Whirlpool Corporation	\$21,037	\$13,916

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Consumer Discretionary	S&P 500	NasdaqGS:WYNN	Wynn Resorts, Limited	\$6,718	\$17,474
Consumer Discretionary	S&P 500	NYSE:YUM	YUM! Brands, Inc.	\$5,688	\$38,190
Consumer Discretionary	S&P 400	NYSE:AAN	Aaron's, Inc.	\$3,790	\$3,147
Consumer Discretionary	S&P 400	NYSE:ADNT	Adient plc	\$17,393	\$4,522
Consumer Discretionary	S&P 400	NYSE:ATGE	Adtalem Global Education Inc.	\$1,231	\$2,669
Consumer Discretionary	S&P 400	NYSE:AEO	American Eagle Outfitters, Inc.	\$4,036	\$3,051
Consumer Discretionary	S&P 400	NYSE:AN	AutoNation, Inc.	\$20,323	\$9,328
Consumer Discretionary	S&P 400	NasdaqGS:BBBY	Bed Bath & Beyond Inc.	\$12,437	\$1,980
Consumer Discretionary	S&P 400	NYSE:BIG	Big Lots, Inc.	\$5,238	\$1,716
Consumer Discretionary	S&P 400	NYSE:BYD	Boyd Gaming Corporation	\$2,493	\$5,439
Consumer Discretionary	S&P 400	NYSE:EAT	Brinker International, Inc.	\$3,174	\$2,847
Consumer Discretionary	S&P 400	NYSE:BC	Brunswick Corporation	\$5,159	\$4,960
Consumer Discretionary	S&P 400	NYSE:CRI	Carter's, Inc.	\$3,462	\$4,416
Consumer Discretionary	S&P 400	NasdaqGS:CHDN	Churchill Downs Incorporated	\$976	\$3,983
Consumer Discretionary	S&P 400	NasdaqGS:CBRL	Cracker Barrel Old Country Store, Inc.	\$3,078	\$4,140
Consumer Discretionary	S&P 400	NYSE:DAN	Dana Incorporated	\$8,143	\$3,797
Consumer Discretionary	S&P 400	NYSE:DECK	Deckers Outdoor Corporation	\$2,027	\$3,647
Consumer Discretionary	S&P 400	NYSE:DLPH	Delphi Technologies PLC	\$4,858	\$2,626
Consumer Discretionary	S&P 400	NYSE:DKS	DICK'S Sporting Goods, Inc.	\$8,437	\$3,419
Consumer Discretionary	S&P 400	NYSE:DDS	Dillard's, Inc.	\$6,503	\$2,283
Consumer Discretionary	S&P 400	NYSE:DPZ	Domino's Pizza, Inc.	\$3,433	\$13,703
Consumer Discretionary	S&P 400	NasdaqGS:DNKN	Dunkin' Brands Group, Inc.	\$1,272	\$7,924
Consumer Discretionary	S&P 400	NasdaqGS:ERI	Eldorado Resorts, Inc.	\$1,985	\$5,593
Consumer Discretionary	S&P 400	NasdaqGS:FIVE	Five Below, Inc.	\$1,560	\$5,517
Consumer Discretionary	S&P 400	NasdaqGS:GNTX	Gentex Corporation	\$1,834	\$4,960
Consumer Discretionary	S&P 400	NYSE:GHC	Graham Holdings Company	\$2,696	\$3,097
Consumer Discretionary	S&P 400	NasdaqGS:HELE	Helen of Troy Limited	\$1,578	\$3,744
Consumer Discretionary	S&P 400	NasdaqGS:ISCA	International Speedway Corporation	\$654	\$1,878
Consumer Discretionary	S&P 400	NasdaqGS:JACK	Jack in the Box Inc.	\$866	\$3,065
Consumer Discretionary	S&P 400	NYSE:KBH	KB Home	\$4,534	\$3,397
Consumer Discretionary	S&P 400	NYSE:VAC	Marriott Vacations Worldwide Corporation	\$1,860	\$6,824
Consumer Discretionary	S&P 400	NYSE:MUSA	Murphy USA Inc.	\$12,443	\$3,263
Consumer Discretionary	S&P 400	NYSE:NVR	NVR, Inc.	\$7,004	\$8,808
Consumer Discretionary	S&P 400	NasdaqGM:OLLI	Ollie's Bargain Outlet Holdings, Inc.	\$1,241	\$4,201
Consumer Discretionary	S&P 400	NasdaqGS:PZZA	Papa John's International, Inc.	\$1,492	\$1,828
Consumer Discretionary	S&P 400	NasdaqGS:PENN	Penn National Gaming, Inc.	\$3,531	\$6,529
Consumer Discretionary	S&P 400	NYSE:PII	Polaris Industries Inc.	\$6,079	\$6,417
Consumer Discretionary	S&P 400	NasdaqGS:POOL	Pool Corporation	\$2,998	\$6,527
Consumer Discretionary	S&P 400	NYSE:SBH	Sally Beauty Holdings, Inc.	\$3,927	\$3,749
Consumer Discretionary	S&P 400	NasdaqGS:SGMS	Scientific Games Corporation	\$3,363	\$10,308
Consumer Discretionary	S&P 400	NYSE:SCI	Service Corporation International	\$2,959	\$10,738
Consumer Discretionary	S&P 400	NYSE:SIG	Signet Jewelers Limited	\$6,247	\$3,116
Consumer Discretionary	S&P 400	NYSE:SIX	Six Flags Entertainment Corporation	\$1,464	\$7,204
Consumer Discretionary	S&P 400	NYSE:SKX	Skechers U.S.A., Inc.	\$4,663	\$2,957
Consumer Discretionary	S&P 400	NYSE:SID	Sotheby's	\$973	\$2,661
Consumer Discretionary	S&P 400	NYSE:TPX	Tempur Sealy International, Inc.	\$2,703	\$3,913
Consumer Discretionary	S&P 400	NasdaqGS:TXRH	Texas Roadhouse, Inc.	\$2,457	\$4,137
Consumer Discretionary	S&P 400	NasdaqGS:CAKE	The Cheesecake Factory Incorporated	\$2,332	\$2,111
Consumer Discretionary	S&P 400	NasdaqGS:MIK	The Michaels Companies, Inc.	\$5,272	\$4,976
Consumer Discretionary	S&P 400	NasdaqGS:WEN	The Wendy's Company	\$1,264	\$5,784
Consumer Discretionary	S&P 400	NYSE:THO	Thor Industries, Inc.	\$7,172	\$2,521
Consumer Discretionary	S&P 400	NYSE:TOL	Toll Brothers, Inc.	\$7,331	\$7,316
Consumer Discretionary	S&P 400	NYSE:TPH	TRI Pointe Group, Inc.	\$3,253	\$2,991
Consumer Discretionary	S&P 400	NYSE:TUP	Tupperware Brands Corporation	\$2,070	\$2,352
Consumer Discretionary	S&P 400	NasdaqGS:URBN	Urban Outfitters, Inc.	\$3,951	\$3,007
Consumer Discretionary	S&P 400	NasdaqGS:VC	Visteon Corporation	\$2,984	\$1,799
Consumer Discretionary	S&P 400	NasdaqGS:WW	Weight Watchers International, Inc.	\$1,514	\$4,100
Consumer Discretionary	S&P 400	NYSE:WSM	Williams-Sonoma, Inc.	\$5,672	\$4,239
Consumer Discretionary	S&P 400	NYSE:WYND	Wyndham Destinations, Inc.	\$3,380	\$8,514
Consumer Discretionary	S&P 400	NYSE:WH	Wyndham Hotels & Resorts, Inc.	\$1,167	\$6,255

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Industry	Index	Ticker	Company Name	2018 Revenue	December 18 Enterprise Value
Consumer Discretionary	S&P 600	NYSE:ANF	Abercrombie & Fitch Co.	\$3,590	\$1,106
Consumer Discretionary	S&P 600	NYSE:AXL	American Axle & Manufacturing Holdings, Inc.	\$7,270	\$4,692
Consumer Discretionary	S&P 600	NasdaqGS:APEI	American Public Education, Inc.	\$298	\$270
Consumer Discretionary	S&P 600	NYSE:ABG	Asbury Automotive Group, Inc.	\$6,582	\$3,083
Consumer Discretionary	S&P 600	NasdaqGS:ASNA	Ascena Retail Group, Inc.	\$6,554	\$1,620
Consumer Discretionary	S&P 600	NYSE:BNED	Barnes & Noble Education, Inc.	\$2,060	\$171
Consumer Discretionary	S&P 600	NYSE:BKS	Barnes & Noble, Inc.	\$3,583	\$786
Consumer Discretionary	S&P 600	NYSE:BEL	Belmond Ltd.	\$577	\$3,179
Consumer Discretionary	S&P 600	NasdaqGS:BJRI	BJ's Restaurants, Inc.	\$1,117	\$1,146
Consumer Discretionary	S&P 600	NYSE:CAL	Caleres, Inc.	\$2,835	\$1,652
Consumer Discretionary	S&P 600	NYSE:ELY	Callaway Golf Company	\$1,243	\$1,399
Consumer Discretionary	S&P 600	NasdaqGS:CECO	Career Education Corporation	\$579	\$608
Consumer Discretionary	S&P 600	NasdaqGS:CVCO	Cavco Industries, Inc.	\$874	\$1,035
Consumer Discretionary	S&P 600	NYSE:CHS	Chico's FAS, Inc.	\$2,131	\$539
Consumer Discretionary	S&P 600	NasdaqGS:CHUY	Chuy's Holdings, Inc.	\$398	\$290
Consumer Discretionary	S&P 600	NYSE:CTB	Cooper Tire & Rubber Company	\$2,808	\$1,782
Consumer Discretionary	S&P 600	NYSE:CPS	Cooper-Standard Holdings Inc.	\$3,629	\$1,616
Consumer Discretionary	S&P 600	NasdaqGS:CORE	Core-Mark Holding Company, Inc.	\$12,904	\$1,436
Consumer Discretionary	S&P 600	NasdaqGS:CROX	Crocs, Inc.	\$1,088	\$1,718
Consumer Discretionary	S&P 600	NasdaqGS:PLAY	Dave & Buster's Entertainment, Inc.	\$1,265	\$2,085
Consumer Discretionary	S&P 600	NYSE:DIN	Dine Brands Global, Inc.	\$773	\$2,493
Consumer Discretionary	S&P 600	NasdaqGS:DORM	Dorman Products, Inc.	\$974	\$2,913
Consumer Discretionary	S&P 600	NYSE:DSW	DSW Inc.	\$0	\$0
Consumer Discretionary	S&P 600	NasdaqGS:LOCO	El Pollo Loco Holdings, Inc.	\$436	\$656
Consumer Discretionary	S&P 600	NYSE:ETH	Ethan Allen Interiors Inc.	\$772	\$429
Consumer Discretionary	S&P 600	NYSE:EXPR	Express, Inc.	\$2,116	\$254
Consumer Discretionary	S&P 600	NasdaqGS:FRGI	Fiesta Restaurant Group, Inc.	\$689	\$483
Consumer Discretionary	S&P 600	NasdaqGS:FOSL	Fossil Group, Inc.	\$2,541	\$942
Consumer Discretionary	S&P 600	NasdaqGS:FOXF	Fox Factory Holding Corp.	\$619	\$2,278
Consumer Discretionary	S&P 600	NasdaqGS:GIII	G-III Apparel Group, Ltd.	\$3,076	\$2,005
Consumer Discretionary	S&P 600	NYSE:GME	GameStop Corp.	\$8,285	\$1,652
Consumer Discretionary	S&P 600	NYSE:GTX	Garrett Motion Inc.	\$3,375	\$2,321
Consumer Discretionary	S&P 600	NYSE:GCO	Genesco Inc.	\$2,189	\$926
Consumer Discretionary	S&P 600	NasdaqGS:THRM	Genther Incorporated	\$1,038	\$1,449
Consumer Discretionary	S&P 600	NYSE:GPI	Group 1 Automotive, Inc.	\$11,134	\$3,803
Consumer Discretionary	S&P 600	NYSE:GES	Guess?, Inc.	\$2,610	\$1,603
Consumer Discretionary	S&P 600	NYSE:HVT	Haverty Furniture Companies, Inc.	\$818	\$344
Consumer Discretionary	S&P 600	NasdaqGS:HIBB	Hibbett Sports, Inc.	\$1,009	\$168
Consumer Discretionary	S&P 600	NYSE:IBP	Installed Building Products, Inc.	\$1,336	\$1,363
Consumer Discretionary	S&P 600	NasdaqGS:IRBT	iRobot Corporation	\$1,093	\$2,183
Consumer Discretionary	S&P 600	NYSE:JCP	J. C. Penney Company, Inc.	\$11,664	\$4,626
Consumer Discretionary	S&P 600	NasdaqGS:KIRK	Kirkland's, Inc.	\$647	\$118
Consumer Discretionary	S&P 600	NYSE:LZB	La-Z-Boy Incorporated	\$1,712	\$1,236
Consumer Discretionary	S&P 600	NYSE:LCII	LCI Industries	\$2,476	\$1,910
Consumer Discretionary	S&P 600	NasdaqGS:LGIH	LGI Homes, Inc.	\$1,504	\$1,617
Consumer Discretionary	S&P 600	NasdaqGS:LQDT	Liquidity Services, Inc.	\$217	\$126
Consumer Discretionary	S&P 600	NYSE:LAD	Lithia Motors, Inc.	\$11,367	\$5,041
Consumer Discretionary	S&P 600	NYSE:LL	Lumber Liquidators Holdings, Inc.	\$1,085	\$304
Consumer Discretionary	S&P 600	NYSE:MDC	M.D.C. Holdings, Inc.	\$2,982	\$2,324
Consumer Discretionary	S&P 600	NYSE:MHO	M/I Homes, Inc.	\$2,234	\$1,431
Consumer Discretionary	S&P 600	NYSE:HZO	MarineMax, Inc.	\$1,182	\$582
Consumer Discretionary	S&P 600	NYSE:MTH	Meritage Homes Corporation	\$3,513	\$2,574
Consumer Discretionary	S&P 600	NasdaqGS:MCRI	Monarch Casino & Resort, Inc.	\$228	\$717
Consumer Discretionary	S&P 600	NasdaqGS:MNRO	Monro, Inc.	\$1,199	\$2,666
Consumer Discretionary	S&P 600	NasdaqGS:MPAA	Motorcar Parts of America, Inc.	\$464	\$375
Consumer Discretionary	S&P 600	NYSE:MOV	Movado Group, Inc.	\$680	\$637
Consumer Discretionary	S&P 600	NYSE:NLS	Nautilus, Inc.	\$397	\$289
Consumer Discretionary	S&P 600	NasdaqGS:NTRI	Nutrisystem, Inc.	\$691	\$1,188
Consumer Discretionary	S&P 600	NasdaqGS:ODP	Office Depot, Inc.	\$11,015	\$2,225
Consumer Discretionary	S&P 600	NYSE:OXM	Oxford Industries, Inc.	\$1,107	\$1,229
Consumer Discretionary	S&P 600	NasdaqGS:PETS	PetMed Express, Inc.	\$286	\$389
Consumer Discretionary	S&P 600	NasdaqGS:RRGB	Red Robin Gourmet Burgers, Inc.	\$1,334	\$557

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Consumer Discretionary	S&P 600	NYSE:RGS	Regis Corporation	\$1,147	\$726
Consumer Discretionary	S&P 600	NasdaqGS:RCII	Rent-A-Center, Inc.	\$2,660	\$1,295
Consumer Discretionary	S&P 600	NYSE:RH	RH	\$2,506	\$3,741
Consumer Discretionary	S&P 600	NasdaqGS:RUTH	Ruth's Hospitality Group, Inc.	\$445	\$725
Consumer Discretionary	S&P 600	NYSE:SHAK	Shake Shack Inc.	\$459	\$1,310
Consumer Discretionary	S&P 600	NasdaqGS:SCVL	Shoe Carnival, Inc.	\$1,030	\$478
Consumer Discretionary	S&P 600	NasdaqGS:SFLY	Shutterfly, Inc.	\$1,962	\$2,365
Consumer Discretionary	S&P 600	NYSE:SSTK	Shutterstock, Inc.	\$623	\$1,055
Consumer Discretionary	S&P 600	NasdaqGS:SNBR	Sleep Number Corporation	\$1,532	\$1,189
Consumer Discretionary	S&P 600	NYSE:SAH	Sonic Automotive, Inc.	\$9,546	\$2,976
Consumer Discretionary	S&P 600	NasdaqGS:STMP	Stamps.com Inc.	\$587	\$2,820
Consumer Discretionary	S&P 600	NYSE:SMP	Standard Motor Products, Inc.	\$1,092	\$1,110
Consumer Discretionary	S&P 600	NasdaqGS:SHOO	Steven Madden, Ltd.	\$1,654	\$2,423
Consumer Discretionary	S&P 600	NasdaqGS:STRA	Strategic Education, Inc.	\$634	\$2,091
Consumer Discretionary	S&P 600	NYSE:RGR	Sturm, Ruger & Company, Inc.	\$496	\$791
Consumer Discretionary	S&P 600	NYSE:SUP	Superior Industries International, Inc.	\$1,502	\$976
Consumer Discretionary	S&P 600	NYSE:TLRD	Tailored Brands, Inc.	\$3,240	\$1,792
Consumer Discretionary	S&P 600	NYSE:BKE	The Buckle, Inc.	\$885	\$712
Consumer Discretionary	S&P 600	NYSE:CATO	The Cato Corporation	\$821	\$130
Consumer Discretionary	S&P 600	NasdaqGS:PLCE	The Children's Place, Inc.	\$1,938	\$1,431
Consumer Discretionary	S&P 600	NasdaqGS:TTS	Tile Shop Holdings, Inc.	\$357	\$325
Consumer Discretionary	S&P 600	NYSE:BLD	TopBuild Corp.	\$2,384	\$2,241
Consumer Discretionary	S&P 600	NYSE:UFI	Unifi, Inc.	\$697	\$518
Consumer Discretionary	S&P 600	NasdaqGS:UEIC	Universal Electronics Inc.	\$680	\$411
Consumer Discretionary	S&P 600	NasdaqGS:VRA	Vera Bradley, Inc.	\$416	\$189
Consumer Discretionary	S&P 600	NYSE:VSTO	Vista Outdoor Inc.	\$2,114	\$1,346
Consumer Discretionary	S&P 600	NYSE:VSI	Vitamin Shoppe, Inc.	\$1,114	\$172
Consumer Discretionary	S&P 600	NYSE:WLH	William Lyon Homes	\$2,087	\$2,054
Consumer Discretionary	S&P 600	NasdaqGS:WING	Wingstop Inc.	\$153	\$2,092
Consumer Discretionary	S&P 600	NYSE:WGO	Winnebago Industries, Inc.	\$2,060	\$1,028
Consumer Discretionary	S&P 600	NYSE:WWW	Wolverine World Wide, Inc.	\$2,239	\$3,465
Consumer Discretionary	S&P 600	NasdaqGS:ZUMZ	Zumiez Inc.	\$979	\$362
Consumer Staples	S&P 500	NYSE:MO	Altria Group, Inc.	\$19,627	\$104,356
Consumer Staples	S&P 500	NYSE:ADM	Archer-Daniels-Midland Company	\$64,341	\$29,966
Consumer Staples	S&P 500	NYSE:BF.B	Brown-Forman Corporation	\$3,313	\$25,020
Consumer Staples	S&P 500	NYSE:CPB	Campbell Soup Company	\$9,751	\$19,581
Consumer Staples	S&P 500	NYSE:CHD	Church & Dwight Co., Inc.	\$4,146	\$18,109
Consumer Staples	S&P 500	NYSE:CL	Colgate-Palmolive Company	\$15,544	\$57,646
Consumer Staples	S&P 500	NYSE:CAG	Conagra Brands, Inc.	\$8,179	\$21,494
Consumer Staples	S&P 500	NYSE:STZ	Constellation Brands, Inc.	\$8,086	\$40,540
Consumer Staples	S&P 500	NasdaqGS:COST	Costco Wholesale Corporation	\$144,836	\$88,571
Consumer Staples	S&P 500	NYSE:COTY	Coty Inc.	\$9,065	\$13,126
Consumer Staples	S&P 500	NYSE:GIS	General Mills, Inc.	\$16,278	\$38,835
Consumer Staples	S&P 500	NYSE:HRL	Hormel Foods Corporation	\$9,575	\$22,986
Consumer Staples	S&P 500	NYSE:K	Kellogg Company	\$13,547	\$28,965
Consumer Staples	S&P 500	NYSE:KMB	Kimberly-Clark Corporation	\$18,486	\$46,795
Consumer Staples	S&P 500	NYSE:LW	Lamb Weston Holdings, Inc.	\$3,608	\$13,057
Consumer Staples	S&P 500	NYSE:MCK	McCormick & Company, Incorporated	\$5,409	\$23,257
Consumer Staples	S&P 500	NYSE:TAP	Molson Coors Brewing Company	\$10,770	\$22,180
Consumer Staples	S&P 500	NasdaqGS:MDLZ	Mondelez International, Inc.	\$25,938	\$77,263
Consumer Staples	S&P 500	NasdaqGS:MNST	Monster Beverage Corporation	\$3,807	\$26,045
Consumer Staples	S&P 500	NasdaqGS:PEP	PepsiCo, Inc.	\$64,661	\$177,272
Consumer Staples	S&P 500	NYSE:PM	Philip Morris International Inc.	\$29,625	\$131,444
Consumer Staples	S&P 500	NYSE:SY	Sysco Corporation	\$59,646	\$40,575
Consumer Staples	S&P 500	NYSE:CLX	The Clorox Company	\$6,244	\$22,079
Consumer Staples	S&P 500	NYSE:KO	The Coca-Cola Company	\$31,856	\$229,518
Consumer Staples	S&P 500	NYSE:EL	The Estée Lauder Companies Inc.	\$14,194	\$48,782
Consumer Staples	S&P 500	NYSE:HSY	The Hershey Company	\$7,791	\$26,384
Consumer Staples	S&P 500	NYSE:SJM	The J. M. Smucker Company	\$7,717	\$16,739
Consumer Staples	S&P 500	NasdaqGS:KHC	The Kraft Heinz Company	\$26,259	\$83,687
Consumer Staples	S&P 500	NYSE:KR	The Kroger Co.	\$121,162	\$36,485

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Consumer Staples	S&P 500	NYSE:PG	The Procter & Gamble Company	\$66,912	\$250,263
Consumer Staples	S&P 500	NYSE:TSN	Tyson Foods, Inc.	\$40,016	\$29,135
Consumer Staples	S&P 500	NasdaqGS:WBA	Walgreens Boots Alliance, Inc.	\$134,590	\$80,132
Consumer Staples	S&P 500	NYSE:WMT	Walmart Inc.	\$514,405	\$330,385
Consumer Staples	S&P 400	NasdaqGS:CASY	Casey's General Stores, Inc.	\$8,302	\$5,938
Consumer Staples	S&P 400	NYSE:EPC	Edgewell Personal Care Company	\$2,223	\$3,052
Consumer Staples	S&P 400	NYSE:ENR	Energizer Holdings, Inc.	\$1,796	\$3,410
Consumer Staples	S&P 400	NYSE:FLO	Flowers Foods, Inc.	\$3,952	\$4,680
Consumer Staples	S&P 400	NYSE:INGR	Ingredion Incorporated	\$5,841	\$7,717
Consumer Staples	S&P 400	NasdaqGS:LANC	Lancaster Colony Corporation	\$1,271	\$4,644
Consumer Staples	S&P 400	NYSE:NUS	Nu Skin Enterprises, Inc.	\$2,679	\$3,454
Consumer Staples	S&P 400	NYSE:POST	Post Holdings, Inc.	\$6,235	\$12,329
Consumer Staples	S&P 400	NasdaqGS:SAFM	Sanderson Farms, Inc.	\$3,207	\$2,078
Consumer Staples	S&P 400	NasdaqGS:SFM	Sprouts Farmers Market, Inc.	\$5,207	\$3,546
Consumer Staples	S&P 400	NYSE:SAM	The Boston Beer Company, Inc.	\$996	\$2,668
Consumer Staples	S&P 400	NasdaqGS:HAIN	The Hain Celestial Group, Inc.	\$2,397	\$2,317
Consumer Staples	S&P 400	NYSE:TR	Tootsie Roll Industries, Inc.	\$519	\$2,058
Consumer Staples	S&P 400	NYSE:THS	TreeHouse Foods, Inc.	\$5,812	\$5,097
Consumer Staples	S&P 600	NYSE:AVP	Avon Products, Inc.	\$5,248	\$2,360
Consumer Staples	S&P 600	NYSE:BGS	B&G Foods, Inc.	\$1,701	\$3,955
Consumer Staples	S&P 600	NasdaqGS:CALM	Cal-Maine Foods, Inc.	\$1,576	\$1,743
Consumer Staples	S&P 600	NasdaqGS:CVGW	Calavo Growers, Inc.	\$1,099	\$1,297
Consumer Staples	S&P 600	NasdaqGS:CENT	Central Garden & Pet Company	\$2,235	\$2,061
Consumer Staples	S&P 600	NasdaqGS:COKE	Coca-Cola Consolidated, Inc.	\$4,625	\$2,977
Consumer Staples	S&P 600	NYSE:DAR	Darling Ingredients Inc.	\$3,388	\$4,827
Consumer Staples	S&P 600	NYSE:DF	Dean Foods Company	\$7,755	\$1,225
Consumer Staples	S&P 600	NasdaqGS:IPAR	Inter Parfums, Inc.	\$676	\$2,035
Consumer Staples	S&P 600	NasdaqGS:JJSF	J & J Snack Foods Corp.	\$1,145	\$2,583
Consumer Staples	S&P 600	NasdaqGS:JBSS	John B. Sanfilippo & Son, Inc.	\$872	\$716
Consumer Staples	S&P 600	NYSE:MED	Medifast, Inc.	\$501	\$1,393
Consumer Staples	S&P 600	NasdaqGS:MGPI	MGP Ingredients, Inc.	\$376	\$1,007
Consumer Staples	S&P 600	NasdaqGS:SENE.A	Seneca Foods Corporation	\$1,328	\$655
Consumer Staples	S&P 600	NasdaqGS:SPTN	SpartanNash Company	\$8,065	\$1,300
Consumer Staples	S&P 600	NasdaqGS:ANDE	The Andersons, Inc.	\$3,045	\$1,468
Consumer Staples	S&P 600	NasdaqGS:CHEF	The Chefs' Warehouse, Inc.	\$1,445	\$1,189
Consumer Staples	S&P 600	NYSE:UNFI	United Natural Foods, Inc.	\$14,258	\$4,456
Consumer Staples	S&P 600	NYSE:UVV	Universal Corporation	\$2,163	\$1,844
Consumer Staples	S&P 600	NasdaqGS:WDFC	WD-40 Company	\$412	\$2,574
Energy	S&P 500	NYSE:APC	Anadarko Petroleum Corporation	\$12,906	\$40,541
Energy	S&P 500	NYSE:APA	Apache Corporation	\$7,145	\$18,907
Energy	S&P 500	NYSE:BHGE	Baker Hughes, a GE company	\$22,877	\$36,389
Energy	S&P 500	NYSE:COG	Cabot Oil & Gas Corporation	\$2,139	\$10,607
Energy	S&P 500	NYSE:CVX	Chevron Corporation	\$158,902	\$235,335
Energy	S&P 500	NYSE:XEC	Cimarex Energy Co.	\$2,339	\$6,429
Energy	S&P 500	NYSE:CXO	Concho Resources Inc.	\$3,879	\$24,649
Energy	S&P 500	NYSE:COP	ConocoPhillips	\$36,417	\$80,229
Energy	S&P 500	NYSE:DVN	Devon Energy Corporation	\$10,456	\$13,500
Energy	S&P 500	NasdaqGS:FANG	Diamondback Energy, Inc.	\$2,164	\$17,531
Energy	S&P 500	NYSE:EOG	EOG Resources, Inc.	\$17,177	\$55,734
Energy	S&P 500	NYSE:XOM	Exxon Mobil Corporation	\$279,332	\$329,537
Energy	S&P 500	NYSE:HAL	Halliburton Company	\$23,995	\$31,706
Energy	S&P 500	NYSE:HP	Helmerich & Payne, Inc.	\$2,625	\$5,395
Energy	S&P 500	NYSE:HES	Hess Corporation	\$6,152	\$17,090
Energy	S&P 500	NYSE:HFC	HollyFrontier Corporation	\$17,715	\$10,720
Energy	S&P 500	NYSE:KMI	Kinder Morgan, Inc.	\$14,144	\$70,759
Energy	S&P 500	NYSE:MRO	Marathon Oil Corporation	\$5,694	\$15,854
Energy	S&P 500	NYSE:MPC	Marathon Petroleum Corporation	\$96,504	\$59,092
Energy	S&P 500	NYSE:NOV	National Oilwell Varco, Inc.	\$8,453	\$11,344
Energy	S&P 500	NYSE:NFX	Newfield Exploration Company	\$2,630	\$5,076

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Energy	S&P 500	NYSE:NBL	Noble Energy, Inc.	\$4,986	\$15,722
Energy	S&P 500	NYSE:OXY	Occidental Petroleum Corporation	\$17,824	\$53,707
Energy	S&P 500	NYSE:OKE	ONEOK, Inc.	\$12,593	\$31,062
Energy	S&P 500	NYSE:PSX	Phillips 66	\$111,461	\$52,615
Energy	S&P 500	NYSE:PXD	Pioneer Natural Resources Company	\$9,379	\$23,229
Energy	S&P 500	NYSE:SLB	Schlumberger Limited	\$32,815	\$64,899
Energy	S&P 500	NYSE:FTI	TechnipFMC plc	\$12,553	\$7,360
Energy	S&P 500	NYSE:WMB	The Williams Companies, Inc.	\$8,686	\$50,299
Energy	S&P 500	NYSE:VLO	Valero Energy Corporation	\$111,407	\$38,385
Energy	S&P 400	NYSE:APY	Apergy Corporation	\$1,217	\$2,766
Energy	S&P 400	NYSE:CPE	Callon Petroleum Company	\$552	\$2,518
Energy	S&P 400	NYSE:CHK	Chesapeake Energy Corporation	\$10,107	\$13,489
Energy	S&P 400	NYSE:CNX	CNX Resources Corporation	\$1,734	\$5,227
Energy	S&P 400	NYSE:CLB	Core Laboratories N.V.	\$701	\$2,924
Energy	S&P 400	NYSE:DO	Diamond Offshore Drilling, Inc.	\$1,060	\$2,794
Energy	S&P 400	NYSE:DRQ	Dril-Quip, Inc.	\$385	\$650
Energy	S&P 400	NYSE:ESV	EnSCO Rowan plc	\$1,705	\$5,917
Energy	S&P 400	NYSE:EQT	EQT Corporation	\$4,736	\$18,527
Energy	S&P 400	NYSE:ETRN	Equitrans Midstream Corporation	\$1,495	\$13,601
Energy	S&P 400	NYSE:MTDR	Matador Resources Company	\$772	\$3,001
Energy	S&P 400	NYSE:MDR	McDermott International, Inc.	\$6,705	\$4,157
Energy	S&P 400	NYSE:MUR	Murphy Oil Corporation	\$2,587	\$6,014
Energy	S&P 400	NYSE:OAS	Oasis Petroleum Inc.	\$2,188	\$4,516
Energy	S&P 400	NYSE:OII	Oceanenergy International, Inc.	\$1,909	\$1,619
Energy	S&P 400	NasdaqGS:PTEN	Patterson-UTI Energy, Inc.	\$3,213	\$3,153
Energy	S&P 400	NYSE:PBF	PBF Energy Inc.	\$27,186	\$5,612
Energy	S&P 400	NYSE:QEP	QEP Resources, Inc.	\$1,920	\$3,784
Energy	S&P 400	NYSE:RRC	Range Resources Corporation	\$3,334	\$6,505
Energy	S&P 400	NYSE:RDC	Rowan Companies plc	\$825	\$2,544
Energy	S&P 400	NYSE:SM	SM Energy Company	\$1,569	\$4,152
Energy	S&P 400	NYSE:SWN	Southwestern Energy Company	\$3,857	\$5,514
Energy	S&P 400	NYSE:RIG	Transocean Ltd.	\$3,018	\$11,248
Energy	S&P 400	NYSE:INT	World Fuel Services Corporation	\$39,750	\$2,056
Energy	S&P 400	NYSE:WPX	WPX Energy, Inc.	\$2,229	\$6,977
Energy	S&P 600	NYSE:AROC	Archrock, Inc.	\$904	\$2,477
Energy	S&P 600	NYSE:BCEI	Bonanza Creek Energy, Inc.	\$277	\$401
Energy	S&P 600	OTCPK:BRSW.Q	Bristow Group Inc.	\$1,344	\$1,243
Energy	S&P 600	NYSE:CJ	C&J Energy Services, Inc.	\$2,222	\$818
Energy	S&P 600	NYSE:CRR	CARBO Ceramics Inc.	\$211	\$136
Energy	S&P 600	NasdaqGS:CRZO	Carrizo Oil & Gas, Inc.	\$1,015	\$2,533
Energy	S&P 600	NYSE:CEIX	CONSOL Energy Inc.	\$1,473	\$1,650
Energy	S&P 600	NYSE:DNR	Denbury Resources Inc.	\$1,454	\$3,526
Energy	S&P 600	NYSE:ERA	Era Group Inc.	\$222	\$309
Energy	S&P 600	NYSE:EXTN	Exterran Corporation	\$1,361	\$1,022
Energy	S&P 600	NasdaqGS:GEOS	Geospace Technologies Corporation	\$79	\$103
Energy	S&P 600	NasdaqGS:GPRE	Green Plains Inc.	\$3,843	\$1,876
Energy	S&P 600	NasdaqGS:GIFI	Gulf Island Fabrication, Inc.	\$221	\$54
Energy	S&P 600	NasdaqGS:GPOR	Gulfport Energy Corporation	\$1,445	\$3,112
Energy	S&P 600	NYSE:HLX	Helix Energy Solutions Group, Inc.	\$740	\$923
Energy	S&P 600	NYSE:HPR	HighPoint Resources Corporation	\$416	\$1,055
Energy	S&P 600	NasdaqGS:KLXE	KLX Energy Services Holdings, Inc.	\$495	\$454
Energy	S&P 600	NYSE:LPI	Laredo Petroleum, Inc.	\$1,106	\$1,744
Energy	S&P 600	NasdaqGS:MTRX	Matrix Service Company	\$1,198	\$412
Energy	S&P 600	NYSE:NBR	Nabors Industries Ltd.	\$3,058	\$4,308
Energy	S&P 600	NYSE:NR	Newpark Resources, Inc.	\$947	\$760
Energy	S&P 600	NYSE:NE	Noble Corporation plc	\$1,036	\$4,627
Energy	S&P 600	NYSE:OIS	Oil States International, Inc.	\$1,088	\$1,175
Energy	S&P 600	NYSE:PARR	Par Pacific Holdings, Inc.	\$3,411	\$958
Energy	S&P 600	NasdaqGS:PDCE	PDC Energy, Inc.	\$1,300	\$3,205
Energy	S&P 600	NasdaqGS:PVAC	Penn Virginia Corporation	\$419	\$1,279

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Energy	S&P 600	NYSE:PES	Pioneer Energy Services Corp.	\$590	\$508
Energy	S&P 600	NYSE:PUMP	ProPetro Holding Corp.	\$1,705	\$1,040
Energy	S&P 600	NasdaqGS:REGI	Renewable Energy Group, Inc.	\$2,013	\$955
Energy	S&P 600	NYSE:REX	REX American Resources Corporation	\$487	\$291
Energy	S&P 600	AMEX:REI	Ring Energy, Inc.	\$114	\$321
Energy	S&P 600	NYSE:CKH	SEACOR Holdings Inc.	\$836	\$978
Energy	S&P 600	AMEX:SRCI	SRC Energy Inc.	\$646	\$1,776
Energy	S&P 600	NYSE:SPN	Superior Energy Services, Inc.	\$2,130	\$1,695
Energy	S&P 600	NYSE:TTI	TETRA Technologies, Inc.	\$999	\$1,155
Energy	S&P 600	NYSE:SLCA	U.S. Silica Holdings, Inc.	\$1,577	\$1,711
Energy	S&P 600	NYSE:UNT	Unit Corporation	\$843	\$1,538
Health Care	S&P 500	NYSE:ABT	Abbott Laboratories	\$30,578	\$143,509
Health Care	S&P 500	NYSE:ABBV	AbbVie Inc.	\$32,753	\$171,104
Health Care	S&P 500	NasdaqGS:ABMD	Abiomed, Inc.	\$737	\$14,229
Health Care	S&P 500	NYSE:A	Agilent Technologies, Inc.	\$4,987	\$21,044
Health Care	S&P 500	NasdaqGS:ALXN	Alexion Pharmaceuticals, Inc.	\$4,130	\$23,369
Health Care	S&P 500	NasdaqGS:ALGN	Align Technology, Inc.	\$1,966	\$16,146
Health Care	S&P 500	NYSE:AGN	Allergan plc	\$15,787	\$67,468
Health Care	S&P 500	NYSE:ABC	AmerisourceBergen Corporation	\$172,866	\$18,055
Health Care	S&P 500	NasdaqGS:AMGN	Amgen Inc.	\$22,533	\$128,553
Health Care	S&P 500	NYSE:ANTM	Anthem, Inc.	\$86,391	\$83,827
Health Care	S&P 500	NYSE:BAX	Baxter International Inc.	\$11,127	\$35,637
Health Care	S&P 500	NYSE:BDX	Becton, Dickinson and Company	\$17,063	\$81,053
Health Care	S&P 500	NasdaqGS:BIIB	Biogen Inc.	\$10,887	\$62,126
Health Care	S&P 500	NYSE:BSX	Boston Scientific Corporation	\$9,823	\$55,362
Health Care	S&P 500	NYSE:BMJ	Bristol-Myers Squibb Company	\$22,561	\$85,429
Health Care	S&P 500	NYSE:CAH	Cardinal Health, Inc.	\$141,935	\$20,244
Health Care	S&P 500	NasdaqGS:CELG	Celgene Corporation	\$15,265	\$60,718
Health Care	S&P 500	NYSE:CNC	Centene Corporation	\$53,882	\$23,564
Health Care	S&P 500	NasdaqGS:CERN	Cerner Corporation	\$5,366	\$16,906
Health Care	S&P 500	NYSE:CI	Cigna Corporation	\$43,072	\$73,365
Health Care	S&P 500	NYSE:CVS	CVS Health Corporation	\$193,919	\$105,928
Health Care	S&P 500	NYSE:DHR	Danaher Corporation	\$19,893	\$82,130
Health Care	S&P 500	NYSE:DVA	DaVita Inc.	\$10,668	\$19,582
Health Care	S&P 500	NasdaqGS:XRAY	DENTSPLY SIRONA Inc.	\$3,986	\$9,790
Health Care	S&P 500	NYSE:EW	Edwards Lifesciences Corporation	\$3,723	\$31,618
Health Care	S&P 500	NYSE:LLY	Eli Lilly and Company	\$24,556	\$121,499
Health Care	S&P 500	NasdaqGS:GILD	Gilead Sciences, Inc.	\$22,127	\$78,614
Health Care	S&P 500	NYSE:HCA	HCA Healthcare, Inc.	\$46,677	\$77,189
Health Care	S&P 500	NasdaqGS:HSIC	Henry Schein, Inc.	\$13,202	\$14,733
Health Care	S&P 500	NasdaqGS:HOLX	Hologic, Inc.	\$3,258	\$14,576
Health Care	S&P 500	NYSE:HUM	Humana Inc.	\$55,365	\$40,530
Health Care	S&P 500	NasdaqGS:IDXX	IDEXX Laboratories, Inc.	\$2,213	\$16,911
Health Care	S&P 500	NasdaqGS:ILMN	Illumina, Inc.	\$3,333	\$42,977
Health Care	S&P 500	NasdaqGS:INCY	Incyte Corporation	\$1,882	\$12,182
Health Care	S&P 500	NasdaqGS:ISRG	Intuitive Surgical, Inc.	\$3,724	\$51,565
Health Care	S&P 500	NYSE:IQV	IQVIA Holdings Inc.	\$10,412	\$33,230
Health Care	S&P 500	NYSE:JNJ	Johnson & Johnson	\$81,581	\$358,004
Health Care	S&P 500	NYSE:LH	Laboratory Corporation of America Holdings	\$11,333	\$18,340
Health Care	S&P 500	NYSE:MCK	McKesson Corporation	\$213,518	\$30,303
Health Care	S&P 500	NYSE:MDT	Medtronic plc	\$30,555	\$137,170
Health Care	S&P 500	NYSE:MRK	Merck & Co., Inc.	\$42,294	\$212,376
Health Care	S&P 500	NYSE:MTD	Mettler-Toledo International Inc.	\$2,936	\$15,072
Health Care	S&P 500	NasdaqGS:MYL	Mylan N.V.	\$11,269	\$28,056
Health Care	S&P 500	NasdaqGS:NKTR	Nektar Therapeutics	\$1,193	\$4,515
Health Care	S&P 500	NYSE:PKI	PerkinElmer, Inc.	\$2,778	\$10,491
Health Care	S&P 500	NYSE:PRGO	Perrigo Company plc	\$4,732	\$8,079
Health Care	S&P 500	NYSE:PFE	Pfizer Inc.	\$53,647	\$277,056
Health Care	S&P 500	NYSE:DGX	Quest Diagnostics Incorporated	\$7,531	\$15,022
Health Care	S&P 500	NasdaqGS:REGN	Regeneron Pharmaceuticals, Inc.	\$6,294	\$38,900
Health Care	S&P 500	NYSE:RMD	ResMed Inc.	\$2,455	\$16,526

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Health Care	S&P 500	NYSE:SYK	Stryker Corporation	\$13,601	\$63,647
Health Care	S&P 500	NYSE:TFX	Teleflex Incorporated	\$2,448	\$13,682
Health Care	S&P 500	NYSE:COO	The Cooper Companies, Inc.	\$2,571	\$14,475
Health Care	S&P 500	NYSE:TMO	Thermo Fisher Scientific Inc.	\$24,358	\$107,949
Health Care	S&P 500	NYSE:UNH	UnitedHealth Group Incorporated	\$209,064	\$267,307
Health Care	S&P 500	NYSE:UHS	Universal Health Services, Inc.	\$10,772	\$14,802
Health Care	S&P 500	NYSE:VAR	Varian Medical Systems, Inc.	\$2,982	\$9,790
Health Care	S&P 500	NasdaqGS:VRTX	Vertex Pharmaceuticals Incorporated	\$3,048	\$39,909
Health Care	S&P 500	NYSE:WAT	Waters Corporation	\$2,420	\$13,354
Health Care	S&P 500	NYSE:WCG	WellCare Health Plans, Inc.	\$20,414	\$9,621
Health Care	S&P 500	NYSE:ZBH	Zimmer Biomet Holdings, Inc.	\$7,933	\$29,839
Health Care	S&P 500	NYSE:ZTS	Zoetis Inc.	\$5,825	\$46,145
Health Care	S&P 400	NasdaqGS:ACHC	Acadia Healthcare Company, Inc.	\$3,012	\$5,464
Health Care	S&P 400	NasdaqGS:MDRX	Allscripts Healthcare Solutions, Inc.	\$1,750	\$3,898
Health Care	S&P 400	NYSE:AVNS	Avanos Medical, Inc.	\$652	\$1,960
Health Care	S&P 400	NYSE:BIO	Bio-Rad Laboratories, Inc.	\$2,289	\$6,527
Health Care	S&P 400	NasdaqGS:TECH	Bio-Techne Corporation	\$682	\$5,863
Health Care	S&P 400	NYSE:CMD	Cantel Medical Corp.	\$896	\$3,237
Health Care	S&P 400	NYSE:CTLT	Catalent, Inc.	\$2,488	\$6,546
Health Care	S&P 400	NYSE:CRL	Charles River Laboratories International, Inc.	\$2,266	\$7,005
Health Care	S&P 400	NYSE:CHE	Chemed Corporation	\$1,783	\$4,599
Health Care	S&P 400	NYSE:EHC	Encompass Health Corporation	\$4,277	\$9,090
Health Care	S&P 400	NasdaqGS:EXEL	Exelixis, Inc.	\$854	\$5,261
Health Care	S&P 400	NYSE:GMED	Globus Medical, Inc.	\$713	\$3,889
Health Care	S&P 400	NYSE:HAE	Haemonetics Corporation	\$952	\$5,315
Health Care	S&P 400	NasdaqGS:HQY	HealthEquity, Inc.	\$287	\$3,391
Health Care	S&P 400	NYSE:HRC	Hill-Rom Holdings, Inc.	\$2,862	\$7,749
Health Care	S&P 400	NasdaqGS:ICUI	ICU Medical, Inc.	\$1,400	\$4,350
Health Care	S&P 400	NasdaqGS:INGN	Inogen, Inc.	\$358	\$2,449
Health Care	S&P 400	NasdaqGS:IART	Integra LifeSciences Holdings Corporation	\$1,472	\$5,061
Health Care	S&P 400	NasdaqGM:LGND	Ligand Pharmaceuticals Incorporated	\$251	\$2,564
Health Care	S&P 400	NasdaqGS:LIVN	LivaNova PLC	\$1,107	\$4,531
Health Care	S&P 400	NYSE:MNK	Mallinckrodt plc	\$3,216	\$7,216
Health Care	S&P 400	NasdaqGS:MASI	Masimo Corporation	\$858	\$5,197
Health Care	S&P 400	NasdaqGS:MDSO	Medidata Solutions, Inc.	\$636	\$3,889
Health Care	S&P 400	NYSE:MD	MEDNAX, Inc.	\$3,647	\$4,875
Health Care	S&P 400	NYSE:MOH	Molina Healthcare, Inc.	\$17,737	\$5,950
Health Care	S&P 400	NasdaqGS:NUVA	NuVasive, Inc.	\$1,102	\$3,077
Health Care	S&P 400	NasdaqGS:PDCO	Patterson Companies, Inc.	\$5,538	\$2,495
Health Care	S&P 400	NasdaqGS:PRAH	PRA Health Sciences, Inc.	\$2,872	\$7,046
Health Care	S&P 400	NYSE:PBH	Prestige Consumer Healthcare Inc.	\$991	\$3,457
Health Care	S&P 400	NYSE:STE	STERIS plc	\$2,730	\$10,094
Health Care	S&P 400	NasdaqGS:SYNH	Syneos Health, Inc.	\$4,390	\$6,805
Health Care	S&P 400	NYSE:THC	Tenet Healthcare Corporation	\$18,313	\$18,317
Health Care	S&P 400	NasdaqGS:UTHR	United Therapeutics Corporation	\$1,628	\$3,759
Health Care	S&P 400	NYSE:WST	West Pharmaceutical Services, Inc.	\$1,717	\$7,161
Health Care	S&P 600	NasdaqGS:ACOR	Acorda Therapeutics, Inc.	\$471	\$621
Health Care	S&P 600	NasdaqGS:ADUS	Addus HomeCare Corporation	\$518	\$811
Health Care	S&P 600	NasdaqGS:AKRX	Akorn, Inc.	\$694	\$969
Health Care	S&P 600	NasdaqGS:AMAG	AMAG Pharmaceuticals, Inc.	\$474	\$378
Health Care	S&P 600	NasdaqGS:AMED	Amedisys, Inc.	\$1,663	\$3,778
Health Care	S&P 600	NYSE:AMN	AMN Healthcare Services, Inc.	\$2,136	\$3,107
Health Care	S&P 600	NasdaqGS:AMPH	Amphastar Pharmaceuticals, Inc.	\$295	\$919
Health Care	S&P 600	NasdaqGS:ANGO	AngioDynamics, Inc.	\$349	\$812
Health Care	S&P 600	NasdaqGM:ANIP	ANI Pharmaceuticals, Inc.	\$202	\$695
Health Care	S&P 600	NasdaqGS:ANIK	Anika Therapeutics, Inc.	\$106	\$329
Health Care	S&P 600	NasdaqGS:ASRT	Assertio Therapeutics, Inc.	\$156	\$694
Health Care	S&P 600	NasdaqGS:BEAT	BioTelemetry, Inc.	\$377	\$2,127
Health Care	S&P 600	NYSE:CBM	Cambrex Corporation	\$514	\$1,495
Health Care	S&P 600	NYSE:CYH	Community Health Systems, Inc.	\$14,155	\$14,123

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Health Care	S&P 600	NasdaqGS:CPSI	Computer Programs and Systems, Inc.	\$280	\$474
Health Care	S&P 600	NasdaqGS:CNMD	CONMED Corporation	\$860	\$2,237
Health Care	S&P 600	NasdaqCM:CORT	Corcept Therapeutics Incorporated	\$251	\$1,348
Health Care	S&P 600	NasdaqGS:CRVL	CorVel Corporation	\$588	\$1,067
Health Care	S&P 600	NasdaqGS:CCRN	Cross Country Healthcare, Inc.	\$816	\$329
Health Care	S&P 600	NYSE:CRY	CryoLife, Inc.	\$263	\$1,232
Health Care	S&P 600	NasdaqGS:CUTR	Cutera, Inc.	\$163	\$210
Health Care	S&P 600	NasdaqGS:CYTK	Cytokinetics, Incorporated	\$32	\$177
Health Care	S&P 600	NYSE:DPLO	Diplomat Pharmacy, Inc.	\$5,493	\$1,624
Health Care	S&P 600	NasdaqGM:EGRX	Eagle Pharmaceuticals, Inc.	\$213	\$554
Health Care	S&P 600	NYSE:EBS	Emergent BioSolutions Inc.	\$782	\$2,694
Health Care	S&P 600	NasdaqGS:ENTA	Enanta Pharmaceuticals, Inc.	\$238	\$1,069
Health Care	S&P 600	NasdaqGS:ENDP	Endo International plc	\$2,947	\$8,782
Health Care	S&P 600	NasdaqGS:HSTM	HealthStream, Inc.	\$232	\$606
Health Care	S&P 600	NasdaqCM:HSKA	Heska Corporation	\$127	\$650
Health Care	S&P 600	NasdaqGS:HMSY	HMS Holdings Corp.	\$598	\$2,476
Health Care	S&P 600	NasdaqGS:INVA	Innoviva, Inc.	\$0	\$2,092
Health Care	S&P 600	NYSE:ITGR	Integer Holdings Corporation	\$1,215	\$3,401
Health Care	S&P 600	NYSE:IVC	Invacare Corporation	\$972	\$276
Health Care	S&P 600	NYSE:LCI	Lannett Company, Inc.	\$694	\$871
Health Care	S&P 600	NasdaqGM:LNTH	Lantheus Holdings, Inc.	\$343	\$764
Health Care	S&P 600	NasdaqGM:LMAT	LeMaitre Vascular, Inc.	\$106	\$417
Health Care	S&P 600	NasdaqGS:LHCG	LHC Group, Inc.	\$1,810	\$3,261
Health Care	S&P 600	NasdaqGS:LMNX	Luminex Corporation	\$316	\$883
Health Care	S&P 600	NasdaqGS:MGLN	Magellan Health, Inc.	\$7,314	\$1,946
Health Care	S&P 600	NasdaqGS:MEDP	Medpace Holdings, Inc.	\$705	\$1,992
Health Care	S&P 600	NasdaqGS:VIVO	Meridian Bioscience, Inc.	\$213	\$728
Health Care	S&P 600	NasdaqGS:MMSI	Merit Medical Systems, Inc.	\$883	\$3,217
Health Care	S&P 600	NasdaqGS:MNTA	Momenta Pharmaceuticals, Inc.	\$76	\$810
Health Care	S&P 600	NasdaqGS:MYGN	Myriad Genetics, Inc.	\$825	\$2,264
Health Care	S&P 600	NasdaqGS:BABY	Natus Medical Incorporated	\$531	\$1,197
Health Care	S&P 600	NasdaqGS:NEOG	Neogen Corporation	\$414	\$2,728
Health Care	S&P 600	NasdaqCM:NEO	NeoGenomics, Inc.	\$277	\$1,183
Health Care	S&P 600	NasdaqGS:NXGN	NextGen Healthcare, Inc.	\$530	\$991
Health Care	S&P 600	NasdaqGS:OMCL	Omniceil, Inc.	\$787	\$2,567
Health Care	S&P 600	NasdaqGS:OSUR	OraSure Technologies, Inc.	\$175	\$565
Health Care	S&P 600	NasdaqGS:OFIX	Orthofix Medical Inc.	\$453	\$920
Health Care	S&P 600	NYSE:OMI	Owens & Minor, Inc.	\$9,839	\$1,910
Health Care	S&P 600	NasdaqGM:PAHC	Phibro Animal Health Corporation	\$839	\$1,547
Health Care	S&P 600	NasdaqGS:PGNX	Progenics Pharmaceuticals, Inc.	\$15	\$253
Health Care	S&P 600	NYSE:QHC	Quorum Health Corporation	\$1,879	\$1,289
Health Care	S&P 600	NasdaqGS:RGNX	REGENXBIO Inc.	\$219	\$1,131
Health Care	S&P 600	NasdaqGS:RGEN	Repligen Corporation	\$194	\$2,225
Health Care	S&P 600	NYSE:SEM	Select Medical Holdings Corporation	\$5,081	\$6,162
Health Care	S&P 600	NasdaqGS:SPPI	Spectrum Pharmaceuticals, Inc.	\$109	\$741
Health Care	S&P 600	NasdaqGM:SUPN	Supernus Pharmaceuticals, Inc.	\$409	\$1,781
Health Care	S&P 600	NasdaqGS:SRDX	Surmodics, Inc.	\$87	\$573
Health Care	S&P 600	NasdaqGM:TRHC	Tabula Rasa HealthCare, Inc.	\$204	\$1,251
Health Care	S&P 600	NasdaqGM:TCMD	Tactile Systems Technology, Inc.	\$144	\$795
Health Care	S&P 600	NasdaqGS:ENSG	The Ensign Group, Inc.	\$2,041	\$2,238
Health Care	S&P 600	NasdaqGS:MDCO	The Medicines Company	\$6	\$1,946
Health Care	S&P 600	NasdaqGS:PRSC	The Providence Service Corporation	\$1,385	\$835
Health Care	S&P 600	NasdaqGS:TVTY	Tivity Health, Inc.	\$606	\$1,067
Health Care	S&P 600	NYSE:USPH	U.S. Physical Therapy, Inc.	\$413	\$1,456
Health Care	S&P 600	NasdaqGM:VNDA	Vanda Pharmaceuticals Inc.	\$193	\$1,130
Health Care	S&P 600	NasdaqGS:VREX	Varex Imaging Corporation	\$783	\$1,252
Industrials	S&P 500	NYSE:MMM	3M Company	\$32,765	\$122,351
Industrials	S&P 500	NYSE:AOS	A. O. Smith Corporation	\$3,188	\$6,832
Industrials	S&P 500	NYSE:ALK	Alaska Air Group, Inc.	\$8,264	\$8,135
Industrials	S&P 500	NYSE:ALLE	Allegion plc	\$2,732	\$8,842
Industrials	S&P 500	NasdaqGS:AAL	American Airlines Group Inc.	\$41,689	\$34,701

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Industrials	S&P 500	NYSE:AME	AMETEK, Inc.	\$4,846	\$17,097
Industrials	S&P 500	NYSE:ARNC	Arconic Inc.	\$14,014	\$13,038
Industrials	S&P 500	NasdaqGS:CHRW	C.H. Robinson Worldwide, Inc.	\$16,631	\$12,606
Industrials	S&P 500	NYSE:CAT	Caterpillar Inc.	\$51,822	\$103,612
Industrials	S&P 500	NasdaqGS:CTAS	Cintas Corporation	\$5,393	\$20,281
Industrials	S&P 500	NasdaqGS:CPRT	Copart, Inc.	\$1,874	\$11,261
Industrials	S&P 500	NasdaqGS:CSX	CSX Corporation	\$12,250	\$64,974
Industrials	S&P 500	NYSE:CMI	Cummins Inc.	\$23,771	\$23,317
Industrials	S&P 500	NYSE:DE	Deere & Company	\$34,318	\$86,857
Industrials	S&P 500	NYSE:DAL	Delta Air Lines, Inc.	\$40,620	\$42,620
Industrials	S&P 500	NYSE:DOV	Dover Corporation	\$6,992	\$13,454
Industrials	S&P 500	NYSE:ETN	Eaton Corporation plc	\$21,609	\$36,594
Industrials	S&P 500	NYSE:EMR	Emerson Electric Co.	\$17,739	\$41,123
Industrials	S&P 500	NYSE:EFX	Equifax Inc.	\$3,412	\$13,665
Industrials	S&P 500	NasdaqGS:EXPD	Expeditors International of Washington, Inc.	\$8,138	\$10,763
Industrials	S&P 500	NasdaqGS:FAST	Fastenal Company	\$4,965	\$15,270
Industrials	S&P 500	NYSE:FDX	FedEx Corporation	\$68,716	\$57,282
Industrials	S&P 500	NYSE:FLS	Flowserve Corporation	\$3,833	\$5,967
Industrials	S&P 500	NYSE:FLR	Fluor Corporation	\$19,167	\$4,488
Industrials	S&P 500	NYSE:FTV	Fortive Corporation	\$6,453	\$26,472
Industrials	S&P 500	NYSE:FBHS	Fortune Brands Home & Security, Inc.	\$5,485	\$7,497
Industrials	S&P 500	NYSE:GD	General Dynamics Corporation	\$36,193	\$58,629
Industrials	S&P 500	NYSE:GE	General Electric Company	\$113,544	\$188,903
Industrials	S&P 500	NYSE:HRS	Harris Corporation	\$6,445	\$19,873
Industrials	S&P 500	NYSE:HON	Honeywell International Inc.	\$41,802	\$104,589
Industrials	S&P 500	NYSE:HII	Huntington Ingalls Industries, Inc.	\$8,176	\$9,389
Industrials	S&P 500	NasdaqGS:INFO	IHS Markit Ltd.	\$4,009	\$24,821
Industrials	S&P 500	NYSE:ITW	Illinois Tool Works Inc.	\$14,768	\$47,855
Industrials	S&P 500	NYSE:IR	Ingersoll-Rand Plc	\$15,668	\$25,514
Industrials	S&P 500	NasdaqGS:JBHT	J.B. Hunt Transport Services, Inc.	\$7,558	\$11,220
Industrials	S&P 500	NYSE:JEC	Jacobs Engineering Group Inc.	\$16,284	\$9,769
Industrials	S&P 500	NYSE:JCI	Johnson Controls International plc	\$31,559	\$39,487
Industrials	S&P 500	NYSE:KSU	Kansas City Southern	\$2,714	\$12,616
Industrials	S&P 500	NYSE:LLL	L3 Technologies, Inc.	\$10,244	\$16,587
Industrials	S&P 500	NYSE:LMT	Lockheed Martin Corporation	\$53,762	\$88,362
Industrials	S&P 500	NYSE:MAS	Masco Corporation	\$8,359	\$11,508
Industrials	S&P 500	NYSE:NLSN	Nielsen Holdings plc	\$6,515	\$16,640
Industrials	S&P 500	NYSE:NSC	Norfolk Southern Corporation	\$11,458	\$51,413
Industrials	S&P 500	NYSE:NOC	Northrop Grumman Corporation	\$30,095	\$56,196
Industrials	S&P 500	NasdaqGS:PCAR	PACCAR Inc	\$22,139	\$25,790
Industrials	S&P 500	NYSE:PH	Parker-Hannifin Corporation	\$14,518	\$23,861
Industrials	S&P 500	NYSE:PNR	Pentair plc	\$2,965	\$7,293
Industrials	S&P 500	NYSE:PWR	Quanta Services, Inc.	\$11,171	\$5,274
Industrials	S&P 500	NYSE:RTN	Raytheon Company	\$27,058	\$47,180
Industrials	S&P 500	NYSE:RSG	Republic Services, Inc.	\$10,041	\$31,570
Industrials	S&P 500	NYSE:RHI	Robert Half International Inc.	\$5,800	\$6,467
Industrials	S&P 500	NYSE:ROK	Rockwell Automation, Inc.	\$6,722	\$18,989
Industrials	S&P 500	NYSE:ROL	Rollins, Inc.	\$1,822	\$11,698
Industrials	S&P 500	NYSE:ROP	Roper Technologies, Inc.	\$5,191	\$32,419
Industrials	S&P 500	NYSE:SNA	Snap-on Incorporated	\$3,741	\$9,097
Industrials	S&P 500	NYSE:LUV	Southwest Airlines Co.	\$20,630	\$25,784
Industrials	S&P 500	NYSE:SWK	Stanley Black & Decker, Inc.	\$13,982	\$23,714
Industrials	S&P 500	NYSE:TXT	Textron Inc.	\$13,906	\$13,890
Industrials	S&P 500	NYSE:BA	The Boeing Company	\$101,127	\$185,109
Industrials	S&P 500	NYSE:TDG	TransDigm Group Incorporated	\$3,956	\$28,731
Industrials	S&P 500	NYSE:UNP	Union Pacific Corporation	\$21,384	\$122,357
Industrials	S&P 500	NasdaqGS:UAL	United Continental Holdings, Inc.	\$38,943	\$32,258
Industrials	S&P 500	NYSE:UPS	United Parcel Service, Inc.	\$71,861	\$102,349
Industrials	S&P 500	NYSE:URI	United Rentals, Inc.	\$8,047	\$18,328
Industrials	S&P 500	NYSE:UTX	United Technologies Corporation	\$66,501	\$120,346
Industrials	S&P 500	NasdaqGS:VRSK	Verisk Analytics, Inc.	\$2,395	\$20,386
Industrials	S&P 500	NYSE:GWW	W.W. Grainger, Inc.	\$11,221	\$17,783

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Industrials	S&P 500	NYSE:WM	Waste Management, Inc.	\$14,914	\$47,876
Industrials	S&P 500	NYSE:XYL	Xylem Inc.	\$5,207	\$14,132
Industrials	S&P 400	NYSE:AYI	Acuity Brands, Inc.	\$3,770	\$4,790
Industrials	S&P 400	NYSE:ACM	AECOM	\$20,282	\$7,069
Industrials	S&P 400	NYSE:AGCO	AGCO Corporation	\$9,352	\$6,018
Industrials	S&P 400	NYSE:ASGN	ASGN Incorporated	\$3,400	\$3,973
Industrials	S&P 400	NasdaqGS:CAR	Avis Budget Group, Inc.	\$9,124	\$15,624
Industrials	S&P 400	NYSE:CSL	Carlisle Companies Incorporated	\$4,480	\$6,792
Industrials	S&P 400	NYSE:CLH	Clean Harbors, Inc.	\$3,300	\$4,135
Industrials	S&P 400	NYSE:CR	Crane Co.	\$3,346	\$5,014
Industrials	S&P 400	NYSE:CW	Curtiss-Wright Corporation	\$2,412	\$5,040
Industrials	S&P 400	NYSE:DLX	Deluxe Corporation	\$1,998	\$2,613
Industrials	S&P 400	NYSE:DCI	Donaldson Company, Inc.	\$2,830	\$6,072
Industrials	S&P 400	NYSE:DY	Dycom Industries, Inc.	\$3,128	\$2,523
Industrials	S&P 400	NYSE:EME	EMCOR Group, Inc.	\$8,131	\$3,382
Industrials	S&P 400	NYSE:ENS	EnerSys	\$2,694	\$3,345
Industrials	S&P 400	NYSE:ESL	Esterline Technologies Corporation	\$2,038	\$3,911
Industrials	S&P 400	NYSE:GATX	GATX Corporation	\$1,284	\$6,817
Industrials	S&P 400	NYSE:GWR	Genesee & Wyoming Inc.	\$2,349	\$6,837
Industrials	S&P 400	NYSE:GGG	Graco Inc.	\$1,653	\$7,098
Industrials	S&P 400	NYSE:GVA	Granite Construction Incorporated	\$3,318	\$1,827
Industrials	S&P 400	NasdaqGS:HCSG	Healthcare Services Group, Inc.	\$2,009	\$2,885
Industrials	S&P 400	NasdaqGS:MLHR	Herman Miller, Inc.	\$2,474	\$1,976
Industrials	S&P 400	NYSE:HNI	HNI Corporation	\$2,258	\$1,757
Industrials	S&P 400	NYSE:HUBB	Hubbell Incorporated	\$4,482	\$7,134
Industrials	S&P 400	NYSE:IEX	IDEX Corporation	\$2,484	\$10,042
Industrials	S&P 400	NYSE:NSP	Insperty, Inc.	\$3,829	\$3,642
Industrials	S&P 400	NYSE:ITT	ITT Inc.	\$2,745	\$3,859
Industrials	S&P 400	NasdaqGS:JBLU	JetBlue Airways Corporation	\$7,381	\$5,526
Industrials	S&P 400	NYSE:KBR	KBR, Inc.	\$4,913	\$2,751
Industrials	S&P 400	NYSE:KMT	Kennametal Inc.	\$2,428	\$3,259
Industrials	S&P 400	NYSE:KEX	Kirby Corporation	\$2,971	\$5,432
Industrials	S&P 400	NYSE:KNX	Knight-Swift Transportation Holdings Inc.	\$4,725	\$5,229
Industrials	S&P 400	NasdaqGS:LSTR	Landstar System, Inc.	\$4,563	\$3,835
Industrials	S&P 400	NYSE:LII	Lennox International Inc.	\$3,884	\$9,896
Industrials	S&P 400	NasdaqGS:LECO	Lincoln Electric Holdings, Inc.	\$3,029	\$5,295
Industrials	S&P 400	NYSE:MAN	ManpowerGroup Inc.	\$21,991	\$4,487
Industrials	S&P 400	NYSE:MTZ	MasTec, Inc.	\$6,909	\$4,837
Industrials	S&P 400	NYSE:MSA	MSA Safety Incorporated	\$1,358	\$3,850
Industrials	S&P 400	NYSE:MSM	MSC Industrial Direct Co., Inc.	\$3,267	\$4,746
Industrials	S&P 400	NasdaqGS:NDSN	Nordson Corporation	\$2,202	\$8,145
Industrials	S&P 400	NYSE:DNOW	NOW Inc.	\$3,127	\$1,341
Industrials	S&P 400	NYSE:NVT	nVent Electric plc	\$2,214	\$4,868
Industrials	S&P 400	NasdaqGS:ODFL	Old Dominion Freight Line, Inc.	\$4,044	\$9,963
Industrials	S&P 400	NYSE:OSK	Oshkosh Corporation	\$7,923	\$4,690
Industrials	S&P 400	NYSE:PBI	Pitney Bowes Inc.	\$3,208	\$3,564
Industrials	S&P 400	NYSE:RBC	Regal Beloit Corporation	\$3,646	\$4,144
Industrials	S&P 400	NYSE:REZI	Resideo Technologies, Inc.	\$4,827	\$2,353
Industrials	S&P 400	NYSE:R	Ryder System, Inc.	\$8,409	\$8,779
Industrials	S&P 400	NasdaqGS:SRCL	Stericycle, Inc.	\$3,486	\$6,121
Industrials	S&P 400	NYSE:TDY	Teledyne Technologies Incorporated	\$2,902	\$8,182
Industrials	S&P 400	NYSE:TEX	Terex Corporation	\$5,125	\$2,840
Industrials	S&P 400	NYSE:BCO	The Brink's Company	\$3,489	\$4,498
Industrials	S&P 400	NYSE:DNB	The Dun & Bradstreet Corporation	\$1,716	\$6,418
Industrials	S&P 400	NYSE:TKR	The Timken Company	\$3,581	\$4,505
Industrials	S&P 400	NYSE:TTC	The Toro Company	\$2,673	\$5,937
Industrials	S&P 400	NYSE:TRN	Trinity Industries, Inc.	\$2,509	\$6,282
Industrials	S&P 400	NYSE:VMI	Valmont Industries, Inc.	\$2,757	\$2,975
Industrials	S&P 400	NYSE:WSO	Watsco, Inc.	\$4,547	\$5,114
Industrials	S&P 400	NasdaqGS:WERN	Werner Enterprises, Inc.	\$2,458	\$2,218
Industrials	S&P 400	NYSE:WAB	Wabtec Corporation	\$4,364	\$10,256

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Industrials	S&P 400	NasdaqGS:WWD	Woodward, Inc.	\$2,509	\$5,783
Industrials	S&P 600	NasdaqGS:AAON	AAON, Inc.	\$434	\$1,816
Industrials	S&P 600	NYSE:AIR	AAR Corp.	\$1,889	\$1,476
Industrials	S&P 600	NYSE:ABM	ABM Industries Incorporated	\$6,462	\$3,020
Industrials	S&P 600	NYSE:ATU	Actuant Corporation	\$1,186	\$1,604
Industrials	S&P 600	NasdaqGS:AEGN	Aegion Corporation	\$1,334	\$774
Industrials	S&P 600	NYSE:AJRD	Aerojet Rocketdyne Holdings, Inc.	\$1,896	\$2,780
Industrials	S&P 600	NasdaqGS:AVAV	AeroVironment, Inc.	\$343	\$1,314
Industrials	S&P 600	NYSE:ALG	Alamo Group Inc.	\$1,009	\$960
Industrials	S&P 600	NYSE:AIN	Albany International Corp.	\$982	\$2,387
Industrials	S&P 600	NasdaqGS:ALGT	Allegiant Travel Company	\$1,642	\$2,488
Industrials	S&P 600	NasdaqGS:AMWD	American Woodmark Corporation	\$1,644	\$1,621
Industrials	S&P 600	NasdaqGS:APOG	Apogee Enterprises, Inc.	\$1,410	\$1,033
Industrials	S&P 600	NYSE:AIT	Applied Industrial Technologies, Inc.	\$3,430	\$3,006
Industrials	S&P 600	NasdaqGS:ARCB	ArcBest Corporation	\$3,094	\$917
Industrials	S&P 600	NYSE:ACA	Arcosa, Inc.	\$1,460	\$1,340
Industrials	S&P 600	NasdaqGS:ASTE	Astec Industries, Inc.	\$1,172	\$688
Industrials	S&P 600	NasdaqGS:AAWW	Atlas Air Worldwide Holdings, Inc.	\$2,678	\$3,383
Industrials	S&P 600	NasdaqGS:AAXN	Axon Enterprise, Inc.	\$420	\$2,248
Industrials	S&P 600	NYSE:AZZ	AZZ Inc.	\$925	\$1,338
Industrials	S&P 600	NYSE:B	Barnes Group Inc.	\$1,496	\$3,235
Industrials	S&P 600	NYSE:BRC	Brady Corporation	\$1,172	\$2,143
Industrials	S&P 600	NYSE:BG	Briggs & Stratton Corporation	\$1,890	\$928
Industrials	S&P 600	NasdaqGS:GTLS	Chart Industries, Inc.	\$1,084	\$2,386
Industrials	S&P 600	NYSE:CIR	CIRCOR International, Inc.	\$1,176	\$1,154
Industrials	S&P 600	NYSE:FIX	Comfort Systems USA, Inc.	\$2,183	\$1,692
Industrials	S&P 600	NYSE:CUB	Cubic Corporation	\$1,260	\$1,794
Industrials	S&P 600	NasdaqGS:DXPE	DXP Enterprises, Inc.	\$1,216	\$714
Industrials	S&P 600	NasdaqGS:ECHO	Echo Global Logistics, Inc.	\$2,440	\$737
Industrials	S&P 600	NasdaqGS:WIRE	Encore Wire Corporation	\$1,289	\$913
Industrials	S&P 600	NYSE:NPO	EnPro Industries, Inc.	\$1,532	\$1,607
Industrials	S&P 600	NYSE:ESE	ESCO Technologies Inc.	\$781	\$1,917
Industrials	S&P 600	NasdaqGS:ESND	Essendant Inc.	\$0	\$962
Industrials	S&P 600	NasdaqGS:EXPO	Exponent, Inc.	\$355	\$2,435
Industrials	S&P 600	NYSE:FSS	Federal Signal Corporation	\$1,090	\$1,386
Industrials	S&P 600	NasdaqGS:FORR	Forrester Research, Inc.	\$358	\$672
Industrials	S&P 600	NasdaqGS:FWRD	Forward Air Corporation	\$1,321	\$1,614
Industrials	S&P 600	NasdaqGS:FELE	Franklin Electric Co., Inc.	\$1,298	\$2,183
Industrials	S&P 600	NYSE:FCN	FTI Consulting, Inc.	\$2,028	\$2,525
Industrials	S&P 600	NasdaqGS:ROCK	Gibraltar Industries, Inc.	\$1,002	\$1,095
Industrials	S&P 600	NYSE:GFF	Griffon Corporation	\$2,051	\$1,504
Industrials	S&P 600	NYSE:HSC	Harsco Corporation	\$1,722	\$2,214
Industrials	S&P 600	NasdaqGS:HA	Hawaiian Holdings, Inc.	\$2,603	\$1,431
Industrials	S&P 600	NasdaqGS:HTLD	Heartland Express, Inc.	\$611	\$1,379
Industrials	S&P 600	NasdaqGS:HSII	Heidrick & Struggles International, Inc.	\$716	\$427
Industrials	S&P 600	NYSE:HI	Hillenbrand, Inc.	\$1,783	\$2,666
Industrials	S&P 600	NasdaqGS:HUBG	Hub Group, Inc.	\$3,684	\$1,315
Industrials	S&P 600	NasdaqGS:IIIN	Insteel Industries, Inc.	\$460	\$423
Industrials	S&P 600	NasdaqGS:TILE	Interface, Inc.	\$1,180	\$1,386
Industrials	S&P 600	NYSE:JBT	John Bean Technologies Corporation	\$1,920	\$2,717
Industrials	S&P 600	NYSE:KAMN	Kaman Corporation	\$1,875	\$1,846
Industrials	S&P 600	NasdaqGS:KELY.A	Kelly Services, Inc.	\$5,514	\$789
Industrials	S&P 600	NYSE:KFY	Korn Ferry	\$1,911	\$2,081
Industrials	S&P 600	NYSE:LNN	Lindsay Corporation	\$535	\$991
Industrials	S&P 600	NYSE:LKSD	LSC Communications, Inc.	\$3,826	\$1,159
Industrials	S&P 600	NYSE:LDL	Lydall, Inc.	\$786	\$647
Industrials	S&P 600	NasdaqGS:MRTN	Marten Transport, Ltd.	\$788	\$846
Industrials	S&P 600	NYSE:MATX	Matson, Inc.	\$2,223	\$2,263
Industrials	S&P 600	NasdaqGS:MATW	Matthews International Corporation	\$1,607	\$2,218
Industrials	S&P 600	NasdaqGS:MRCY	Mercury Systems, Inc.	\$572	\$2,456
Industrials	S&P 600	NasdaqGS:MINI	Mobile Mini, Inc.	\$593	\$2,332

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Industrials	S&P 600	NYSE:MOG.A	Moog Inc.	\$2,762	\$3,431
Industrials	S&P 600	NYSE:MLI	Mueller Industries, Inc.	\$2,508	\$1,776
Industrials	S&P 600	NasdaqGS:LABL	Multi-Color Corporation	\$1,738	\$2,212
Industrials	S&P 600	NasdaqGS:MYRG	MYR Group Inc.	\$1,531	\$560
Industrials	S&P 600	NYSE:NPK	National Presto Industries, Inc.	\$323	\$633
Industrials	S&P 600	NYSE:NCI	Navigant Consulting, Inc.	\$673	\$751
Industrials	S&P 600	NYSE:ORN	Orion Group Holdings, Inc.	\$521	\$219
Industrials	S&P 600	NasdaqGS:PATK	Patrick Industries, Inc.	\$2,263	\$1,312
Industrials	S&P 600	NYSE:PGTI	PGT Innovations, Inc.	\$698	\$1,260
Industrials	S&P 600	NasdaqGS:POWL	Powell Industries, Inc.	\$468	\$240
Industrials	S&P 600	NYSE:PRLB	Proto Labs, Inc.	\$446	\$2,933
Industrials	S&P 600	NYSE:NX	Quanex Building Products Corporation	\$895	\$635
Industrials	S&P 600	NYSE:RRD	R.R. Donnelley & Sons Company	\$6,800	\$2,223
Industrials	S&P 600	NasdaqGS:RAVN	Raven Industries, Inc.	\$407	\$1,232
Industrials	S&P 600	NasdaqGS:RECN	Resources Connection, Inc.	\$724	\$479
Industrials	S&P 600	NasdaqGS:SAIA	Saia, Inc.	\$1,654	\$1,543
Industrials	S&P 600	NYSE:SSD	Simpson Manufacturing Co., Inc.	\$1,079	\$2,322
Industrials	S&P 600	NasdaqGS:SKYW	SkyWest, Inc.	\$3,222	\$4,712
Industrials	S&P 600	NYSE:SPXC	SPX Corporation	\$1,539	\$1,617
Industrials	S&P 600	NYSE:FLOW	SPX FLOW, Inc.	\$2,090	\$1,921
Industrials	S&P 600	NYSE:SXI	Standex International Corporation	\$882	\$1,052
Industrials	S&P 600	NYSE:TISI	Team, Inc.	\$1,247	\$802
Industrials	S&P 600	NYSE:TNC	Tennant Company	\$1,124	\$1,241
Industrials	S&P 600	NasdaqGS:TTEK	Tetra Tech, Inc.	\$2,209	\$2,996
Industrials	S&P 600	NYSE:GBX	The Greenbrier Companies, Inc.	\$2,442	\$1,376
Industrials	S&P 600	NYSE:TWI	Titan International, Inc.	\$1,602	\$756
Industrials	S&P 600	NYSE:TREX	Trex Company, Inc.	\$684	\$3,380
Industrials	S&P 600	NYSE:TGI	Triumph Group, Inc.	\$3,393	\$2,168
Industrials	S&P 600	NYSE:TBI	TrueBlue, Inc.	\$2,499	\$948
Industrials	S&P 600	NYSE:UNF	UniFirst Corporation	\$1,719	\$2,468
Industrials	S&P 600	NasdaqGS:UFPI	Universal Forest Products, Inc.	\$4,489	\$1,792
Industrials	S&P 600	NasdaqGS:ECOL	US Ecology, Inc.	\$566	\$1,638
Industrials	S&P 600	NYSE:VRTV	Veritiv Corporation	\$8,696	\$1,355
Industrials	S&P 600	NYSE:VVI	Viad Corp	\$1,296	\$1,184
Industrials	S&P 600	NasdaqGS:VICR	Vicor Corporation	\$291	\$1,450
Industrials	S&P 600	NYSE:WNC	Wabash National Corporation	\$2,267	\$1,123
Industrials	S&P 600	NYSE:WAGE	WageWorks, Inc.	\$457	\$429
Industrials	S&P 600	NYSE:WTS	Watts Water Technologies, Inc.	\$1,565	\$2,422
Information Technology	S&P 500	NYSE:ACN	Accenture plc	\$40,295	\$85,921
Information Technology	S&P 500	NasdaqGS:ADBE	Adobe Inc.	\$9,030	\$111,331
Information Technology	S&P 500	NasdaqGS:AMD	Advanced Micro Devices, Inc.	\$6,475	\$18,696
Information Technology	S&P 500	NasdaqGS:AKAM	Akamai Technologies, Inc.	\$2,714	\$9,691
Information Technology	S&P 500	NYSE:ADS	Alliance Data Systems Corporation	\$3,096	\$29,202
Information Technology	S&P 500	NYSE:APH	Amphenol Corporation	\$8,202	\$26,697
Information Technology	S&P 500	NasdaqGS:ADI	Analog Devices, Inc.	\$6,175	\$37,287
Information Technology	S&P 500	NasdaqGS:ANSS	ANSYS, Inc.	\$1,294	\$11,215
Information Technology	S&P 500	NasdaqGS:AAPL	Apple Inc.	\$261,612	\$796,721
Information Technology	S&P 500	NasdaqGS:AMAT	Applied Materials, Inc.	\$16,801	\$32,664
Information Technology	S&P 500	NYSE:ANET	Arista Networks, Inc.	\$2,151	\$14,267
Information Technology	S&P 500	NasdaqGS:ADSK	Autodesk, Inc.	\$2,437	\$28,676
Information Technology	S&P 500	NasdaqGS:ADP	Automatic Data Processing, Inc.	\$13,331	\$58,233
Information Technology	S&P 500	NasdaqGS:AVGO	Broadcom Inc.	\$21,310	\$116,762
Information Technology	S&P 500	NYSE:BR	Broadridge Financial Solutions, Inc.	\$4,319	\$12,176
Information Technology	S&P 500	NasdaqGS:CDNS	Cadence Design Systems, Inc.	\$2,138	\$12,063
Information Technology	S&P 500	NasdaqGS:CSCO	Cisco Systems, Inc.	\$50,825	\$177,862
Information Technology	S&P 500	NasdaqGS:CTXS	Citrix Systems, Inc.	\$2,974	\$14,131
Information Technology	S&P 500	NasdaqGS:CTSH	Cognizant Technology Solutions Corporation	\$16,125	\$32,718
Information Technology	S&P 500	NYSE:GLW	Corning Incorporated	\$11,290	\$29,974
Information Technology	S&P 500	NYSE:DXC	DXC Technology Company	\$23,880	\$19,478
Information Technology	S&P 500	NasdaqGS:FFIV	F5 Networks, Inc.	\$2,182	\$8,784
Information Technology	S&P 500	NYSE:FIS	Fidelity National Information Services, Inc.	\$8,423	\$42,075

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Information Technology	S&P 500	NasdaqGS:FISV	Fiserv, Inc.	\$5,823	\$33,886
Information Technology	S&P 500	NYSE:FLT	FleetCor Technologies, Inc.	\$2,433	\$20,012
Information Technology	S&P 500	NasdaqGS:FLIR	FLIR Systems, Inc.	\$1,776	\$5,888
Information Technology	S&P 500	NasdaqGS:FTNT	Fortinet, Inc.	\$1,801	\$10,365
Information Technology	S&P 500	NYSE:IT	Gartner, Inc.	\$3,870	\$13,580
Information Technology	S&P 500	NYSE:GPN	Global Payments Inc.	\$3,366	\$21,011
Information Technology	S&P 500	NYSE:HPE	Hewlett Packard Enterprise Company	\$30,283	\$25,773
Information Technology	S&P 500	NYSE:HPQ	HP Inc.	\$58,665	\$31,917
Information Technology	S&P 500	NasdaqGS:INTC	Intel Corporation	\$70,848	\$228,877
Information Technology	S&P 500	NYSE:IBM	International Business Machines Corporation	\$77,991	\$136,019
Information Technology	S&P 500	NasdaqGS:INTU	Intuit Inc.	\$6,233	\$50,183
Information Technology	S&P 500	NasdaqGS:IPGP	IPG Photonics Corporation	\$1,460	\$4,975
Information Technology	S&P 500	NasdaqGS:JKHY	Jack Henry & Associates, Inc.	\$1,597	\$9,665
Information Technology	S&P 500	NYSE:JNPR	Juniper Networks, Inc.	\$4,648	\$8,037
Information Technology	S&P 500	NYSE:KEYS	Keysight Technologies, Inc.	\$4,047	\$12,531
Information Technology	S&P 500	NasdaqGS:KLAC	KLA-Tencor Corporation	\$4,304	\$13,156
Information Technology	S&P 500	NasdaqGS:LRCX	Lam Research Corporation	\$10,871	\$19,897
Information Technology	S&P 500	NYSE:MA	Mastercard Incorporated	\$14,950	\$192,794
Information Technology	S&P 500	NasdaqGS:MXIM	Maxim Integrated Products, Inc.	\$2,497	\$13,017
Information Technology	S&P 500	NasdaqGS:MCHP	Microchip Technology Incorporated	\$5,022	\$27,432
Information Technology	S&P 500	NasdaqGS:MU	Micron Technology, Inc.	\$31,501	\$35,109
Information Technology	S&P 500	NasdaqGS:MSFT	Microsoft Corporation	\$118,459	\$731,962
Information Technology	S&P 500	NYSE:MSI	Motorola Solutions, Inc.	\$7,343	\$23,421
Information Technology	S&P 500	NasdaqGS:NTAP	NetApp, Inc.	\$6,190	\$12,517
Information Technology	S&P 500	NasdaqGS:NVDA	NVIDIA Corporation	\$11,716	\$75,834
Information Technology	S&P 500	NYSE:ORCL	Oracle Corporation	\$39,893	\$171,425
Information Technology	S&P 500	NasdaqGS:PAYX	Paychex, Inc.	\$3,436	\$22,693
Information Technology	S&P 500	NasdaqGS:PYPL	PayPal Holdings, Inc.	\$15,451	\$91,501
Information Technology	S&P 500	NasdaqGS:QORVO	Qorvo, Inc.	\$3,075	\$7,763
Information Technology	S&P 500	NasdaqGS:QCOM	QUALCOMM Incorporated	\$21,539	\$73,266
Information Technology	S&P 500	NYSE:RHT	Red Hat, Inc.	\$3,255	\$29,635
Information Technology	S&P 500	NYSE:CRM	salesforce.com, inc.	\$13,282	\$105,723
Information Technology	S&P 500	NasdaqGS:STX	Seagate Technology plc	\$11,344	\$13,924
Information Technology	S&P 500	NasdaqGS:SWKS	Skyworks Solutions, Inc.	\$3,788	\$10,871
Information Technology	S&P 500	NasdaqGS:SYMC	Symantec Corporation	\$4,752	\$14,675
Information Technology	S&P 500	NasdaqGS:SNPS	Synopsys, Inc.	\$3,172	\$12,347
Information Technology	S&P 500	NYSE:TEL	TE Connectivity Ltd.	\$13,999	\$29,196
Information Technology	S&P 500	NasdaqGS:TXN	Texas Instruments Incorporated	\$15,784	\$90,725
Information Technology	S&P 500	NYSE:WU	The Western Union Company	\$5,590	\$10,080
Information Technology	S&P 500	NYSE:TSS	Total System Services, Inc.	\$4,028	\$18,242
Information Technology	S&P 500	NasdaqGS:VRSN	VeriSign, Inc.	\$1,215	\$18,532
Information Technology	S&P 500	NYSE:V	Visa Inc.	\$25,800	\$301,214
Information Technology	S&P 500	NasdaqGS:WDC	Western Digital Corporation	\$19,391	\$17,173
Information Technology	S&P 500	NYSE:XRX	Xerox Corporation	\$9,562	\$9,030
Information Technology	S&P 500	NasdaqGS:XLNX	Xilinx, Inc.	\$2,941	\$20,015
Information Technology	S&P 400	NasdaqGS:ACIW	ACI Worldwide, Inc.	\$1,010	\$3,821
Information Technology	S&P 400	NasdaqGS:ARRS	ARRIS International Limited	\$6,743	\$6,937
Information Technology	S&P 400	NYSE:ARW	Arrow Electronics, Inc.	\$29,677	\$9,097
Information Technology	S&P 400	NasdaqGS:AVT	Avnet, Inc.	\$19,993	\$5,215
Information Technology	S&P 400	NYSE:BDC	Belden Inc.	\$2,585	\$2,859
Information Technology	S&P 400	NasdaqGS:BLKB	Blackbaud, Inc.	\$849	\$3,376
Information Technology	S&P 400	NYSE:CACI	CACI International Inc	\$4,642	\$4,599
Information Technology	S&P 400	NasdaqGS:CDK	CDK Global, Inc.	\$2,291	\$8,559
Information Technology	S&P 400	NYSE:CIEN	Ciena Corporation	\$3,227	\$5,177
Information Technology	S&P 400	NasdaqGS:CRUS	Cirrus Logic, Inc.	\$1,248	\$1,741
Information Technology	S&P 400	NasdaqGS:CGNX	Cognex Corporation	\$806	\$6,131
Information Technology	S&P 400	NasdaqGS:COHR	Coherent, Inc.	\$1,808	\$2,692
Information Technology	S&P 400	NasdaqGS:CVLT	Commvault Systems, Inc.	\$714	\$2,251
Information Technology	S&P 400	NYSE:CLGX	CoreLogic, Inc.	\$1,788	\$4,359
Information Technology	S&P 400	NasdaqGS:CREE	Cree, Inc.	\$1,614	\$4,106
Information Technology	S&P 400	NasdaqGS:CY	Cypress Semiconductor Corporation	\$2,484	\$5,278

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Information Technology	S&P 400	NYSE:FICO	Fair Isaac Corporation	\$1,062	\$6,089
Information Technology	S&P 400	NasdaqGS:FSLR	First Solar, Inc.	\$2,244	\$2,192
Information Technology	S&P 400	NasdaqGS:IDTI	Integrated Device Technology, Inc.	\$929	\$6,356
Information Technology	S&P 400	NasdaqGS:IDCC	InterDigital, Inc.	\$307	\$1,518
Information Technology	S&P 400	NasdaqGS:JCOM	j2 Global, Inc.	\$1,207	\$4,127
Information Technology	S&P 400	NYSE:JBL	Jabil Inc.	\$23,016	\$5,639
Information Technology	S&P 400	NYSE:LDOS	Leidos Holdings, Inc.	\$10,194	\$10,438
Information Technology	S&P 400	NasdaqGS:LFUS	Littelfuse, Inc.	\$1,718	\$4,516
Information Technology	S&P 400	NYSE:RAMP	LiveRamp Holdings, Inc.	\$965	\$2,767
Information Technology	S&P 400	NasdaqGS:LOGM	LogMeIn, Inc.	\$1,204	\$4,206
Information Technology	S&P 400	NasdaqGS:LITE	Lumentum Holdings Inc.	\$1,328	\$2,822
Information Technology	S&P 400	NasdaqGS:MANH	Manhattan Associates, Inc.	\$559	\$2,676
Information Technology	S&P 400	NYSE:MMS	MAXIMUS, Inc.	\$2,434	\$3,807
Information Technology	S&P 400	NasdaqGS:MKSI	MKS Instruments, Inc.	\$2,075	\$3,218
Information Technology	S&P 400	NasdaqGS:MPWR	Monolithic Power Systems, Inc.	\$582	\$4,583
Information Technology	S&P 400	NasdaqGS:NATI	National Instruments Corporation	\$1,359	\$5,527
Information Technology	S&P 400	NYSE:NCR	NCR Corporation	\$6,405	\$6,385
Information Technology	S&P 400	NasdaqGS:NTCT	NetScout Systems, Inc.	\$910	\$1,984
Information Technology	S&P 400	NYSE:PRSP	Perspecta Inc.	\$3,651	\$5,494
Information Technology	S&P 400	NYSE:PLT	Plantronics, Inc.	\$1,422	\$2,748
Information Technology	S&P 400	NasdaqGS:PTC	PTC Inc.	\$1,270	\$10,196
Information Technology	S&P 400	NasdaqGS:SABR	Sabre Corporation	\$3,867	\$8,936
Information Technology	S&P 400	NYSE:SAIC	Science Applications International Corporation	\$4,659	\$3,554
Information Technology	S&P 400	NasdaqGS:SLAB	Silicon Laboratories Inc.	\$868	\$3,150
Information Technology	S&P 400	NasdaqGS:SYNA	Synaptics Incorporated	\$1,626	\$1,480
Information Technology	S&P 400	NYSE:SNX	SYNNEX Corporation	\$20,054	\$5,751
Information Technology	S&P 400	NasdaqGS:TECD	Tech Data Corporation	\$37,239	\$3,818
Information Technology	S&P 400	NYSE:TDC	Teradata Corporation	\$2,164	\$4,263
Information Technology	S&P 400	NasdaqGS:TER	Teradyne, Inc.	\$2,101	\$4,769
Information Technology	S&P 400	NasdaqGS:ULTI	The Ultimate Software Group, Inc.	\$1,141	\$7,532
Information Technology	S&P 400	NasdaqGS:TRMB	Trimble Inc.	\$3,108	\$10,073
Information Technology	S&P 400	NYSE:TYL	Tyler Technologies, Inc.	\$935	\$6,942
Information Technology	S&P 400	NasdaqGS:OLED	Universal Display Corporation	\$247	\$3,914
Information Technology	S&P 400	NYSE:VSM	Versum Materials, Inc.	\$1,381	\$3,639
Information Technology	S&P 400	NasdaqGS:VSAT	Viasat, Inc.	\$1,951	\$4,681
Information Technology	S&P 400	NYSE:VSH	Vishay Intertechnology, Inc.	\$3,035	\$2,125
Information Technology	S&P 400	NYSE:WEX	WEX Inc.	\$1,241	\$7,893
Information Technology	S&P 400	NasdaqGS:ZBRA	Zebra Technologies Corporation	\$4,218	\$10,425
Information Technology	S&P 600	NYSE:DDD	3D Systems Corporation	\$688	\$1,083
Information Technology	S&P 600	NYSE:EGHT	8x8, Inc.	\$338	\$1,592
Information Technology	S&P 600	NasdaqGS:ADTN	ADTRAN, Inc.	\$529	\$437
Information Technology	S&P 600	NasdaqGS:AEIS	Advanced Energy Industries, Inc.	\$719	\$1,311
Information Technology	S&P 600	NasdaqGS:AGYS	Agilysys, Inc.	\$136	\$305
Information Technology	S&P 600	NasdaqGS:ALRM	Alarm.com Holdings, Inc.	\$420	\$2,434
Information Technology	S&P 600	NYSE:AXE	Anixter International Inc.	\$8,400	\$3,012
Information Technology	S&P 600	NasdaqGM:AAOI	Applied Optoelectronics, Inc.	\$267	\$314
Information Technology	S&P 600	NYSE:ARLO	Aro Technologies, Inc.	\$465	\$575
Information Technology	S&P 600	NasdaqGS:ACLS	Axcelis Technologies, Inc.	\$443	\$476
Information Technology	S&P 600	NYSE:BMI	Badger Meter, Inc.	\$434	\$1,458
Information Technology	S&P 600	NasdaqGS:BELF.B	Bel Fuse Inc.	\$548	\$276
Information Technology	S&P 600	NYSE:BHE	Benchmark Electronics, Inc.	\$2,566	\$604
Information Technology	S&P 600	NasdaqGS:EPAY	Bottomline Technologies (de), Inc.	\$408	\$2,091
Information Technology	S&P 600	NasdaqGS:BRKS	Brooks Automation, Inc.	\$668	\$1,778
Information Technology	S&P 600	NasdaqGS:CCMP	Cabot Microelectronics Corporation	\$672	\$2,385
Information Technology	S&P 600	NasdaqGS:CAMP	CalAmp Corp.	\$374	\$375
Information Technology	S&P 600	NasdaqGS:CATM	Cardtronics plc	\$1,345	\$1,988
Information Technology	S&P 600	NasdaqGS:CEVA	CEVA, Inc.	\$78	\$364
Information Technology	S&P 600	NasdaqGS:COHU	Cohu, Inc.	\$452	\$491
Information Technology	S&P 600	NasdaqGS:CMTL	Comtech Telecommunications Corp.	\$640	\$734
Information Technology	S&P 600	NasdaqGS:CTRL	Control4 Corporation	\$272	\$380
Information Technology	S&P 600	NasdaqGS:CRAY	Cray Inc.	\$456	\$714

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Information Technology	S&P 600	NasdaqGS:CSGS	CSG Systems International, Inc.	\$875	\$1,220
Information Technology	S&P 600	NYSE:CTS	CTS Corporation	\$470	\$802
Information Technology	S&P 600	NasdaqGS:DAKT	Daktronics, Inc.	\$580	\$265
Information Technology	S&P 600	NYSE:DBD	Diebold Nixdorf, Incorporated	\$4,579	\$2,454
Information Technology	S&P 600	NasdaqGS:DGII	Digi International Inc.	\$246	\$214
Information Technology	S&P 600	NasdaqGS:DIOD	Diodes Incorporated	\$1,214	\$1,684
Information Technology	S&P 600	NasdaqGS:DSPG	DSP Group, Inc.	\$117	\$203
Information Technology	S&P 600	NasdaqGS:EBIX	Ebix, Inc.	\$498	\$1,873
Information Technology	S&P 600	NasdaqGS:ESIO	Electro Scientific Industries, Inc.	\$378	\$863
Information Technology	S&P 600	NasdaqGS:EFII	Electronics for Imaging, Inc.	\$1,015	\$1,126
Information Technology	S&P 600	NasdaqGS:PLUS	ePlus inc.	\$1,333	\$1,086
Information Technology	S&P 600	NYSE:EVTC	EVERTEC, Inc.	\$454	\$2,504
Information Technology	S&P 600	NasdaqGS:EXLS	ExlService Holdings, Inc.	\$883	\$1,861
Information Technology	S&P 600	NasdaqGS:EXTR	Extreme Networks, Inc.	\$1,033	\$766
Information Technology	S&P 600	NYSE:FN	Fabrinet	\$1,458	\$1,602
Information Technology	S&P 600	NasdaqGS:FARO	FARO Technologies, Inc.	\$404	\$566
Information Technology	S&P 600	NasdaqGS:FNSR	Finisar Corporation	\$1,280	\$2,123
Information Technology	S&P 600	NasdaqGS:FORM	FormFactor, Inc.	\$530	\$974
Information Technology	S&P 600	NasdaqGS:HLIT	Harmonic Inc.	\$404	\$482
Information Technology	S&P 600	NasdaqGS:ICHR	Ichor Holdings, Ltd.	\$824	\$530
Information Technology	S&P 600	NasdaqGS:IIVI	I-IVI Incorporated	\$1,273	\$2,346
Information Technology	S&P 600	NasdaqGS:NSIT	Insight Enterprises, Inc.	\$7,080	\$1,841
Information Technology	S&P 600	NasdaqGS:ITRI	Itron, Inc.	\$2,376	\$2,802
Information Technology	S&P 600	NYSE:KEM	KEMET Corporation	\$1,345	\$1,061
Information Technology	S&P 600	NYSE:KN	Knowles Corporation	\$827	\$1,320
Information Technology	S&P 600	NasdaqGS:KOPN	Kopin Corporation	\$24	\$26
Information Technology	S&P 600	NasdaqGS:KLIC	Kulicke and Soffa Industries, Inc.	\$833	\$763
Information Technology	S&P 600	NasdaqGS:LPSN	LivePerson, Inc.	\$250	\$1,130
Information Technology	S&P 600	NasdaqGS:MANT	ManTech International Corporation	\$1,959	\$2,063
Information Technology	S&P 600	NYSE:MXL	MaxLinear, Inc.	\$385	\$1,417
Information Technology	S&P 600	NYSE:MEI	Methode Electronics, Inc.	\$983	\$1,108
Information Technology	S&P 600	NasdaqGS:MSTR	MicroStrategy Incorporated	\$498	\$766
Information Technology	S&P 600	NasdaqGS:TYPE	Monotype Imaging Holdings Inc.	\$247	\$623
Information Technology	S&P 600	NasdaqGS:MTSC	MTS Systems Corporation	\$787	\$1,026
Information Technology	S&P 600	NasdaqGS:NANO	Nanometrics Incorporated	\$325	\$489
Information Technology	S&P 600	NasdaqGS:NTGR	NETGEAR, Inc.	\$1,059	\$1,137
Information Technology	S&P 600	NasdaqGS:EGOV	NIC Inc.	\$345	\$650
Information Technology	S&P 600	NasdaqCM:OSPN	OneSpan Inc.	\$212	\$425
Information Technology	S&P 600	NasdaqGS:OSIS	OSI Systems, Inc.	\$1,124	\$1,663
Information Technology	S&P 600	NYSE:PKE	Park Electrochemical Corp.	\$115	\$258
Information Technology	S&P 600	NasdaqGS:PDFS	PDF Solutions, Inc.	\$86	\$175
Information Technology	S&P 600	NasdaqGS:PRFT	Perficient, Inc.	\$498	\$813
Information Technology	S&P 600	NasdaqGS:PLAB	Photronics, Inc.	\$537	\$522
Information Technology	S&P 600	NasdaqGS:PLXS	Plexus Corp.	\$2,962	\$1,486
Information Technology	S&P 600	NasdaqGS:POWI	Power Integrations, Inc.	\$416	\$1,540
Information Technology	S&P 600	NasdaqGS:PRGS	Progress Software Corporation	\$397	\$1,573
Information Technology	S&P 600	NasdaqGS:QLYS	Qualys, Inc.	\$279	\$2,617
Information Technology	S&P 600	NasdaqGS:RMBS	Rambus Inc.	\$231	\$761
Information Technology	S&P 600	NYSE:ROG	Rogers Corporation	\$879	\$1,909
Information Technology	S&P 600	NYSE:RTEC	Rudolph Technologies, Inc.	\$274	\$459
Information Technology	S&P 600	NasdaqGS:SANM	Sanmina Corporation	\$7,553	\$1,831
Information Technology	S&P 600	NasdaqGS:SCSC	ScanSource, Inc.	\$3,908	\$1,143
Information Technology	S&P 600	NasdaqGS:SMTC	Semtech Corporation	\$627	\$2,919
Information Technology	S&P 600	NasdaqGS:SGH	SMART Global Holdings, Inc.	\$1,417	\$857
Information Technology	S&P 600	NasdaqGS:SEDG	SolarEdge Technologies, Inc.	\$937	\$1,257
Information Technology	S&P 600	NasdaqGS:SPSC	SPS Commerce, Inc.	\$248	\$1,266
Information Technology	S&P 600	NasdaqGS:SYKE	Sykes Enterprises, Incorporated	\$1,626	\$980
Information Technology	S&P 600	NasdaqGS:TIVO	TiVo Corporation	\$696	\$1,844
Information Technology	S&P 600	NYSE:TVPT	Travelport Worldwide Limited	\$2,551	\$4,119
Information Technology	S&P 600	NasdaqGS:TTEC	TTEC Holdings, Inc.	\$1,509	\$1,507
Information Technology	S&P 600	NasdaqGS:TTMI	TTM Technologies, Inc.	\$2,847	\$2,358
Information Technology	S&P 600	NasdaqGS:UCTT	Ultra Clean Holdings, Inc.	\$1,097	\$556

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Information Technology	S&P 600	NYSE:UIS	Unisys Corporation	\$2,825	\$760
Information Technology	S&P 600	NasdaqGS:VECO	Veeco Instruments Inc.	\$542	\$373
Information Technology	S&P 600	NasdaqGS:VIAV	Viavi Solutions Inc.	\$1,060	\$2,376
Information Technology	S&P 600	NasdaqGS:VRTU	Virtusa Corporation	\$1,202	\$1,501
Information Technology	S&P 600	NasdaqGS:XPER	Xperi Corporation	\$406	\$1,267
Materials	S&P 500	NYSE:APD	Air Products and Chemicals, Inc.	\$8,938	\$36,280
Materials	S&P 500	NYSE:ALB	Albemarle Corporation	\$3,375	\$9,399
Materials	S&P 500	NYSE:AVY	Avery Dennison Corporation	\$7,159	\$9,413
Materials	S&P 500	NYSE:BLL	Ball Corporation	\$11,635	\$21,776
Materials	S&P 500	NYSE:CE	Celanese Corporation	\$7,155	\$15,154
Materials	S&P 500	NYSE:CF	CF Industries Holdings, Inc.	\$4,429	\$16,444
Materials	S&P 500	NYSE:DD	DuPont de Nemours, Inc.	\$85,977	\$152,344
Materials	S&P 500	NYSE:EMN	Eastman Chemical Company	\$10,151	\$16,746
Materials	S&P 500	NYSE:ECL	Ecolab Inc.	\$14,668	\$49,520
Materials	S&P 500	NYSE:FMC	FMC Corporation	\$4,728	\$12,557
Materials	S&P 500	NYSE:FCX	Freeport-McMoRan Inc.	\$18,628	\$24,872
Materials	S&P 500	NYSE:IFF	International Flavors & Fragrances Inc.	\$3,978	\$13,425
Materials	S&P 500	NYSE:IP	International Paper Company	\$23,306	\$26,594
Materials	S&P 500	NYSE:LIN	Linde plc	\$14,900	\$95,324
Materials	S&P 500	NYSE:LYB	LyondellBasell Industries N.V.	\$39,004	\$39,271
Materials	S&P 500	NYSE:MLM	Martin Marietta Materials, Inc.	\$3,980	\$13,937
Materials	S&P 500	NYSE:NEM	Newmont Goldcorp Corporation	\$7,253	\$20,547
Materials	S&P 500	NYSE:NUE	Nucor Corporation	\$25,067	\$19,001
Materials	S&P 500	NYSE:PKG	Packaging Corporation of America	\$7,015	\$10,033
Materials	S&P 500	NYSE:PPG	PPG Industries, Inc.	\$15,374	\$28,504
Materials	S&P 500	NYSE:SEE	Sealed Air Corporation	\$4,733	\$8,832
Materials	S&P 500	NYSE:MOS	The Mosaic Company	\$9,587	\$15,051
Materials	S&P 500	NYSE:SHW	The Sherwin-Williams Company	\$17,534	\$46,137
Materials	S&P 500	NYSE:VMC	Vulcan Materials Company	\$4,383	\$15,986
Materials	S&P 500	NYSE:WRK	WestRock Company	\$16,719	\$15,451
Materials	S&P 400	NYSE:ATI	Allegheny Technologies Incorporated	\$4,047	\$4,238
Materials	S&P 400	NYSE:ATR	AptarGroup, Inc.	\$2,765	\$6,967
Materials	S&P 400	NYSE:ASH	Ashland Global Holdings Inc.	\$3,738	\$6,669
Materials	S&P 400	NYSE:BMS	Bemis Company, Inc.	\$4,090	\$5,569
Materials	S&P 400	NYSE:CBT	Cabot Corporation	\$3,343	\$3,557
Materials	S&P 400	NYSE:CRS	Carpenter Technology Corporation	\$2,319	\$2,219
Materials	S&P 400	NYSE:CMC	Commercial Metals Company	\$4,845	\$2,421
Materials	S&P 400	NYSE:CMP	Compass Minerals International, Inc.	\$1,494	\$2,715
Materials	S&P 400	NYSE:UFS	Domtar Corporation	\$5,455	\$3,058
Materials	S&P 400	NYSE:EXP	Eagle Materials Inc.	\$1,393	\$3,478
Materials	S&P 400	NYSE:GEF	Greif, Inc.	\$3,865	\$2,890
Materials	S&P 400	NYSE:LPX	Louisiana-Pacific Corporation	\$2,828	\$2,504
Materials	S&P 400	NYSE:MTX	Minerals Technologies Inc.	\$1,808	\$2,689
Materials	S&P 400	NYSE:NEU	NewMarket Corporation	\$2,290	\$5,370
Materials	S&P 400	NYSE:OLN	Olin Corporation	\$6,946	\$6,576
Materials	S&P 400	NYSE:OI	Owens-Illinois, Inc.	\$6,877	\$8,065
Materials	S&P 400	NYSE:POL	PolyOne Corporation	\$3,533	\$3,440
Materials	S&P 400	NYSE:RS	Reliance Steel & Aluminum Co.	\$11,535	\$7,006
Materials	S&P 400	NasdaqGS:RGLD	Royal Gold, Inc.	\$426	\$5,885
Materials	S&P 400	NYSE:RPM	RPM International Inc.	\$5,483	\$9,773
Materials	S&P 400	NYSE:SXT	Sensient Technologies Corporation	\$1,387	\$3,090
Materials	S&P 400	NasdaqGS:SLGN	Silgan Holdings Inc.	\$4,449	\$5,361
Materials	S&P 400	NYSE:SON	Sonoco Products Company	\$5,391	\$6,461
Materials	S&P 400	NasdaqGS:STLD	Steel Dynamics, Inc.	\$11,822	\$8,215
Materials	S&P 400	NYSE:CC	The Chemours Company	\$6,638	\$7,558
Materials	S&P 400	NYSE:SMG	The Scotts Miracle-Gro Company	\$2,740	\$5,386
Materials	S&P 400	NYSE:X	United States Steel Corporation	\$14,178	\$4,392
Materials	S&P 400	NYSE:VVV	Valvoline Inc.	\$2,297	\$4,867
Materials	S&P 400	NYSE:WOR	Worthington Industries, Inc.	\$3,808	\$2,759

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Materials	S&P 600	NYSE:ASIX	AdvanSix Inc.	\$1,515	\$905
Materials	S&P 600	NYSE:AKS	AK Steel Holding Corporation	\$6,818	\$3,038
Materials	S&P 600	NYSE:AVD	American Vanguard Corporation	\$454	\$549
Materials	S&P 600	NasdaqGS:BCPC	Balchem Corporation	\$644	\$2,662
Materials	S&P 600	NYSE:BCC	Boise Cascade Company	\$4,995	\$1,208
Materials	S&P 600	NasdaqGS:CENX	Century Aluminum Company	\$1,893	\$838
Materials	S&P 600	NYSE:CLW	Clearwater Paper Corporation	\$1,724	\$1,121
Materials	S&P 600	NYSE:FF	FutureFuel Corp.	\$291	\$391
Materials	S&P 600	NYSE:FUL	H.B. Fuller Company	\$3,041	\$4,400
Materials	S&P 600	NasdaqGS:HWKN	Hawkins, Inc.	\$550	\$521
Materials	S&P 600	NasdaqGS:HAYN	Haynes International, Inc.	\$453	\$328
Materials	S&P 600	NYSE:NGVT	Ingevity Corporation	\$1,134	\$4,203
Materials	S&P 600	NasdaqGS:IPHS	Innophos Holdings, Inc.	\$802	\$803
Materials	S&P 600	NasdaqGS:IOSP	Innospec Inc.	\$1,477	\$1,646
Materials	S&P 600	NasdaqGS:KALU	Kaiser Aluminum Corporation	\$1,586	\$1,665
Materials	S&P 600	NYSE:KOP	Koppers Holdings Inc.	\$1,710	\$1,342
Materials	S&P 600	NYSE:KRA	Kraton Corporation	\$2,012	\$2,255
Materials	S&P 600	NYSE:LXU	LSB Industries, Inc.	\$378	\$729
Materials	S&P 600	NYSE:MTRN	Materion Corporation	\$1,208	\$876
Materials	S&P 600	NasdaqGS:MERC	Mercer International Inc.	\$1,458	\$1,171
Materials	S&P 600	NYSE:MYE	Myers Industries, Inc.	\$567	\$564
Materials	S&P 600	NYSE:NP	Neenah, Inc.	\$1,035	\$1,236
Materials	S&P 600	NasdaqGS:ZEUS	Olympic Steel, Inc.	\$1,715	\$457
Materials	S&P 600	NYSE:GLT	P. H. Glatfelter Company	\$866	\$840
Materials	S&P 600	NYSE:KWR	Quaker Chemical Corporation	\$868	\$2,324
Materials	S&P 600	NYSE:RYAM	Rayonier Advanced Materials Inc.	\$2,134	\$1,641
Materials	S&P 600	NYSE:SWM	Schweitzer-Mauduit International, Inc.	\$1,041	\$1,321
Materials	S&P 600	NYSE:SCL	Stepan Company	\$1,994	\$1,679
Materials	S&P 600	NYSE:SXC	SunCoke Energy, Inc.	\$1,451	\$1,447
Materials	S&P 600	NYSE:TMST	TimkenSteel Corporation	\$1,611	\$581
Materials	S&P 600	NYSE:TG	Tredegar Corporation	\$1,065	\$576
Materials	S&P 600	NasdaqCM:USCR	U.S. Concrete, Inc.	\$1,506	\$1,320
Real Estate	S&P 500	NYSE:ARE	Alexandria Real Estate Equities, Inc.	\$1,315	\$18,481
Real Estate	S&P 500	NYSE:AMT	American Tower Corporation (REIT)	\$7,315	\$91,451
Real Estate	S&P 500	NYSE:AIV	Apartment Investment and Management Company	\$965	\$10,713
Real Estate	S&P 500	NYSE:AVB	AvalonBay Communities, Inc.	\$2,285	\$31,476
Real Estate	S&P 500	NYSE:BPX	Boston Properties, Inc.	\$2,658	\$30,479
Real Estate	S&P 500	NYSE:CBRE	CBRE Group, Inc.	\$21,340	\$16,291
Real Estate	S&P 500	NYSE:CCI	Crown Castle International Corp. (REIT)	\$4,716	\$61,166
Real Estate	S&P 500	NYSE:DLR	Digital Realty Trust, Inc.	\$3,046	\$33,087
Real Estate	S&P 500	NYSE:DRE	Duke Realty Corporation	\$785	\$11,834
Real Estate	S&P 500	NasdaqGS:EQIX	Equinix, Inc. (REIT)	\$0	\$38,827
Real Estate	S&P 500	NYSE:EQR	Equity Residential	\$2,578	\$33,737
Real Estate	S&P 500	NYSE:ESS	Essex Property Trust, Inc.	\$1,400	\$21,823
Real Estate	S&P 500	NYSE:EXR	Extra Space Storage Inc.	\$1,081	\$16,462
Real Estate	S&P 500	NYSE:FRT	Federal Realty Investment Trust	\$896	\$12,357
Real Estate	S&P 500	NYSE:HCP	HCP, Inc.	\$1,237	\$20,689
Real Estate	S&P 500	NYSE:HST	Host Hotels & Resorts, Inc.	\$3,547	\$15,423
Real Estate	S&P 500	NYSE:IRM	Iron Mountain Incorporated	\$2,622	\$17,406
Real Estate	S&P 500	NYSE:KIM	Kimco Realty Corporation	\$1,165	\$11,012
Real Estate	S&P 500	NYSE:MAC	Macerich Company	\$900	\$11,519
Real Estate	S&P 500	NYSE:MAA	Mid-America Apartment Communities, Inc.	\$1,571	\$15,566
Real Estate	S&P 500	NYSE:PLD	Prologis, Inc.	\$2,398	\$52,516
Real Estate	S&P 500	NYSE:PSA	Public Storage	\$2,598	\$40,328
Real Estate	S&P 500	NYSE:O	Realty Income Corporation	\$1,322	\$25,418
Real Estate	S&P 500	NasdaqGS:REG	Regency Centers Corporation	\$1,121	\$13,633
Real Estate	S&P 500	NasdaqGS:SBAC	SBA Communications Corporation	\$1,740	\$27,944
Real Estate	S&P 500	NYSE:SPG	Simon Property Group, Inc.	\$5,287	\$75,699
Real Estate	S&P 500	NYSE:SLG	SL Green Realty Corp.	\$979	\$13,183
Real Estate	S&P 500	NYSE:UDR	UDR, Inc.	\$1,047	\$15,772
Real Estate	S&P 500	NYSE:VTR	Ventas, Inc.	\$1,514	\$31,481

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Real Estate	S&P 500	NYSE:VNO	Vornado Realty Trust	\$2,007	\$23,309
Real Estate	S&P 500	NYSE:WELL	Welltower Inc.	\$1,380	\$41,467
Real Estate	S&P 500	NYSE:WY	Weyerhaeuser Company	\$0	\$22,462
Real Estate	S&P 400	NYSE:ALEX	Alexander & Baldwin, Inc.	\$140	\$2,109
Real Estate	S&P 400	NYSE:ACC	American Campus Communities, Inc.	\$870	\$8,844
Real Estate	S&P 400	NYSE:CPT	Camden Property Trust	\$849	\$10,713
Real Estate	S&P 400	NYSE:CXW	CoreCivic, Inc.	\$1,836	\$3,787
Real Estate	S&P 400	NYSE:COR	CoreSite Realty Corporation	\$463	\$4,574
Real Estate	S&P 400	NYSE:OFC	Corporate Office Properties Trust	\$517	\$4,145
Real Estate	S&P 400	NYSE:CUZ	Cousins Properties Incorporated	\$472	\$4,364
Real Estate	S&P 400	NasdaqGS:CONE	CyrusOne Inc.	\$821	\$8,251
Real Estate	S&P 400	NYSE:DEI	Douglas Emmett, Inc.	\$757	\$11,092
Real Estate	S&P 400	NYSE:EPR	EPR Properties	\$556	\$7,647
Real Estate	S&P 400	NYSE:FR	First Industrial Realty Trust, Inc.	\$404	\$4,912
Real Estate	S&P 400	NYSE:HR	Healthcare Realty Trust Incorporated	\$442	\$4,895
Real Estate	S&P 400	NYSE:HIW	Highwoods Properties, Inc.	\$720	\$6,260
Real Estate	S&P 400	NasdaqGS:HPT	Hospitality Properties Trust	\$334	\$8,043
Real Estate	S&P 400	NYSE:JBGS	JBG SMITH Properties	\$539	\$6,604
Real Estate	S&P 400	NYSE:JLL	Jones Lang LaSalle Incorporated	\$9,090	\$7,079
Real Estate	S&P 400	NYSE:KRC	Kilroy Realty Corporation	\$738	\$9,389
Real Estate	S&P 400	NasdaqGS:LAMR	Lamar Advertising Company (REIT)	\$1,627	\$9,419
Real Estate	S&P 400	NYSE:LPT	Liberty Property Trust	\$632	\$9,335
Real Estate	S&P 400	NYSE:LSI	Life Storage, Inc.	\$502	\$6,075
Real Estate	S&P 400	NYSE:CLI	Mack-Cali Realty Corporation	\$480	\$5,082
Real Estate	S&P 400	NYSE:MPW	Medical Properties Trust, Inc.	\$548	\$9,304
Real Estate	S&P 400	NYSE:NNN	National Retail Properties, Inc.	\$620	\$10,893
Real Estate	S&P 400	NYSE:OHI	Omega Healthcare Investors, Inc.	\$767	\$11,957
Real Estate	S&P 400	NYSE:PEB	Pebblebrook Hotel Trust	\$565	\$5,014
Real Estate	S&P 400	NasdaqGS:PCH	PotlatchDeltic Corporation	\$0	\$2,782
Real Estate	S&P 400	NYSE:RYN	Rayonier Inc.	\$0	\$4,503
Real Estate	S&P 400	NYSE:RLGY	Realogy Holdings Corp.	\$5,873	\$5,312
Real Estate	S&P 400	NasdaqGS:SBRA	Sabra Health Care REIT, Inc.	\$537	\$6,237
Real Estate	S&P 400	NasdaqGS:SNH	Senior Housing Properties Trust	\$701	\$6,603
Real Estate	S&P 400	NYSE:SKT	Tanger Factory Outlet Centers, Inc.	\$486	\$3,644
Real Estate	S&P 400	NYSE:TCO	Taubman Centers, Inc.	\$579	\$6,333
Real Estate	S&P 400	NYSE:GEO	The GEO Group, Inc.	\$0	\$5,070
Real Estate	S&P 400	NasdaqGS:UNIT	Uniti Group Inc.	\$700	\$7,587
Real Estate	S&P 400	NYSE:UE	Urban Edge Properties	\$413	\$3,106
Real Estate	S&P 400	NYSE:WRI	Weingarten Realty Investors	\$517	\$5,130
Real Estate	S&P 600	NYSE:AKR	Acadia Realty Trust	\$257	\$4,104
Real Estate	S&P 600	NYSE:ADC	Agree Realty Corporation	\$148	\$2,625
Real Estate	S&P 600	NYSE:AAT	American Assets Trust, Inc.	\$305	\$3,105
Real Estate	S&P 600	NYSE:AHH	Armada Hoffer Properties, Inc.	\$117	\$1,571
Real Estate	S&P 600	NasdaqGS:CTRE	CareTrust REIT, Inc.	\$152	\$2,017
Real Estate	S&P 600	NYSE:CBL	CBL & Associates Properties, Inc.	\$840	\$4,512
Real Estate	S&P 600	NYSE:CDR	Cedar Realty Trust, Inc.	\$147	\$1,047
Real Estate	S&P 600	NYSE:CLDT	Chatham Lodging Trust	\$296	\$1,354
Real Estate	S&P 600	NYSE:CHSP	Chesapeake Lodging Trust	\$455	\$2,118
Real Estate	S&P 600	NYSE:CHCT	Community Healthcare Trust Incorporated	\$47	\$638
Real Estate	S&P 600	NYSE:DRH	DiamondRock Hospitality Company	\$631	\$2,650
Real Estate	S&P 600	NYSE:DEA	Easterly Government Properties, Inc.	\$159	\$1,735
Real Estate	S&P 600	NYSE:EGP	EastGroup Properties, Inc.	\$299	\$4,382
Real Estate	S&P 600	NYSE:FCPT	Four Corners Property Trust, Inc.	\$124	\$2,260
Real Estate	S&P 600	AMEX:FSP	Franklin Street Properties Corp.	\$269	\$1,615
Real Estate	S&P 600	NYSE:GTY	Getty Realty Corp.	\$133	\$1,595
Real Estate	S&P 600	NYSE:GNL	Global Net Lease, Inc.	\$282	\$2,896
Real Estate	S&P 600	NYSE:HT	Hersha Hospitality Trust	\$398	\$1,819
Real Estate	S&P 600	NYSE:HF	HFF, Inc.	\$631	\$0
Real Estate	S&P 600	NYSE:IRT	Independence Realty Trust, Inc.	\$178	\$1,764
Real Estate	S&P 600	NYSE:STAR	iStar Inc.	\$208	\$3,701

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Industry	Index	Ticker	Company Name	December 18	
				2018 Revenue	Enterprise Value
Real Estate	S&P 600	NYSE:KRG	Kite Realty Group Trust	\$339	\$2,769
Real Estate	S&P 600	NYSE:LXP	Lexington Realty Trust	\$395	\$3,578
Real Estate	S&P 600	NYSE:LTC	LTC Properties, Inc.	\$135	\$2,311
Real Estate	S&P 600	NYSE:MMI	Marcus & Millichap, Inc.	\$747	\$1,033
Real Estate	S&P 600	NYSE:NSA	National Storage Affiliates Trust	\$321	\$3,338
Real Estate	S&P 600	NasdaqGS:OPI	Office Properties Income Trust	\$427	\$2,810
Real Estate	S&P 600	NYSE:PEI	Pennsylvania Real Estate Investment Trust	\$337	\$2,155
Real Estate	S&P 600	NYSE:PSB	PS Business Parks, Inc.	\$414	\$4,750
Real Estate	S&P 600	NYSE:RMAX	RE/MAX Holdings, Inc.	\$213	\$319
Real Estate	S&P 600	NasdaqGS:ROIC	Retail Opportunity Investments Corp.	\$290	\$3,384
Real Estate	S&P 600	NYSE:RPT	RPT Realty	\$257	\$2,095
Real Estate	S&P 600	NYSE:BFS	Saul Centers, Inc.	\$221	\$2,320
Real Estate	S&P 600	NYSE:INN	Summit Hotel Properties, Inc.	\$548	\$1,931
Real Estate	S&P 600	NYSE:UHT	Universal Health Realty Income Trust	\$76	\$1,099
Real Estate	S&P 600	NYSE:UBA	Urstadt Biddle Properties Inc.	\$128	\$1,274
Real Estate	S&P 600	NYSE:WPG	Washington Prime Group Inc.	\$693	\$4,242
Real Estate	S&P 600	NYSE:WSR	Whitestone REIT	\$87	\$1,146
Utilities	S&P 500	NasdaqGS:LNT	Alliant Energy Corporation	\$3,535	\$15,825
Utilities	S&P 500	NYSE:AEE	Ameren Corporation	\$6,009	\$24,850
Utilities	S&P 500	NYSE:AEP	American Electric Power Company, Inc.	\$15,927	\$61,019
Utilities	S&P 500	NYSE:AWK	American Water Works Company, Inc.	\$3,440	\$24,705
Utilities	S&P 500	NYSE:CNP	CenterPoint Energy, Inc.	\$10,589	\$21,802
Utilities	S&P 500	NYSE:CMS	CMS Energy Corporation	\$6,873	\$24,974
Utilities	S&P 500	NYSE:ED	Consolidated Edison, Inc.	\$12,337	\$41,587
Utilities	S&P 500	NYSE:D	Dominion Energy, Inc.	\$13,366	\$86,766
Utilities	S&P 500	NYSE:DTE	DTE Energy Company	\$14,212	\$34,163
Utilities	S&P 500	NYSE:DUK	Duke Energy Corporation	\$24,116	\$118,089
Utilities	S&P 500	NYSE:EIX	Edison International	\$12,657	\$35,429
Utilities	S&P 500	NYSE:ETR	Entergy Corporation	\$11,009	\$33,874
Utilities	S&P 500	NYSE:EVRG	Energy, Inc.	\$4,276	\$22,538
Utilities	S&P 500	NYSE:ES	Eversource Energy	\$8,448	\$34,948
Utilities	S&P 500	NYSE:EXC	Exelon Corporation	\$35,985	\$80,576
Utilities	S&P 500	NYSE:FE	FirstEnergy Corp.	\$10,272	\$38,275
Utilities	S&P 500	NYSE:NEE	NextEra Energy, Inc.	\$16,727	\$118,252
Utilities	S&P 500	NYSE:NI	NiSource Inc.	\$4,991	\$18,456
Utilities	S&P 500	NYSE:NRG	NRG Energy, Inc.	\$9,478	\$17,377
Utilities	S&P 500	NYSE:PNW	Pinnacle West Capital Corporation	\$3,691	\$14,832
Utilities	S&P 500	NYSE:PPL	PPL Corporation	\$7,785	\$41,455
Utilities	S&P 500	NYSE:PEG	Public Service Enterprise Group Incorporated	\$9,696	\$40,999
Utilities	S&P 500	NYSE:SRE	Sempra Energy	\$11,687	\$59,975
Utilities	S&P 500	NYSE:AES	The AES Corporation	\$10,736	\$29,849
Utilities	S&P 500	NYSE:SO	The Southern Company	\$22,256	\$93,856
Utilities	S&P 500	NYSE:WEC	WEC Energy Group, Inc.	\$7,680	\$33,183
Utilities	S&P 500	NasdaqGS:XEL	Xcel Energy Inc.	\$11,458	\$41,587
Utilities	S&P 400	NYSE:ALE	ALLETE, Inc.	\$1,499	\$5,310
Utilities	S&P 400	NYSE:WTR	Aqua America, Inc.	\$838	\$8,489
Utilities	S&P 400	NYSE:ATO	Atmos Energy Corporation	\$3,104	\$14,525
Utilities	S&P 400	NYSE:BKH	Black Hills Corporation	\$1,754	\$7,182
Utilities	S&P 400	NYSE:HE	Hawaiian Electric Industries, Inc.	\$2,861	\$5,906
Utilities	S&P 400	NYSE:IDA	IDACORP, Inc.	\$1,367	\$6,268
Utilities	S&P 400	NYSE:MDU	MDU Resources Group, Inc.	\$4,532	\$6,521
Utilities	S&P 400	NYSE:NFG	National Fuel Gas Company	\$1,663	\$6,301
Utilities	S&P 400	NYSE:NJR	New Jersey Resources Corporation	\$3,022	\$5,500
Utilities	S&P 400	NYSE:NWE	NorthWestern Corporation	\$1,192	\$5,023
Utilities	S&P 400	NYSE:OGE	OGE Energy Corp.	\$2,270	\$10,884
Utilities	S&P 400	NYSE:OGS	ONE Gas, Inc.	\$1,634	\$5,639
Utilities	S&P 400	NYSE:PNM	PNM Resources, Inc.	\$1,437	\$6,192
Utilities	S&P 400	NYSE:SWX	Southwest Gas Holdings, Inc.	\$2,880	\$6,173
Utilities	S&P 400	NYSE:UGI	UGI Corporation	\$7,726	\$13,831
Utilities	S&P 400	NYSE:VVC	Vectren Corporation	\$0	\$8,316
Utilities	S&P 600	NYSE:AWR	American States Water Company	\$437	\$2,853
Utilities	S&P 600	NYSE:AVA	Avista Corporation	\$1,397	\$4,761
Utilities	S&P 600	NYSE:CWT	California Water Service Group	\$698	\$3,119
Utilities	S&P 600	NYSE:EE	El Paso Electric Company	\$904	\$3,429
Utilities	S&P 600	NYSE:NWN	Northwest Natural Holding Company	\$706	\$2,624
Utilities	S&P 600	NYSE:SJI	South Jersey Industries, Inc.	\$1,641	\$5,558
Utilities	S&P 600	NYSE:SR	Spire Inc.	\$2,005	\$6,389



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