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## Winners and Losers of the 2017 Tax Cut & Jobs Act

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## Winners and Losers of the 2017 Tax Cut & Jobs Act

### Abstract

Using data from 720 publicly traded companies, this paper looks at the impact of the 2017 Tax Cut and Jobs Act through two different studies. Firstly, the paper finds that, on average, there was a reduction in the GAAP effective tax rate (ETR) of 8.88%. However, the first study identifies key firm characteristics that determine the actual observed change in ETR for any given firm. The biggest determinant of the change in ETR is a firm's prior ETR, with percentage foreign income, R&D expense, and firm size as other significant predictors. The second study seeks to identify whether the tax change had any impact on firms' investment behavior, one of the noted reasons for the policy change. The results did not show that the TCJA, reduction in ETR, had any impact on firm investment behavior as measured by capital expenditures and R&D spending.

### Disciplines

Business

WINNERS AND LOSERS OF THE 2017 TAX CUT & JOBS ACT

By

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An Undergraduate Thesis submitted in partial fulfillment of the requirements for the

WHARTON RESEARCH SCHOLARS

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MAY 2021

## **Abstract**

Using data from 720 publicly traded companies, this paper looks at the impact of the 2017 Tax Cut and Jobs Act through two different studies. Firstly, the paper finds that, on average, there was a reduction in the GAAP effective tax rate (ETR) of 8.88%. However, the first study identifies key firm characteristics that determine the actual observed change in ETR for any given firm. The biggest determinant of the change in ETR is a firm's prior ETR, with percentage foreign income, R&D expense, and firm size as other significant predictors. The second study seeks to identify whether the tax change had any impact on firms' investment behavior, one of the noted reasons for the policy change. The results did not show that the TCJA, reduction in ETR, had any impact on firm investment behavior as measured by capital expenditures and R&D spending.

## **1. Introduction**

The Tax Cuts and Jobs Act (TCJA) was signed into law on December 22, 2017 and brought about the largest overhaul to the U.S. tax code, more specifically corporate tax law, in the last three decades. The tax cut affects both individuals and corporations, but this paper focuses only on the latter. Along with other provisions, discussed in a later section, the TCJA reduced the corporate tax rate uniformly to 21% (previously 35%). Figure I shows how this new rate compares to other developed nations. This tax rate reduction was implemented with the goal of economic growth which would come in the form of increased corporate investment, productivity, and wages. Furthermore, the lower tax rate coupled with a change to a territorial tax system (further explained in section 3.1) was intended to encourage corporations to increase domestic investment (Feldstein, 2018). Although a tax cut directly reduces government income, at the time Treasury Secretary Steven Mnuchin stated that the tax cut would, “not only will this tax plan pay for itself, but it will pay down debt” (Mnuchin 2017).

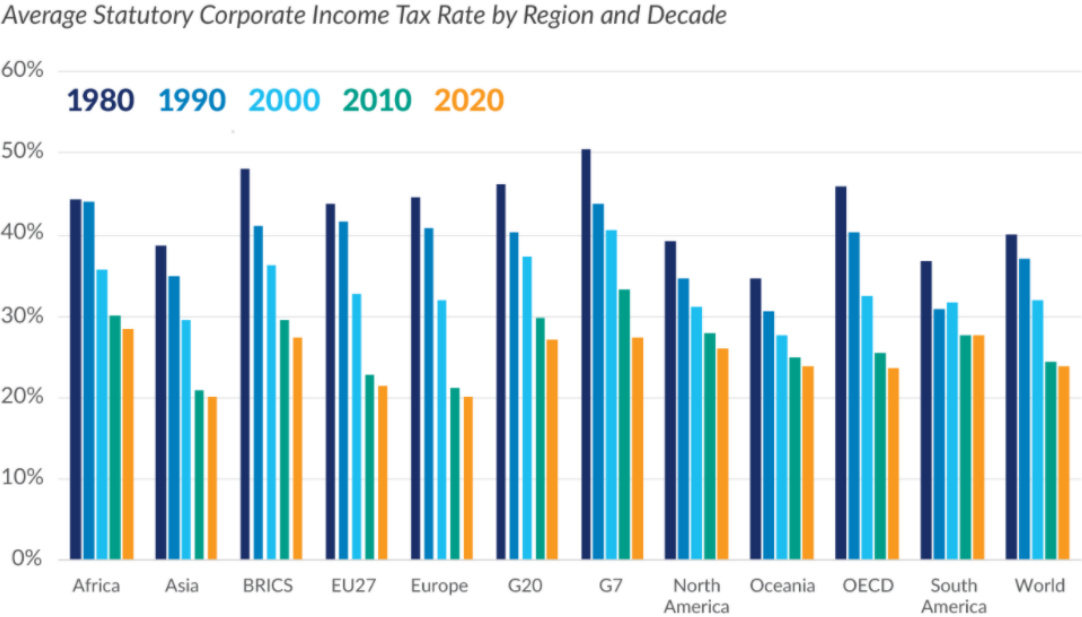
This paper has two goals. First, to identify if the TCJA tax provisions standardly affected firms with varying characteristics differently as cited by some (e.g. Wagner, Zeckhauser, Ziegler 2020; Kalcheva, Plečnik, Tran, and Turkiela 2020). These characteristics include firm size, leverage profile, prior investment activity, and whether the firm has international or solely domestic businesslines. The data of pre vs. post policy effective tax rates (ETRs) shows that some firms experienced a far larger reduction in taxes than others, while some firms even experienced a slight increase in their ETR (to be discussed further in section 5.1). Second, to measure the impact of a reduction in taxes on investments in reproducible-capital defined as things, such as physical infrastructure, that can be used for the production of more wealth.

The importance of this paper lies in gaining a better understanding of the effects, including unintended ones, of a corporate tax rate reduction. It also explores the potential reasons behind what causes firms to increase investment, and why a siloed corporate tax cut may not have the desired outcome, at least in the short term.

This paper identifies pre-policy ETR, firm size, percentage foreign income, and research and development expenditures as firm characteristics and behaviors that impact the observed change in the ETF. Furthermore, this paper did not find the change in effective tax rate to be a significant predictor of investment behavior in the form of capital expenditures and R&D investments.

**Figure I: Corporate Tax Rates by Region**

[I will remake a chart similar to below-- I have the data but need to clean it up]



## **2. State of the Literature**

### ***2.1 Effects of Corporate Tax Cuts on Business Activity***

Corporate tax changes have been found to impact many business decisions including capital investment, employment and compensation, and debt levels. The two tax policies that have been identified to most directly affect firm behavior are a change in the effective tax rate or change in the acceleration of depreciation which results in higher pre-tax deductions. Garrett, Ohern and Serrato (2020) point to the reduction in investment ‘cost’ caused by quicker upfront depreciation as a potential driver of employment; however, did not find this policy to increase wages significantly (Garrett, Ohern and Serrato 2020). Furthermore, historical changes in tax policy are found to be impactful on investment expenditures, timing of spending, and composition of hard assets (Hall and Jorgenson 1967). Recent papers examining the effect of the 2017 TCJA found that certain tax policies also impact firms’ decisions on the use of excess cash for payouts to shareholders through share buybacks and dividends rather than capital investment (Bennett, Thakor, and Wang 2019). Lastly, the ‘optimal’ leverage for a firm is highly dependent on tax laws due to interest deductibility (higher interest leads to less net income that is taxed). The literature largely agrees on the directional effect that a tax change has on leverage ( a higher tax rate leads to higher debt ratios), but is less unanimous on scale. Mooij (2011) found that over time the magnitude of impact that the corporate tax rate has on level of debt has increased, and his study concluded that a one percentage point higher tax rate increases the debt-asset ratio by between 0.17 and 0.28. For reference, a ‘typical’ debt to asset ratio is .40, although this can range greatly to be above one. Others have found the magnitude to be far lower (Ohrn 2018) and others only identified an impact in firms with existing high leverage (Barro and Furman 2018).

Researchers have also shown that timing of a tax cut plays a big role in its effects on corporate behavior and the labor markets. For example, Ljungqvist and Smolyansky found that while “increases in corporate tax rates lead to significant reductions in employment and wage income”, there is no evidence that a tax cut boosts economic growth, unless we are in a recessionary environment (Ljungqvist and Smolyansky 2018).

There exists limited literature on the effects of a sweeping policy comparable to the TCJA since it is the largest tax change in the last three decades. However, research has been conducted on the Domestic Production Activities Deduction (DPAD), a government policy initiated in 2005 that deemed a portion of domestic manufacturing income tax deductible and Ohrn found that a 1% reduction in tax rate can (i) increase investment by 4.7% of installed capital, (ii) increase payouts by 0.3% of sales, and (iii) decrease debt by 5.3% of total assets (Ohrn 2018).

## ***2.2 Investment Incentives***

There are broadly two forms of investment incentives offered by governments around the world: tax benefits and investment subsidies. These include direct incentives such as, government subsidies or favorable loans as well as indirect incentives such as investment tax credits where a firm receives a tax write-off for investing in certain assets, overall reduction in tax rate, and accelerated depreciation of new assets.

At face value, many of these policies have the same desired effects; however, research has found that firm characteristics can impact the effectiveness and achievement of desired effect. For example, for a firm wholly financed by equity, an investment subsidy is more economical and effective than a tax cut at increasing foreign direct investment, the goal of the studied policy (Yu et al., 2007). However, when a firm has leverages, there exists an ‘optimal’ combination between



introducing a tax cut and investment subsidy (Danielova and Sarkar, 2011). Similar effects are seen with regards to investment activity with a policy that reduces tax rates versus one that more sharply accelerates depreciation. A reduction in the tax rate as opposed to accelerated depreciation has the potentially unintended effect of an increase in payouts and lower incentive to finance investment with debt (Ohrn 2018).

Irrespective of the policy, existing literature is unanimous on firm characteristics being a key determinant of response to a given policy. For this reason, it has been found that firm-specific incentives are an economically impactful tool for changing firm behavior at a lower cost compared to a general subsidy or tax cut (Slattery and Zidar 2020). An example of a firm-specific policy would be a local government giving subsidy (\$) to a firm in exchange for the firm locating a plant in a particular city to aid in the cities goal of job creation. However, this leads to a ‘picking’ problem, whereby policy makers have to pick which firms to subsidize having many negative implications for the development of small and medium businesses, a misalignment of incentives, and other factors (Slattery and Zidar 2020).

### ***2.3 Preliminary Literature on TCJA***

Recent working papers regarding the TCJA and corporate behavior focus on: (i) which firms were affected most by the policy change, (ii) firm response, and (iii) public response, measured through stock price movement. The first two are most relevant for the purposes of this paper.

Although the corporate tax rate decreased from 35% to 21%, there are many other factors that influence how much a firm actually pays in taxes, and their effective tax rate. Key firm characteristics that existing literature points to as impacting the actual observed change in tax rate are: firm size, international presence, and prior investment activity. Domestic firms, or firms

with a high proportion of domestic revenue, benefited from the tax reform more than largely international firms. Although the TCJA included a repatriation tax cut, more favorable taxation of international income, the observed tax benefit for international firms came from a reduction in taxes on domestic operations and no benefit was observed from the difference in treatment of foreign earnings (Dyreng, Gaertner, Hoopes, and Vernon 2020). Wagner, Zeckhauser, and Ziegler (2020) found that a firm's ETR prior to the TCJA was the largest driver in observed change. Firms with higher ETRs before the policy change and largely domestic operations experienced the greater decrease, benefit, from the TCJA (Kalcheva, Plečnik, Tran, and Turkiela 2020; Wagner, Zeckhauser, and Ziegler 2020). Firm behavior prior to the policy change such as capital expenditures, sales growth, and ROA had little to no impact on the change in ETR. However, research and development expenses did (Wagner, Zeckhauser, and Ziegler 2020).

Next, there is some preliminary literature that explores how firms changed their behavior after the TCJA. Bennett (2019) found two aspects of the TCJA: (i) the reduction of the corporate tax rate, and (ii) the repatriation tax cut have competing effects when it comes to share repurchase decisions. His paper explains that the observed increase in share repurchases after the TCJA is due to the repatriation tax cut that provided companies with increased cash on-hand. The reduction in corporate tax rate, however, was found to increase investment for firms that were previously capital-constrained, unable to take on additional leverage, and were profitable (Bennett, Thakor, Wang 2019). Furthermore, it has been discussed that highly-levered firms that previously had high ETRs reduced their leverage significantly. In addition, firms that were affected by the newly placed cap on interest deductibility<sup>1</sup> decreased their leverage as a percentage of total assets by 2.9% (Carrizosa, Gaertner, Lynch 2020). No existing research

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<sup>1</sup> Deductibility of interest expenses reduced to the sum of business interest income and 30% of adjusted taxable income

suggests that the TCJA had a tangible impact on firm investment decisions. Kalcheva et. al. found that even firms with, “high growth opportunities and high financial constraint levels,” which at face value should benefit greatly from the increased disposable income, did not change their corporate investment behavior (Kalcheva et. al. 2020).

### **3. Tax Code Provisions<sup>2,3</sup>**

#### ***3.1 Recurring Effects<sup>4</sup>***

Domestic and Multinational Firms:

- Reduction in the statutory corporate tax rate from 35% to 21%.
- Elimination of the corporate alternative minimum tax (AMT) which served as a separate tax calculation that added back certain deductible items to ensure companies paid a minimum amount of taxes.
- 100% of capital expenditure expensing between 2018 and 2022, sunsetting in 20% increments between 2023 and 2027 (e.g. 80% bonus depreciation in 2023, 60% in 2024, etc.)<sup>5</sup>.
- Capitalization of research and development expenditures beginning in 2022.
- Deductibility of interest expenses reduced to the sum of business interest income and 30% of adjusted taxable income which is defined as EBITDA until 2022 and excluding depreciation thereafter (EBIT). This does not include corporations with gross income of \$25 million or less.

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<sup>2</sup> <https://www.taxpolicycenter.org/briefing-book/how-did-tax-cuts-and-jobs-act-change-business-taxes>

<sup>3</sup> <https://news.bloombergtax.com/daily-tax-report/changes-to-tax-deductibility-of-r-d-costs-create-cash-and-etr-impacts-for-life-sciences-companies>

<sup>4</sup> As of March 27, 2020, some of these tax provisions have changed due to the The Coronavirus Aid, Relief, and Economic Security Act (“CARES Act”). This paper focuses on the effects of the tax cut up until the end of Fiscal Year 2019, and therefore is unaffected by these changes.

<sup>5</sup> This provision reduces taxable income in those given years

- Limitation of net operating loss (NOL) deductibility to to 80% of pre-NOL taxable income (previously 100%); elimination of NOL carrybacks; allowance for NOL carryforwards indefinitely. Prior to TCJA NOLs could be carried back for 2 years and carried forward for 20 years.

#### Multinational Firms:

- Shift to a modified territorial tax system whereby foreign subsidiary profits are not subject to additional U.S. corporate taxes if repatriated. Several additional provisions were put into place to ensure mitigate the incentive for firms to shift investment and real income abroad such as the global intangible low-taxed income (GILTI) minimum tax, a deduction for foreign-derived intangible income (FDII), and an additional base erosion and anti-abuse tax (BEAT).

The most pronounced change in the TCJA was the reduction of the corporate tax rate from 21% to 35%. However, certain provisions increased potential tax paid such as the limitation on interest expense deductibility and usage of NOLs to offset taxable income. Overall, the TCJA was intended to reduce the amount of taxes paid by firms in the U.S. allowing them to use the additional cash internally to invest in their business. For most firms, this was the outcome of the tax change; however, due to the complexity of the tax code, firm behavior and characteristics play a role in determining the exact effect of TCJA.

### ***3.2 Non-recurring Effects***

The TCJA also included a one-time “transition” charge that firms were obligated to pay in Fiscal Year 2017. This was a, “repatriation tax on undistributed and deferred post-1986 foreign income,” as stated by the CPA Journal<sup>6</sup>. For the purposes of this paper, non-recurring effects are

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<sup>6</sup><https://www.cpajournal.com/2020/02/10/the-impact-of-the-tax-cuts-and-jobs-acts-repatriation-tax-on-financial-statements/#:~:text=Under%20the%20TCJA%2C%20U.S.%20corporations,statements%20of%20select%20multinationa,l%20companies>

not analyzed. However, to account for the impact these provisions had on firms' effective tax rate, the data used does not include Fiscal Year 2017 tax numbers, but rather begins analyzing the effects seen starting in Fiscal Year 2018.

#### **4. Data & Methodology**

The data used in this paper is obtained from Compustat North America accessed through Wharton Research Data Services. This database has market and financial information on all active publicly held companies in the U.S. and Canada. Data collection begins with companies in the Russell 3000 Index which contains 3,000 publicly traded U.S. companies (~98% of the U.S. equity market). Excluded are firms that were not publicly traded, with a share price of \$5 or more at the start of fiscal year 2015, or the entirety of any fiscal year 2015 to 2019. Further, the dataset is filtered to exclude financial services or investment firms, including banks, insurance and REITS, (SIC codes 6000-6999) and utility companies (SIC codes 4900-4999). This is because financial firms have incomparable balance sheets with high leverage and utilities have longer investment timelines due to regulatory hurdles (Kalcheva, Plečnik, Tran and Turkiela 2020). Lastly, the dataset removes any companies with negative pretax income, or effective tax rates of over 100% in any fiscal year 2015 to 2019. This results in a final dataset consisting of 720 unique firms that are publicly traded in the United States. See Appendix A for a full list of firms and key characteristics.

An OLS regressions is used to measure the effect that firm characteristics have on the observed change in the ETR after the implementation of the TCJA. The dependent variable, observed change in the ETR, is regressed on various independent variables, such as firm size, returns profile, and investment behavior. A total of 11 models are run with models 10 and 11 having the same predictors as models 8 and 9 respectively, but also controlling for industry fixed effects.

Including industry fixed effects controls for the impact that a firm's industry may have on their observed change in ETR. Standard Industrial Classification (SIC) codes are used as the industry classifier.

The best model, as defined by the highest r-squared, from the analysis above is used to predict the change in ETR when given firm characteristics. This predicted change in ETR is then used as the independent variable to analyze if it is a good predictor for any changes in firm investment behavior. For each independent variable, four models are run to view the effects between the observed and predicted change in ETR as well as the inclusion of industry fixed effects in the prediction of the change in ETR as well as the model itself.

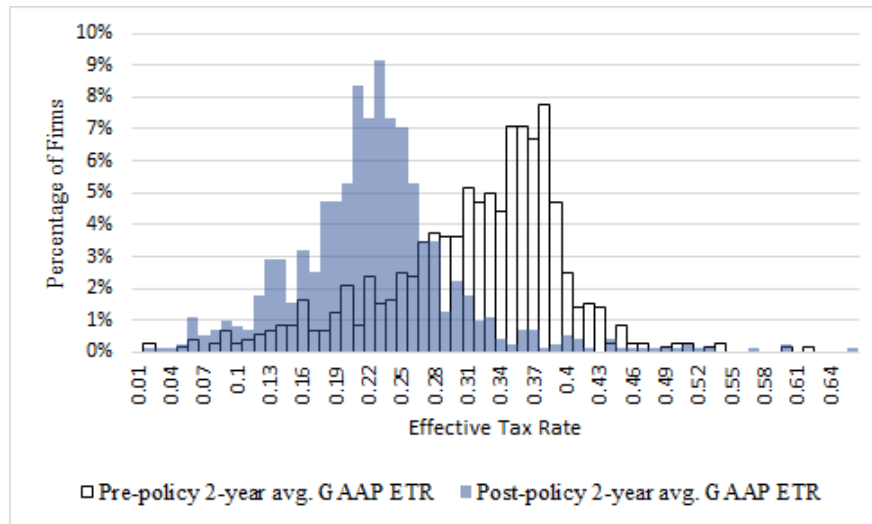
## **5. Results & Discussion**

### ***5.1 Impact of TCJA on Firms Tax Rates***

This paper uses GAAP Effective Tax Rate (GAAP ETR) which is calculated by dividing the firm's pretax income by the total income tax expense. GAAP ETR differs from Cash ETR which divides a company's pretax income by cash taxes paid in a given year. These two ETRs differ due to deferred tax assets or liabilities that occur due to deductions such as accelerated depreciation.

The average GAAP ETR for the sample set for the two years prior to TCJA implementation (fiscal years 2015 and 2016) was 30.93%. For the two years post-TCJA, the GAAP ETR for the same sample was reduced by 8.88% to 20.04%. Due to the non-recurring effects of the policy change that may have caused one-time cash payouts, the GAAP ETR is more representative of the recurring effects of the policy. Still, the change between the two is similar with the change in average Cash ETR being 4.46% (24.21% average Cash ETR for two years prior to policy change and 19.76% average Cash ETR for two year post policy change).

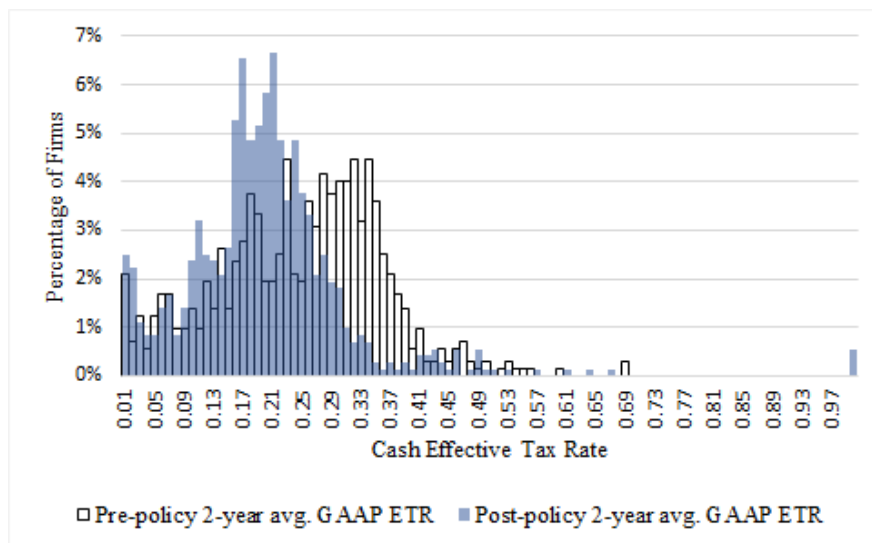
**Figure 2: Observed GAAP Effective Tax Rate pre and post TCJA**



**Table 1: Descriptive statistics of GAAP effective tax rates**

	N	min	p10	p25	p50	p75	p90	max	mean	sd
Cash ETR before TCJA, 2-year avg.	720	1.6%	19.2%	26.6%	32.6%	36.6%	39.0%	61.4%	30.9%	8.4%
Cash ETR after TCJA, 2-year avg.	720	1.4%	12.8%	18.0%	21.9%	25.2%	30.0%	65.8%	22.0%	7.8%

**Figure 3: Observed Cash Effective Tax Rate pre and post TCJA**



**Table 2: Descriptive statistics of Cash effective tax rates**

	N	min	p10	p25	p50	p75	p90	max	mean	sd
Cash ETR before TCJA, 2-year avg.	720	0.0%	7.5%	16.8%	25.5%	32.0%	36.8%	69.2%	24.2%	11.3%
Cash ETR after TCJA, 2-year avg.	720	0.0%	6.5%	13.9%	19.0%	23.9%	29.5%	188.9%	19.8%	13.2%

## 5.2 Firm Characteristics Impact on Observed Change in ETR

Wagner, Zeckhauser, and Ziegler (2020) identify key firm characteristics that may impact the observed change in ETR after TCJA which are used for this study (Wagner, Zeckhauser, and Ziegler 2020). Table 3 Presents the results from several OLS regressions of the change in ETR on the following firm characteristics:

Variable	Description
2-year GAAP ETR	2-year average GAAP ETR prior to policy change (FY 2015 and FY 2016)
Percent Foreign Income	Foreign Net Income divided by Total Net Income
Firm's Interest Deductibility Curtailed	Binomial Variable (0 or 1) for whether or not the firm's interest deductibility was curtailed
Tax loss Carryforwards as % of Assets	TLC divided by Total Assets
Capex as % of Assets	Total Capital Expenditures divided by Total Assets
R&D expense as a % of assets	R&D expenditures divided by Total Assets
R&D missing	Binomial Variable (0 or 1) for whether or R&D expense was missing in the data
ln(Market value of equity)	Natural log of the market value of equity as of fiscal year end 2015
ROA	Return on Assets (Net Income/ Total Assets)

The findings of this paper are largely in-line with the aforementioned work by Wagner, Zeckhauser, and Ziegler (2020). The biggest determinant of the change in ETR is a firm's ETR prior to the implementation of the policy change. A higher pre-policy ETR results in a larger decrease in the ETR after policy implementation. When percentage of foreign income is included in the model along with prior ETR (models two onwards), the magnitude is slightly reduced, as the pre policy ETR is partially dependent on the distribution of income. These two independent



variables, pre-policy ETR and percentage foreign income, are negatively correlated where the greater the percentage of foreign income, the smaller the pre-policy ETR, explaining why when both are included in the model, the magnitude of the pre-policy ETR is slightly decreased. While firms that have a higher portion of foreign income, which is not directly taxed by the U.S. corporate tax rate, saw a smaller, if any, reduction in their tax rate as is evidenced by a positive and highly significant coefficient.

A firm's interest deductibility curtailment and amount of NOLs did not impact the change in ETR. However, firms that were affected by the new policies surrounding interest deduction and NOLs did not make up a large portion of the total sample set which may be cause for misrepresentation. It is possible that in a larger sample set, one focused on measuring the effect of the newly implemented cap on new interest deductibility, affected firms would see a smaller decrease or increase in their ETR. Presently, this type of study is not present in the literature.

Models five and six add prior firm investment behavior in the form of capital expenditures and research and development expenses. Capital expenditures have no discernible impact on the change in ETR. This is because accelerated depreciation of capital expenditures is not reflected in GAAP ETR, but rather in Cash ETR. Wagner, Zeckhauser, and Ziegler (2020) found that level of capital expenditures was a significant predictor when analyzing the change in Cash ETR. On the other hand, research and development expenses do have a statistically significant beneficial influence on the change in ETR. A higher portion of research and development expenditure prior to policy implementation results in a greater decrease in ETR as is indicated by the negative coefficient of around -.4. [\[Include a reason for why this may be since policy change doesn't occur until 2022\].](#)

Firm Size, as measured by the market value of equity, was a significant predictor of the change in ETR in models seven, eight, and nine. Larger firms saw a very slightly higher decrease in their ETR with model eight and nine showing that a 1% change in the market cap is associated with a -.005% change in the ETR.

However, when industry effects were included firm size was no longer a significant predictor. This is mostly likely due to the weight that industry has on firm size. Furthermore, including

industry fixed effects did not improve the model and is demonstrated by a slightly lower r-squared.

**Table 3: Determinants of the change in effective tax rate**

Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Change in GAAP ETR: Avg. 2018 and 2019 ETR minus 2-year average before TCJA										
2-year GAAP ETR	-0.757 *** (0.034)	-0.652 *** (0.036)	-0.652 *** (0.036)	-0.650 *** (0.037)	-0.649 *** (0.037)	-0.689 *** (0.037)	-0.701 *** (0.037)	-0.701 *** (0.038)	-0.673 *** (0.037)	-0.709 *** (0.046)	-0.705 *** (0.046)
Percent Foreign Income		0.044 *** (0.007)	0.044 *** (0.007)	0.044 *** (0.007)	0.044 *** (0.007)	0.044 *** (0.007)	0.045 *** (0.007)	0.045 *** (0.007)	0.045 *** (0.007)	0.034 *** (0.008)	0.037 *** (0.008)
Firm's Interest Deductibility Curtailed			0.000	-0.001	-0.001	-0.004	-0.006	-0.006		-0.005	
Tax loss Carryforwards as % of Assets				0.016	0.016	0.035	0.030	0.032		0.022	
Capex as % of Assets					-0.005	-0.016	-0.007	-0.010		0.071	
R&D expense as a % of assets						-0.404 *** (0.078)	-0.381 *** (0.079)	-0.388 *** (0.082)		-0.314 ** (0.108)	
R&D missing							-0.002	-0.002		0.003	
ln(Market value of equity)							-0.004 *** (0.002)	-0.005 *** (0.002)	-0.005 ** (0.002)	-0.004	-0.005 * (0.002)
ROA								0.019	-0.042	0.074	0.050
Observations	720	720	720	720	720	718	718	711	720	720	720
R-squared	0.415	0.446	0.445	0.445	0.444	0.464	0.468	0.467	0.456	0.426	0.415
Industry FE	No	No	No	No	No	No	No	No	No	Yes	Yes

[Include Plot]

### 5.3 Change in ETR Impact on Firm Investment Behavior

To analyze investment behavior, this paper focuses on changes in capital expenditures (CapEx), and research and development (R&D) expenses. CapEx measures the amount of money the company spent on reproducible goods, whereas R&D expenditure measures internal innovation and development. Table 4 shows the results of this experiment and the takeaways are twofold. First, the very low r-squared indicates that there is a lot of variation that is affecting investment activity other than the change in effective tax rate. The r-squared improved slightly when using the predicted ETR, effectively controlling for the variables discussed above, but not by a large amount. Second, the estimated coefficients are small, which again supports the conclusion that the change in ETR had very little, if any, impact on investment behavior as defined by CapEx and R&D spend. These results, although using a different methodology, are in-line with other working papers such as Kalcheva et. al. 2020

**Table 4: Change in ETR's effect on investment behavior**

Model	(1)	(2)	(3)	(4)	Model Explanation
Delta R&D Expense as a % of Revenue					
Change in ETR	-0.302	-0.385	-0.195	-0.228	(1) Dependant Variable is observed Change in ETR, Model does not include Industry Effects
Observations	324	324	326	326	(2) Dependant Variable is predicted Change in ETR using model 8 in part 1, Model does not include Industry Effects
R-squared	0.010	0.006	0.006	0.004	
Delta CapEx as a % of Assets					
Change in ETR	1.039 * (0.497)	2.334 ** (0.718)	-0.238	1.490	(3) Dependant Variable is observed Change in ETR, Model includes Industry Effects
Observations	717	717	719	719	(4) Dependant Variable is predicted Change in ETR using model 10 in part 1 (including Industry Effects), Model also includes Industry Effects
R-squared	0.006	0.015	0.000	0.005	

## **6. Limitations and Future Research**

## **7. Conclusion**

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**APPENDIX A**

	<b>Company Name</b>	<b>TIC</b>	<b>Market Capitalization (millions)</b>	<b>Description</b>
1	3M CO	MMM	101,474	3M Company develops, manufactures, and markets various products worldwide. It operates through four business segments: Safety and Industrial, Transportation and Electronics, Health Care, and Consumer.
2	AAON INC	AAON	2,573	AAON, Inc., together with its subsidiaries, engages in engineering, manufacturing, marketing, and selling air conditioning and heating equipment in the United States and Canada.
3	AAR CORP	AIR	708	AAR Corp. provides products and services to commercial aviation, government, and defense markets worldwide. The company operates in two segments, Aviation Services and Expeditionary Services.
4	ABBOTT LABORATORIES	ABT	153,091	Abbott Laboratories discovers, develops, manufactures, and sells health care products worldwide. It operates in four segments: Established Pharmaceutical Products, Diagnostic Products, Nutritional Products, and Medical Devices.
5	ABIOMED INC	ABMD	6,534	Abiomed, Inc. engages in the research, development, and sale of medical devices to assist or replace the pumping function of the failing heart. It also provides a continuum of care to heart failure patients.
6	ACCENTURE PLC	ACN	152,155	Accenture plc, a professional services company, provides strategy and consulting, interactive, and technology and operations services worldwide. The company also provides outsourcing services.
7	ACCO BRANDS CORP	ACCO	903	ACCO Brands Corporation designs, manufactures, and markets consumer, school, technology, and office products. It operates through three segments: ACCO Brands North America, ACCO Brands EMEA, and ACCO Brands International.
8	ACI WORLDWIDE INC	ACIW	4,394	ACI Worldwide, Inc. develops, markets, installs, and supports a range of software products and solutions for facilitating electronic payments to banks, financial intermediaries, merchants, and billers worldwide.
9	ACTIVISION BLIZZARD INC	ATVI	45,680	Activision Blizzard, Inc., together with its subsidiaries, develops and publishes interactive entertainment content and services in the Americas, Europe, the Middle East, Africa, and the Asia Pacific.
10	ACUITY BRANDS INC	AYI	4,248	Acuity Brands, Inc. provides lighting and building management solutions and services for commercial, institutional, industrial, infrastructure, and residential applications in North America and internationally.
11	ADDUS HOMECARE CORP	ADUS	1,518	Addus HomeCare Corporation, together with its subsidiaries, provides personal care services to elderly, chronically ill, disabled

persons, and individuals who are at risk of hospitalization or institutionalization in the United States.

12	ADOBE INC	ADBE	149,298	Adobe Inc. operates as a diversified software company worldwide. Its Digital Media segment provides tools and solutions that enable individuals, teams, and enterprises to create, publish, promote, and monetize their digital content.
13	ADVANCE AUTO PARTS INC	AAP	11,088	Advance Auto Parts, Inc. provides automotive replacement parts, accessories, batteries, and maintenance items for domestic and imported cars, vans, sport utility vehicles, and light and heavy duty trucks.
14	ADVANCED ENERGY INDS INC	AEIS	2,731	Advanced Energy Industries, Inc. designs, manufactures, sells, and supports precision power conversion, measurement, and control solutions worldwide.
15	AGCO CORP	AGCO	5,830	AGCO Corporation manufactures and distributes agricultural equipment and related replacement parts worldwide.
16	AIR LEASE CORP	AL	5,386	Air Lease Corporation, an aircraft leasing company, engages in the purchase and leasing of new commercial jet aircraft to airlines worldwide.
17	AIR PRODUCTS & CHEMICALS INC	APD	48,901	Air Products and Chemicals, Inc. provides atmospheric gases, process and specialty gases, equipment, and services worldwide.
18	AIR TRANSPORT SERVICES GROUP	ATSG	1,392	Air Transport Services Group, Inc., through its subsidiaries, engages in the aircraft leasing and air cargo transportation services in the United States and internationally.
19	AIRCASTLE LTD	AYR	2,405	Aircastle Limited, through its subsidiaries, leases, finances, sells, and manages commercial flight equipment to airlines worldwide. As of December 31, 2019, its aircraft portfolio comprised 287 aircraft leased to 85 lessees located in 49 countries.
20	AKAMAI TECHNOLOGIES INC	AKAM	13,994	Akamai Technologies, Inc. provides cloud services for securing, delivering, and optimizing content and business applications over the internet in the United States and internationally.
21	ALAMO GROUP INC	ALG	1,465	Alamo Group Inc. designs, manufactures, distributes, and services agricultural and infrastructure maintenance equipment for governmental and industrial use worldwide.
22	ALASKA AIR GROUP INC	ALK	8,333	Alaska Air Group, Inc., through its subsidiaries, provides passenger and cargo air transportation services. The company operates through three segments: Mainline, Regional, and Horizon. It flies to approximately 115 destinations throughout the United States and North America.
23	ALBEMARLE CORP	ALB	7,745	Albemarle Corporation develops, manufactures, and markets engineered specialty chemicals worldwide. It operates through three segments: Lithium, Bromine Specialties, and Catalysts.
24	ALICO INC	ALCO	254	Alico, Inc., together with its subsidiaries, operates as an agribusiness and land management company in the United States. The company



				operates in two segments, Alico Citrus, and Land Management and Other Operations.
25	ALIGN TECHNOLOGY INC	ALGN	21,886	Align Technology, Inc., a medical device company, designs, manufactures, and markets Invisalign clear aligners and iTero intraoral scanners and services for orthodontists and general practitioner dentists, and restorative and aesthetic dentistry.
26	ALLEGIANT TRAVEL CO	ALGT	2,837	Allegiant Travel Company, a leisure travel company, provides travel services and products to residents of under-served cities in the United States. The company offers scheduled air transportation on limited-frequency, nonstop flights between under-served cities and leisure destinations.
27	ALLEGION PLC	ALLE	11,548	Allegion plc manufactures and sells mechanical and electronic security products and solutions worldwide.
28	ALLIANCE DATA SYSTEMS CORP	ADS	5,341	Alliance Data Systems Corporation provides data-driven marketing, loyalty, and payment solutions in the United States, Canada, Europe, the Middle East, Africa, the Asia Pacific, and internationally. It operates through two segments, LoyaltyOne and Card Services.
29	ALLIED MOTION TECHNOLOGIES	AMOT	466	Allied Motion Technologies Inc., together with its subsidiaries, designs, manufactures, and sells precision and specialty controlled motion components and systems that are used in a range of industries worldwide.
30	ALLISON TRANSMISSION HLDGS	ALSN	5,711	Allison Transmission Holdings, Inc., together with its subsidiaries, designs, manufactures, and sells commercial and defense fully-automatic transmissions for medium- and heavy-duty commercial vehicles, and medium- and heavy-tactical U.S. defense vehicles worldwide.
31	ALPHABET INC	GOOGL	921,138	Alphabet Inc. provides online advertising services in the United States, Europe, the Middle East, Africa, the Asia-Pacific, Canada, and Latin America. The company offers performance and brand advertising services. It operates through Google Services, Google Cloud, and Other Bets segments.
32	ALTRA INDUSTRIAL MOTION CORP	AIMC	2,326	Altra Industrial Motion Corp. designs, produces, and markets a range of electromechanical power transmission motion control products for use in various motion related applications, and high-volume manufacturing and non-manufacturing processes worldwide.
33	AMAZON.COM INC	AMZN	920,224	Amazon.com, Inc. engages in the retail sale of consumer products and subscriptions in North America and internationally. The company operates through three segments: North America, International, and Amazon Web Services (AWS).
34	AMC NETWORKS INC	AMCX	2,195	AMC Networks Inc., an entertainment company, owns and operates a suite of video entertainment products that are delivered to audiences and a platform to distributors and advertisers in the United States and internationally.

35	AMDOCS	DOX	8,910	Amdocs Limited, through its subsidiaries, provides software and services to the communications, cable and satellite, entertainment, and media industry service providers worldwide.
36	AMERICAN PUBLIC EDUCATION	APEI	416	American Public Education, Inc., together with its subsidiaries, provides online and campus-based postsecondary education. The company operates in two segments, American Public Education and Hondros College of Nursing.
37	AMERICAN SOFTWARE -CL A	AMSWA	531	American Software, Inc. develops, markets, and supports a range of computer business application software products and services in the United States and internationally. It operates in three segments: Supply Chain Management (SCM), Information Technology Consulting (IT Consulting), and Other.
38	AMERICAN VANGUARD CORP	AVD	587	American Vanguard Corporation, through its subsidiaries, develops, manufactures, and markets specialty chemicals for agricultural, commercial, and consumer uses in the United States and internationally.
39	AMERICAN WOODMARK CORP	AMWD	870	American Woodmark Corporation manufactures and distributes kitchen, bath, and home organization products for the remodelling and new home construction markets in the United States.
40	AMERICA'S CAR-MART INC	CRMT	437	America's Car-Mart, Inc., through its subsidiaries, operates as an automotive retailer in the United States. The company primarily sells older model used vehicles and provides financing for its customers. As of December 17, 2020, it operated 151 dealerships in the South-Central United States.
41	AMERN EAGLE OUTFITTERS INC	AEO	2,405	American Eagle Outfitters, Inc. operates as a specialty retailer that provides clothing, accessories, and personal care products under the American Eagle and Aerie brands.
42	AMETEK INC	AME	22,849	AMETEK, Inc. manufactures and sells electronic instruments and electromechanical devices worldwide. It operates in two segments, Electronic Instruments (EIG) and Electromechanical (EMG).
43	AMGEN INC	AMGN	142,569	Amgen Inc. discovers, develops, manufactures, and delivers human therapeutics worldwide. It focuses on inflammation, oncology/hematology, bone health, cardiovascular disease, nephrology and neuroscience areas.
44	AMKOR TECHNOLOGY INC	AMKR	3,130	Amkor Technology, Inc. provides outsourced semiconductor packaging and test services in the United States, Japan, Europe, the Middle East, Africa, and rest of the Asia Pacific.
45	AMN HEALTHCARE SERVICES INC	AMN	2,911	AMN Healthcare Services, Inc. provides healthcare workforce solutions and staffing services to hospitals and healthcare facilities in the United States.
46	AMPHENOL CORP	APH	32,242	Amphenol Corporation, together with its subsidiaries, primarily designs, manufactures, and markets electrical, electronic, and fiber optic connectors in the United States, China, and internationally.

47	ANALOG DEVICES	ADI	39,272	Analog Devices, Inc. designs, manufactures, tests, and markets integrated circuits (ICs), software, and subsystems that leverage analog, mixed-signal, and digital signal processing technologies.
48	ANIKA THERAPEUTICS INC	ANIK	742	Anika Therapeutics, Inc., together with its subsidiaries, operates as a joint preservation company that in the United States, Europe, and internationally.
49	ANIXTER INTL INC	AXE	3,151	Anixter International Inc., through its subsidiary, Anixter Inc., distributes enterprise cabling and security solutions, electrical and electronic wire and cable solutions, and utility power solutions worldwide.
50	ANSYS INC	ANSS	22,069	ANSYS, Inc. develops and markets engineering simulation software and services worldwide.
51	APOGEE ENTERPRISES INC	APOG	798	Apogee Enterprises, Inc. designs and develops glass and metal products and services in the United States, Canada, and Brazil. The company operates in four segments: Architectural Framing Systems, Architectural Glass, Architectural Services, and Large-Scale Optical Technologies (LSO).
52	APPLE INC	AAPL	995,152	Apple Inc. designs, manufactures, and markets smartphones, personal computers, tablets, wearables, and accessories worldwide. It also sells various related services.
53	APPLIED INDUSTRIAL TECH INC	AIT	2,415	Applied Industrial Technologies, Inc. distributes industrial products in North America, Australia, New Zealand, and Singapore. The company offers its products for maintenance, repair, and operational, as well as original equipment manufacturing customers.
54	APPLIED MATERIALS INC	AMAT	49,702	Applied Materials, Inc. provides manufacturing equipment, services, and software to the semiconductor, display, and related industries. It operates through three segments: Semiconductor Systems, Applied Global Services, and Display and Adjacent Markets.
55	APTARGROUP INC	ATR	7,373	AptarGroup, Inc. provides a range of packaging, dispensing, and sealing solutions primarily for the beauty, personal care, home care, prescription drug, consumer health care, injectable, and food and beverage markets.
56	APTIV PLC	APTV	24,245	Aptiv PLC designs, manufacturers, and sells vehicle components worldwide. The company provides electrical, electronic, and safety technology solutions to the automotive and commercial vehicle markets.
57	ARCBEST CORP	ARCB	701	ArcBest Corporation provides freight transportation and integrated logistics services. It operates through three segments: Asset-Based, ArcBest, and FleetNet.
58	ARCHER-DANIELS-MIDLAND CO	ADM	25,817	Archer-Daniels-Midland Company procures, transports, stores, processes, and merchandises agricultural commodities, products, and ingredients in the United States and internationally. The company operates through three segments: Ag Services and Oilseeds, Carbohydrate Solutions, and Nutrition.

59	ARMSTRONG WORLD INDUSTRIES	AWI	4,510	Armstrong World Industries, Inc., together with its subsidiaries, designs, manufactures, and sells ceiling systems primarily for use in the construction and renovation of residential and commercial buildings in the United States, Canada, and Latin America.
60	ASBURY AUTOMOTIVE GROUP INC	ABG	2,155	Asbury Automotive Group, Inc., together with its subsidiaries, operates as an automotive retailer in the United States.
61	ASGN INC	ASGN	3,754	ASGN Incorporated provides professional staffing and IT solutions in the technology, digital, creative, engineering and life sciences fields across commercial and government sectors in the United States and internationally. The company operates through three segments: Apex, Oxford, and ECS.
62	ASPEN TECHNOLOGY INC	AZPN	7,016	Aspen Technology, Inc., together with its subsidiaries, provides asset optimization solutions in North America, Europe, the Asia Pacific, Latin America, and the Middle East. The company operates in two segments, Subscription and Software, and Services and Other.
63	ASTEC INDUSTRIES INC	ASTE	947	Astec Industries, Inc. designs, engineers, manufactures, and markets equipment and components used primarily in road building and related construction activities in the United States and internationally.
64	ASTRONICS CORP	ATRO	869	Astronics Corporation, through its subsidiaries, designs and manufactures products for the aerospace, defense, and electronics industries in the United States, North America, Asia, Europe, South America, and internationally. It operates in two segments, Aerospace and Test Systems.
65	AT&T INC	T	283,508	AT&T Inc. provides telecommunication, media, and technology services worldwide. The company operates through Communications, WarnerMedia, and Latin America segments.
66	ATN INTERNATIONAL INC	ATNI	886	ATN International, Inc., through its subsidiaries, provides telecommunications services in the United States, the Caribbean, and Bermuda. It operates in three segments: International Telecom, US Telecom, and Renewable Energy.
67	ATRION CORP	ATRI	1,394	Atrion Corporation, together with its subsidiaries, develops, manufactures, and sells products for fluid delivery, cardiovascular, and ophthalmology applications in the United States, Germany, and internationally.
68	AUTOMATIC DATA PROCESSING	ADP	64,008	Automatic Data Processing, Inc. provides cloud-based human capital management solutions worldwide. It operates through two segments, Employer Services and Professional Employer Organization (PEO).
69	AUTONATION INC	AN	4,345	AutoNation, Inc., through its subsidiaries, operates as an automotive retailer in the United States. The company operates through three segments: Domestic, Import, and Premium Luxury.

70	AUTOZONE INC	AZO	27,965	AutoZone, Inc. retails and distributes automotive replacement parts and accessories. The company offers various products for cars, sport utility vehicles, vans, and light trucks, including new and remanufactured automotive hard parts, maintenance items, accessories, and non-automotive products.
71	AXALTA COATING SYSTEMS LTD	AXTA	7,141	Axalta Coating Systems Ltd., through its subsidiaries, manufactures, markets, and distributes high-performance coatings systems in North America, Europe, the Middle East, Africa, the Asia Pacific, and Latin America.
72	AXCELIS TECHNOLOGIES INC	ACLS	785	Axcelis Technologies, Inc. designs, manufactures, and services ion implantation and other processing equipment used in the fabrication of semiconductor chips in the United States, Europe, and Asia.
73	AZZ INC	AZZ	965	AZZ Inc. provides galvanizing and metal coating solutions, welding solutions, specialty electrical equipment, and engineered services to the power generation, transmission, distribution, refining, and industrial markets in the United States and Canada.
74	B&G FOODS INC	BGS	1,148	B&G Foods, Inc. manufactures, sells, and distributes a portfolio of shelf-stable and frozen foods, and household products in the United States, Canada, and Puerto Rico.
75	B. RILEY FINANCIAL INC	RILY	679	B. Riley Financial, Inc., through its subsidiaries, provides collaborative financial services and solutions in North America, Australia, and Europe.
76	BADGER METER INC	BMI	1,891	Badger Meter, Inc. manufactures and markets flow measurement, quality, control, and communication solutions in the United States, Asia, Canada, Europe, Mexico, the Middle East, and internationally.
77	BALCHEM CORP - CL B	BCPC	3,273	Balchem Corporation develops, manufactures, and markets specialty performance ingredients and products for the nutritional, food, pharmaceutical, animal health, medical device sterilization, plant nutrition, and industrial markets in the United States and internationally.
78	BARNES GROUP INC	B	3,149	Barnes Group Inc. provides engineered products, industrial technologies, and solutions in the United States and internationally. It operates in two segments: Industrial and Aerospace.
79	BARRETT BUSINESS SVCS INC	BBSI	680	Barrett Business Services, Inc. provides business management solutions for small and mid-sized companies in the United States.
80	BEST BUY CO INC	BBY	21,722	Best Buy Co., Inc. retails technology products in the United States and Canada. The company operates in two segments, Domestic and International.
81	BGSF INC	BGSF	226	BGSF Inc. provides workforce solutions and placement services in the United States. It operates through three segments: Real Estate, Professional, and Light Industrial.
82	BIG LOTS INC	BIG	1,056	Big Lots, Inc., through its subsidiaries, operates as a retailer in the United States.

83	BIOGEN INC	BIIB	51,690	Biogen Inc. discovers, develops, manufactures, and delivers therapies for treating neurological and neurodegenerative diseases worldwide.
84	BIO-RAD LABORATORIES INC	BIO	11,071	Bio-Rad Laboratories, Inc. develops, manufactures, and markets life science research and clinical diagnostic products in the United States, Europe, Asia, Canada, and Latin America.
85	BIOSPECIFICS TECHNOLOGIES CP	BSTC	418	BioSpecifics Technologies Corp., a biopharmaceutical company, develops an injectable collagenase clostridium histolyticum for various indications in the United States and internationally.
86	BJ'S RESTAURANTS INC	BJRI	727	BJ's Restaurants, Inc. owns and operates casual dining restaurants in the United States. Its restaurants offer pizzas, craft and other beers, appetizers, entrees, pastas, sandwiches, specialty salads, and desserts.
87	BLACK KNIGHT INC	BKI	9,653	Black Knight, Inc. provides integrated software, data, and analytics solutions in the United States.
88	BOISE CASCADE CO	BCC	1,424	Boise Cascade Company manufactures wood products and distributes building materials in the United States and Canada. It operates in two segments, Wood Products and Building Materials Distribution.
89	BOOKING HOLDINGS INC	BKNG	85,059	Booking Holdings Inc. provides travel and restaurant online reservation and related services worldwide.
90	BOOT BARN HOLDINGS INC	BOOT	373	Boot Barn Holdings, Inc., a lifestyle retail chain, operates specialty retail stores in the United States. The company's specialty retail stores offer western and work-related footwear, apparel, and accessories for men, women, and kids.
91	BOOZ ALLEN HAMILTON HLDG CP	BAH	9,522	Booz Allen Hamilton Holding Corporation provides management and technology consulting, analytics, engineering, digital, mission operations, and cyber solutions to governments, corporations, and not-for-profit organizations in the United States and internationally.
92	BORGWARNER INC	BWA	8,954	BorgWarner Inc. provides solutions for combustion, hybrid, and electric vehicles worldwide.
93	BOSTON BEER INC - CL A	SAM	4,551	The Boston Beer Company, Inc. produces and sells alcohol beverages primarily in the United States. The company's flagship beer is Samuel Adams Boston Lager.
94	BRADY CORP	BRC	2,390	Brady Corporation manufactures and supplies identification solutions (IDS) and workplace safety (WPS) products to identify and protect premises, products, and people in the United States and internationally.
95	BRIGHT HORIZONS FAMILY SOLTN	BFAM	8,699	Bright Horizons Family Solutions Inc. provides child care and early education services, back-up care services, educational advisory services, and other workplace solutions for employers and families.

96	BRINKER INTL INC	EAT	1,080	Brinker International, Inc., together with its subsidiaries, owns, develops, operates, and franchises casual dining restaurants in the United States and internationally.
97	BRISTOL-MYERS SQUIBB CO	BMY	144,492	Bristol-Myers Squibb Company discovers, develops, licenses, manufactures, and markets biopharmaceutical products worldwide. The company offers products in hematology, oncology, cardiovascular, and immunology therapeutic classes.
98	BROADRIDGE FINANCIAL SOLUTNS	BR	14,524	Broadridge Financial Solutions, Inc. provides investor communications and technology-driven solutions for the financial services industry worldwide.
99	BROWN FORMAN CORP	BF.B	28,818	Brown-Forman Corporation manufactures, bottles, imports, exports, markets, and sells various alcoholic beverages.
100	BRUKER CORP	BRKR	7,857	Bruker Corporation develops, manufactures, and distributes scientific instruments, and analytical and diagnostic solutions in the United States, Europe, the Asia Pacific, and internationally.
101	BRUNSWICK CORP	BC	4,773	Brunswick Corporation designs, manufactures, and markets recreation products worldwide. It operates through Propulsion; Parts & Accessories; and Boat segments.
102	BUCKLE INC	BKE	1,201	The Buckle, Inc. operates as a retailer of casual apparel, footwear, and accessories for young men and women in the United States.
103	BURLINGTON STORES INC	BURL	14,338	Burlington Stores, Inc. operates as a retailer of branded apparel products in the United States.
104	BWX TECHNOLOGIES INC	BWXT	5,917	BWX Technologies, Inc. manufactures and sells nuclear components in the United States, Canada, and internationally.
105	C H ROBINSON WORLDWIDE INC	CHRW	10,549	C.H. Robinson Worldwide, Inc., together with its subsidiaries, provides freight transportation services and logistics solutions to companies in various industries worldwide. The company operates through two segments, North American Surface Transportation and Global Forwarding.
106	CABLE ONE INC	CABO	8,507	Cable One, Inc., together with its subsidiaries, provides data, video, and voice services in the United States. The company offers residential data services, a service to enhance Wi-Fi signal throughout the home.
107	CAESARSTONE LTD	CSTE	518	Caesarstone Ltd., together with its subsidiaries, develops, manufactures, and markets engineered quartz surfaces under the Caesarstone brand in the United States, Australia, Canada, Latin America, Asia, Israel, Europe, the Middle East, and Africa.
108	CAI INTERNATIONAL INC	CAI	507	CAI International, Inc. operates as a transportation finance company in the United States, Switzerland, France, Korea, Singapore, rest of Asia, rest of Europe, and internationally.
109	CALAVO GROWERS INC	CVGW	1,526	Calavo Growers, Inc. markets and distributes avocados, prepared avocados, and other perishable foods to retail grocery and

				foodservice customers, club stores, mass merchandisers, food distributors, and wholesale customers worldwide.
110	CALERES INC	CAL	709	Caleres, Inc. engages in the retail and wholesale of footwear in the United States, China, Canada, China, and Guam. It operates through Famous Footwear and Brand Portfolio segments.
111	CAMPBELL SOUP CO	CPB	14,970	Campbell Soup Company, together with its subsidiaries, engages in the manufacture and market food and beverage products. It operates through Meals & Beverages and Snacks segments. The Meals & Beverages segment engages in the retail and foodservice businesses in the United States and Canada.
112	CANTEL MEDICAL CORP	CMD	1,992	Cantel Medical Corp. provides infection prevention and control products and services for the healthcare market.
113	CARDTRONICS PLC	CATM	1,995	Cardtronics plc provides automated consumer financial services through its network of automated teller machines (ATMs) and multi-function financial services kiosks.
114	CARLISLE COS INC	CSL	9,013	Carlisle Companies Incorporated operates as a diversified manufacturer of engineered products in the United States, Europe, Asia, Canada, Mexico, the Middle East, Africa, and internationally.
115	CARMAX INC	KMX	14,239	CarMax, Inc., through its subsidiaries, operates as a retailer of used vehicles in the United States. The company operates in two segments, CarMax Sales Operations and CarMax Auto Finance.
116	CARRIAGE SERVICES INC	CSV	457	Carriage Services, Inc. provides funeral and cemetery services, and merchandise in the United States. It operates through two segments, Funeral Home Operations and Cemetery Operations.
117	CARTER'S INC	CRI	4,807	Carter's, Inc., together with its subsidiaries, designs, sources, and markets branded childrenswear under the Carter's, OshKosh, Skip Hop, Child of Mine, Just One You, Simple Joys, Carter's little baby basics, and other brands in the United States and internationally.
118	CASEYS GENERAL STORES INC	CASY	5,573	Casey's General Stores, Inc., together with its subsidiaries, operates convenience stores under the Casey's and Casey's General Store names.
119	CASS INFORMATION SYSTEMS INC	CASS	838	Cass Information Systems, Inc. provides payment and information processing services to manufacturing, distribution, and retail enterprises in the United States. It operates through two segments, Information Services and Banking Services.
120	CATO CORP -CL A	CATO	390	The Cato Corporation, together with its subsidiaries, operates as a specialty retailer of fashion apparel and accessories primarily in the southeastern United States. It operates through two segments, Retail and Credit.
121	CAVCO INDUSTRIES INC	CVCO	1,330	Cavco Industries, Inc. designs, produces, and retails manufactured homes primarily in the United States. It operates in two segments, Factory-Built Housing and Financial Services.



122	CBIZ INC	CBZ	1,494	CBIZ, Inc. provides financial, insurance, and advisory services in the United States and Canada. The company operates through three segments: Financial Services, Benefits and Insurance Services, and National Practices.
123	CDK GLOBAL INC	CDK	5,033	CDK Global, Inc., together with its subsidiaries, provides software and technology solutions for automotive retailers in the United States, Europe, Canada, and internationally.
124	CDW CORP	CDW	20,426	CDW Corporation provides integrated information technology (IT) solutions to business, government, education, and healthcare customers in the United States, the United Kingdom, and Canada. It operates through three segments: Corporate, Small Business, and Public.
125	CELANESE CORP	CE	14,720	Celanese Corporation, a technology and specialty materials company, manufactures and sells high performance engineered polymers in the United States and internationally. The company operates through Engineered Materials, Acetate Tow, and Acetyl Chain segments.
126	CENTRAL GARDEN & PET CO	CENTA	1,575	Central Garden & Pet Company produces and distributes various products for the lawn and garden, and pet supplies markets in the United States.
127	CENTURY COMMUNITIES INC	CCS	904	Century Communities, Inc., together with its subsidiaries, engages in the design, development, construction, marketing, and sale of single-family attached and detached homes.
128	CERNER CORP	CERN	22,818	Cerner Corporation, together with its subsidiaries, provides health care information technology solutions and tech-enabled services in the United States and internationally.
129	CHARLES RIVER LABS INTL INC	CRL	7,475	Charles River Laboratories International, Inc., an early-stage contract research company, provides drug discovery, non-clinical development, and safety testing services in the United States, Europe, Canada, the Asia Pacific, and internationally.
130	CHASE CORP	CCF	921	Chase Corporation, a specialty chemicals company, manufactures and sells protective materials for various applications worldwide. It operates through three segments: Adhesives, Sealants and Additives; Industrial Tapes; and Corrosion Protection and Waterproofing.
131	CHEESECAKE FACTORY INC	CAKE	1,740	The Cheesecake Factory Incorporated operates restaurants. The company produces cheesecakes and other baked products for its restaurants, international licensees, and third-party bakery customers, as well as external foodservice operators, retailers, and distributors.
132	CHEFS' WAREHOUSE INC	CHEF	1,156	The Chefs' Warehouse, Inc., together with its subsidiaries, distributes specialty food products in the United States and Canada.
133	CHEMED CORP	CHE	7,003	Chemed Corporation provides hospice and palliative care services to patients through a network of physicians, registered nurses, home

				health aides, social workers, clergy, and volunteers in the United States. It operates in two segments, VITAS and Roto-Rooter.
134	CHILDRENS PLACE INC	PLCE	878	The Children's Place, Inc. operates as a children's specialty apparel retailer. The company operates through two segments, The Children's Place U.S. and The Children's Place International.
135	CHIPOTLE MEXICAN GRILL INC	CMG	23,234	Chipotle Mexican Grill, Inc., together with its subsidiaries, owns and operates Chipotle Mexican Grill restaurants. As of December 31, 2020, it owned and operated 2,724 Chipotle restaurants in the United States, 40 international Chipotle restaurants, and 4 non-Chipotle restaurants.
136	CHURCH & DWIGHT INC	CHD	17,263	Church & Dwight Co., Inc. develops, manufactures, and markets household, personal care, and specialty products in the United States and internationally. It operates in three segments: Consumer Domestic, Consumer International, and Specialty Products Division.
137	CHURCHILL DOWNS INC	CHDN	5,447	Churchill Downs Incorporated operates as a racing, online wagering, and gaming entertainment company in the United States. It operates through three segments: Churchill Downs, Online Wagering, and Gaming.
138	CIMPRESS PLC	CMPR	1,976	Cimpres plc provides various mass customization services in North America, Europe, and internationally. The company operates through five segments: Vistaprint, PrintBrothers, The Print Group, National Pen, and All Other Businesses.
139	CINEMARK HOLDINGS INC	CNK	3,966	Cinemark Holdings, Inc., together with its subsidiaries, engages in the motion picture exhibition business.
140	CINTAS CORP	CTAS	25,643	Cintas Corporation provides corporate identity uniforms and related business services primarily in North America, Latin America, Europe, and Asia. It operates through Uniform Rental and Facility Services and First Aid and Safety Services segments.
141	CIRRUS LOGIC INC	CRUS	3,822	Cirrus Logic, Inc., a fabless semiconductor company, develops, manufactures, and markets analog and mixed-signal integrated circuits (ICs) in the United States and internationally.
142	CISCO SYSTEMS INC	CSCO	199,563	Cisco Systems, Inc. designs, manufactures, and sells Internet Protocol based networking and other products related to the communications and information technology industry in the Americas, Europe, the Middle East, Africa, the Asia Pacific, Japan, and China.
143	CITI TRENDS INC	CTRN	252	Citi Trends, Inc. operates as a value-priced retailer of fashion apparel, accessories, and home goods.
144	CLEARFIELD INC	CLFD	162	Clearfield, Inc. manufactures, markets, and sells standard and custom passive connectivity products to the fiber-to-the-premises, enterprises, and original equipment manufacturers markets in the United States and internationally.

145	CLOROX CO/DE	CLX	27,684	The Clorox Company manufactures and markets consumer and professional products worldwide. It operates through four segments: Health and Wellness, Household, Lifestyle, and International.
146	CMC MATERIALS INC	CCMP	4,109	CMC Materials, Inc., together with its subsidiaries, provides consumable materials to semiconductor manufacturers, and pipeline and adjacent industry customers in North America, Asia, Europe, the Middle East, Africa, and South America.
147	COCA-COLA CO	KO	236,898	The Coca-Cola Company, a beverage company, manufactures, markets, and sells various nonalcoholic beverages worldwide. The company provides sparkling soft drinks; water, enhanced water, and sports drinks; juice, dairy, and plant-based beverages; tea and coffee; and energy drinks.
148	COGENT COMMUNICATIONS HLDGS	CCOI	3,083	Cogent Communications Holdings, Inc., through its subsidiaries, provides high-speed Internet access, private network, and data center colocation space services in North America, Europe, Asia, South America, Australia, and Africa.
149	COGNIZANT TECH SOLUTIONS	CTSH	33,987	Cognizant Technology Solutions Corporation, a professional services company, provides consulting and technology, and outsourcing services in North America, Europe, and internationally.
150	COHERENT INC	COHR	3,687	Coherent, Inc. provides lasers, laser-based technologies, and laser-based system solutions for a range of scientific, commercial, and industrial research applications. It operates in two segments, OEM Laser Sources and Industrial Lasers & Systems.
151	COLGATE-PALMOLIVE CO	CL	58,838	Colgate-Palmolive Company, together with its subsidiaries, manufactures and sells consumer products worldwide. The company operates through two segments, Oral, Personal and Home Care; and Pet Nutrition.
152	COLLECTORS UNIVERSE INC	CLCT	317	Collectors Universe, Inc. provides authentication, grading, and related services to dealers, collectors, and retail buyers and sellers of coins, trading cards, event tickets, autographs, and historical and sports memorabilia in the United States.
153	COLUMBIA SPORTSWEAR CO	COLM	6,769	Columbia Sportswear Company, together with its subsidiaries, designs, sources, markets, and distributes outdoor, active, and everyday lifestyle apparel, footwear, accessories, and equipment in the United States, Latin America, the Asia Pacific, Europe, the Middle East, Africa, and Canada.
154	COLUMBUS MCKINNON CORP	CMCO	594	Columbus McKinnon Corporation designs, manufactures, and markets hoists, actuators, rigging tools, digital power control systems, motion control products, and other technologies and systems for commercial and industrial applications worldwide.
155	COMCAST CORP	CMCSA	204,750	Comcast Corporation operates as a media and technology company worldwide. It operates through Cable Communications, Cable Networks, Broadcast Television, Filmed Entertainment, Theme Parks, and Sky segments.

156	COMFORT SYSTEMS USA INC	FIX	1,827	Comfort Systems USA, Inc. provides mechanical and electrical installation, renovation, maintenance, repair, and replacement services for the mechanical and electrical services industry in the United States.
157	COMMERCIAL METALS	CMC	2,488	Commercial Metals Company manufactures, recycles, and fabricates steel and metal products, and related materials and services in the United States, Poland, China, Germany, and internationally.
158	COMPASS MINERALS INTL INC	CMP	2,066	Compass Minerals International, Inc., produces and sells essential minerals primarily in the United States, Canada, Brazil, the United Kingdom, and internationally. It operates through three segments: Salt, Plant Nutrition North America, and Plant Nutrition South America.
159	COMPUTER PROGRAMS & SYSTEMS	CPSI	379	Computer Programs and Systems, Inc. provides healthcare information technology solutions and services in the United States and the Caribbean nation of St. Maarten.
160	COMPX INTERNATIONAL INC	CIX	182	CompX International Inc. manufactures and sells security products and recreational marine components primarily in North America. It operates in two segments, Security Products and Marine Components.
161	CONAGRA BRANDS INC	CAG	16,948	Conagra Brands, Inc., together with its subsidiaries, operates as a consumer packaged goods food company in North America. The company operates through Grocery & Snacks, Refrigerated & Frozen, International, and Foodservice segments.
162	CONMED CORP	CNMD	3,178	CONMED Corporation, a medical technology company, develops, manufactures, and sells surgical devices and related equipment for minimally invasive procedures worldwide.
163	COOPER COS INC (THE)	COO	14,288	The Cooper Companies, Inc. operates as a medical device company worldwide. It operates through CooperVision and CooperSurgical business units.
164	COOPER TIRE & RUBBER CO	CTB	1,443	Cooper Tire & Rubber Company, together with its subsidiaries, designs, manufactures, markets, and sells replacement tires in North America, Latin America, Europe, and Asia. The company operates through Americas Tire Operations and International Tire Operations segments.
165	COPART INC	CPRT	21,943	Copart, Inc. provides online auctions and vehicle remarketing services in the United States, Canada, the United Kingdom, Brazil, the Republic of Ireland, Germany, Finland, the United Arab Emirates, Oman, Bahrain, and Spain.
166	CORE MARK HOLDING CO INC	CORE	1,227	Core-Mark Holding Company, Inc. distributes packaged consumer products to the convenience retail industry.
167	COSTCO WHOLESALE CORP	COST	153,407	Costco Wholesale Corporation, together with its subsidiaries, engages in the operation of membership warehouses in the United States, Puerto Rico, Canada, the United Kingdom, Mexico, Japan, Korea, Australia, Spain, France, Iceland, China, and Taiwan.

168	CRA INTERNATIONAL INC	CRAI	426	CRA International, Inc., a consulting company, provides economic, financial, and management consulting services in the United States, the United Kingdom, and internationally.
169	CRACKER BARREL OLD CTRY STOR	CBRL	2,618	Cracker Barrel Old Country Store, Inc. develops and operates the Cracker Barrel Old Country Store concept in the United States. Its Cracker Barrel stores consist of a restaurant with a gift shop. The company's restaurants serve breakfast, lunch, and dinner.
170	CRANE CO	CR	5,097	Crane Co. manufactures and sells engineered industrial products in the United States, Canada, the United Kingdom, Continental Europe, and internationally.
171	CROWN HOLDINGS INC	CCK	9,835	Crown Holdings, Inc. designs, manufactures, and sells packaging products and equipment for consumer goods and industrial products in the Americas, Europe, and the Asia Pacific.
172	CSG SYSTEMS INTL INC	CSGS	1,703	CSG Systems International, Inc. provides revenue management, customer experience, and payment solutions primarily to the communications industry in the Americas, Europe, the Middle East, Africa, and the Asia Pacific.
173	CSW INDUSTRIALS INC	CSWI	956	CSW Industrials, Inc. operates as a diversified industrial company in the United States and internationally. It operates through two segments, Industrial Products and Specialty Chemicals.
174	CSX CORP	CSX	55,968	CSX Corporation, together with its subsidiaries, provides rail-based freight transportation services.
175	CTS CORP	CTS	974	CTS Corporation manufactures and sells sensors, actuators, and connectivity components in North America, Europe, and Asia.
176	CUMMINS INC	CMI	26,933	Cummins Inc. designs, manufactures, distributes, and services diesel and natural gas engines, electric and hybrid powertrains, and related components worldwide. It operates through five segments: Engine, Distribution, Components, Power Systems, and New Power.
177	CURTISS-WRIGHT CORP	CW	6,013	Curtiss-Wright Corporation, together with its subsidiaries, designs, manufactures, and overhauls precision components, and engineered products and services primarily to the aerospace, defense, general industrial, and power generation markets worldwide.
178	D R HORTON INC	DHI	19,420	D.R. Horton, Inc. operates as a homebuilding company in East, Midwest, Southeast, South Central, Southwest, and West regions in the United States. It engages in the acquisition and development of land; and construction and sale of homes in 29 states and 88 markets under the names of D.R.
179	DANAHER CORP	DHR	106,745	Danaher Corporation designs, manufactures, and markets professional, medical, industrial, and commercial products and services worldwide. The company operates through three segments; Life Sciences, Diagnostics, and Environmental & Applied Solutions.
180	DARLING INGREDIENTS INC	DAR	4,599	Darling Ingredients Inc. develops, produces, and sells natural ingredients from edible and inedible bio-nutrients. The company

				operates through three segments: Feed Ingredients, Food Ingredients, and Fuel Ingredients.
181	DAVE & BUSTER'S ENTMT INC	PLAY	1,351	Dave & Buster's Entertainment, Inc. owns and operates entertainment and dining venues for adults and families in North America.
182	DAVITA INC	DVA	9,442	DaVita Inc. provides kidney dialysis services for patients suffering from chronic kidney failure or end stage renal disease (ESRD). The company operates kidney dialysis centers and provides related lab services in outpatient dialysis centers.
183	DEERE & CO	DE	54,530	Deere & Company, together with its subsidiaries, manufactures and distributes various equipment worldwide. The company operates through three segments: Agriculture and Turf, Construction and Forestry, and Financial Services.
184	DELTA AIR LINES INC	DAL	37,589	Delta Air Lines, Inc. provides scheduled air transportation for passengers and cargo in the United States and internationally. The company operates through two segments, Airline and Refinery. Its domestic network centered on core hubs in Atlanta, Minneapolis-St.
185	DELTA APPAREL INC	DLA	164	Delta Apparel, Inc., through its subsidiaries, designs, manufactures, sources, and markets activewear and lifestyle apparel products in the United States and internationally. The company operates through two segments, Delta Group and Salt Life Group.
186	DENNYS CORP	DENN	1,135	Denny's Corporation, through its subsidiary, Denny's, Inc., owns and operates full-service restaurant chains under the Denny's brand. As of December 30, 2020, it had 1,650 franchised, licensed, and company restaurants worldwide. The company was formerly known as Advantica Restaurant Group, Inc.
187	DICKS SPORTING GOODS INC	DKS	3,695	DICK'S Sporting Goods, Inc., together with its subsidiaries, operates as a sporting goods retailer primarily in the eastern United States.
188	DIGI INTERNATIONAL INC	DGII	385	Digi International Inc. provides business and mission-critical Internet of Things (IoT) products, services, and solutions in the United States and internationally. The company operates in two segments, IoT Products & Services and IoT Solutions.
189	DILLARDS INC -CL A	DDS	1,469	Dillard's, Inc. operates retail department stores in the southeastern, southwestern, and midwestern areas of the United States. Its stores offer merchandise, including fashion apparel for women, men, and children; and accessories, cosmetics, home furnishings, and other consumer goods.
190	DIODES INC	DIOD	2,887	Diodes Incorporated designs, manufactures, and supplies application-specific standard products in the discrete, logic, and analog and mixed-signal semiconductor markets worldwide. It primarily focuses on low pin count semiconductor devices with one or more active and/or passive components.
191	DISCOVERY INC	DISCA	16,567	Discovery, Inc., a media company, provides content across various distribution platforms in approximately 50 languages worldwide. It

				operates in two segments, U.S. Networks and International Networks.
192	DISH NETWORK CORP	DISH	18,552	DISH Network Corporation, together with its subsidiaries, provides pay-TV services in the United States. The company operates in two segments, Pay-TV and Wireless.
193	DISNEY (WALT) CO	DIS	234,837	The Walt Disney Company, together with its subsidiaries, operates as an entertainment company worldwide.
194	DOLLAR GENERAL CORP	DG	38,650	Dollar General Corporation, a discount retailer, provides various merchandise products in the southern, southwestern, Midwestern, and eastern United States.
195	DOMINO'S PIZZA INC	DPZ	11,438	Domino's Pizza, Inc., through its subsidiaries, operates as a pizza company in the United States and internationally. It operates through three segments: U.S. Stores, International Franchise, and Supply Chain.
196	DOMTAR CORP	UFS	2,175	Domtar Corporation designs, manufactures, markets, and distributes communication papers, specialty and packaging papers, and absorbent hygiene products in the United States, Canada, Europe, Asia, and internationally. It operates through two segments, Pulp and Paper, and Personal Care.
197	DONALDSON CO INC	DCI	6,107	Donaldson Company, Inc. manufactures and sells filtration systems and replacement parts worldwide. It operates through two segments, Engine Products and Industrial Products.
198	DORMAN PRODUCTS INC	DORM	2,465	Dorman Products, Inc. supplies replacement parts and fasteners for passenger cars, light trucks, and heavy-duty trucks in the automotive aftermarket industry in the United States, Canada, Mexico, Europe, the Middle East, and Australia.
199	DOUGLAS DYNAMICS INC	PLOW	1,254	Douglas Dynamics, Inc. operates as a manufacturer and upfitter of commercial work truck attachments and equipment in North America. It operates through two segments, Work Truck Attachments and Work Truck Solutions.
200	DOVER CORP	DOV	16,632	Dover Corporation provides equipment and components, consumable supplies, aftermarket parts, software and digital solutions, and support services worldwide.
201	DRIL-QUIP INC	DRQ	1,682	Dril-Quip, Inc., together with its subsidiaries, designs, manufactures, sells, and services engineered drilling and production equipment for use in deepwater, harsh environment, and severe service applications worldwide.
202	DULUTH HOLDINGS INC	DLTH	275	Duluth Holdings Inc. sells casual wear, workwear, and accessories for men and women under the Duluth Trading brand in the United States. It provides shirts, pants, underwear, outerwear, footwear, accessories, and hard goods.
203	DUNKIN' BRANDS GROUP INC	DNKN	6,257	Dunkin' Brands Group, Inc., together with its subsidiaries, franchises and licenses quick service restaurants in the United States and internationally. The company operates through five segments:

				Dunkin' U.S., Dunkin' International, Baskin-Robbins International, Baskin-Robbins U.S., and U.S.
204	DYCOM INDUSTRIES INC	DY	1,277	Dycom Industries, Inc. provides specialty contracting services in the United States.
205	EASTERN CO	EML	191	The Eastern Company designs, manufactures, and sells engineered solutions to industrial markets in the United States and internationally. The company operates through two segments, Engineered Solutions and Diversified Products.
206	EASTMAN CHEMICAL CO	EMN	10,775	Eastman Chemical Company operates as a specialty materials company worldwide.
207	EATON CORP PLC	ETN	39,148	Eaton Corporation plc operates as a power management company.
208	EBIX INC	EBIX	1,019	Ebix, Inc. provides on-demand software and e-commerce services and solutions to insurance, financial, healthcare, and e-learning industries in the United States and internationally.
209	ECOLAB INC	ECL	55,660	Ecolab Inc. provides water, hygiene, and infection prevention solutions and services worldwide.
210	EDWARDS LIFESCIENCES CORP	EW	48,781	Edwards Lifesciences Corporation provides products and technologies for structural heart disease, and critical care and surgical monitoring in the United States, Europe, Japan, and internationally.
211	EL POLLO LOCO HOLDINGS INC	LOCO	532	El Pollo Loco Holdings, Inc., through its subsidiary El Pollo Loco, Inc., develops, franchises, licenses, and operates quick-service restaurants under the El Pollo Loco name.
212	EMCOR GROUP INC	EME	4,852	EMCOR Group, Inc. provides electrical and mechanical construction, and facilities services in the United States.
213	EMERGENT BIOSOLUTIONS INC	EBS	2,789	Emergent BioSolutions Inc., a life sciences company, focuses on the provision of preparedness and response products and solutions for civilian and military populations that address accidental, deliberate, and naturally occurring public health threats (PHTs).
214	EMERSON ELECTRIC CO	EMR	40,851	Emerson Electric Co. designs and manufactures technology and engineering products for industrial, commercial, and consumer markets worldwide. It operates through Automation Solutions and Commercial & Residential Solutions segments.
215	ENCOMPASS HEALTH CORP	EHC	6,830	Encompass Health Corporation provides facility-based and home-based post-acute healthcare services in the United States. The company operates through two segments, Inpatient Rehabilitation, and Home Health and Hospice.
216	ENCORE WIRE CORP	WIRE	1,200	Encore Wire Corporation manufactures and sells electrical building wires and cables for interior electrical wiring in the United States.
217	ENERSYS	ENS	2,096	EnerSys provides various stored energy solutions for industrial applications worldwide.



218	ENNIS INC	EBF	521	Ennis, Inc. designs, manufactures, and sells business forms and other business products in the United States.
219	ENSIGN GROUP INC	ENSG	2,427	The Ensign Group, Inc. provides health care services in the post-acute care continuum and other ancillary businesses. It operates in two segments, Transitional and Skilled Services and Real Estate.
220	ENTEGRIS INC	ENTG	6,748	Entegris, Inc.
221	EPAM SYSTEMS INC	EPAM	11,709	EPAM Systems, Inc. provides digital platform engineering and software development services in North America, Europe, Russia, Belarus, Kazakhstan, Ukraine, Georgia, East Asia, Southeast Asia, and Australia.
222	EPLUS INC	PLUS	845	ePlus inc., through its subsidiaries, provides information technology solutions that enable organizations to optimize their information technology (IT) environment and supply chain processes in the United States. It operates in two segments, Technology and Financing.
223	ESCALADE INC	ESCA	140	Escalade, Incorporated, together with its subsidiaries, manufactures and sells sporting goods in North America, Europe, and internationally.
224	ETHAN ALLEN INTERIORS INC	ETH	296	Ethan Allen Interiors Inc. operates as an interior design company, and manufacturer and retailer of home furnishings in the United States and internationally. The company operates in two segments, Wholesale and Retail.
225	EVI INDUSTRIES INC	EVI	259	EVI Industries, Inc., through its subsidiaries, distributes, leases, and rents commercial, industrial, and vended laundry and dry cleaning equipment, and steam and hot water boilers in the United States, Canada, the Caribbean, and Latin America.
226	EXLSERVICE HOLDINGS INC	EXLS	2,374	ExlService Holdings, Inc. provides operations management and analytics services in the United States, the United Kingdom, and internationally.
227	EXPEDIA GROUP INC	EXPE	15,421	Expedia Group, Inc. operates as an online travel company in the United States and internationally. The company operates through Retail, B2B, and trivago segments.
228	EXPEDITORS INTL WASH INC	EXPD	13,234	Expeditors International of Washington, Inc. provides logistics services in the Americas, North Asia, South Asia, Europe, the Middle East, Africa, and India.
229	EXPONENT INC	EXPO	3,572	Exponent, Inc., together with its subsidiaries, operates as a science and engineering consulting company worldwide.
230	EXTENDED STAY AMERICA INC	STAY	2,667	Extended Stay America, Inc., together with its subsidiaries, owns, operates, develops, and manages hotels in the United States. As of December 31, 2020, the company had a network of 646 hotels. It serves customers in the mid-priced extended stay segment.

231	F5 NETWORKS INC	FFIV	8,477	F5 Networks, Inc. provides multi-cloud application services for the security, performance, and availability of network applications, servers, and storage systems.
232	FABRINET	FN	2,293	Fabrinet provides optical packaging and precision optical, electro-mechanical, and electronic manufacturing services in North America, the Asia-Pacific, and Europe.
233	FACEBOOK INC	FB	585,373	Facebook, Inc. develops products that enable people to connect and share with friends and family through mobile devices, personal computers, virtual reality headsets, and in-home devices worldwide.
234	FACTSET RESEARCH SYSTEMS INC	FDS	13,326	FactSet Research Systems Inc. provides integrated financial information and analytical applications to the investment and corporate communities in the Americas, EMEA, and the Asia Pacific.
235	FAIR ISAAC CORP	FICO	8,785	Fair Isaac Corporation develops analytic, software, and data management products and services that enable businesses to automate, enhance, and connect decisions in North America, Latin America, Europe, the Middle East, Africa, and the Asia Pacific.
236	FASTENAL CO	FAST	21,214	Fastenal Company, together with its subsidiaries, engages in the wholesale distribution of industrial and construction supplies in the United States, Canada, Mexico, North America, and internationally.
237	FEDERAL SIGNAL CORP	FSS	1,951	Federal Signal Corporation, together with its subsidiaries, designs, manufactures, and supplies a suite of products and integrated solutions for municipal, governmental, industrial, and commercial customers in the United States, Canada, Europe, and internationally.
238	FEDEX CORP	FDX	34,151	FedEx Corporation provides transportation, e-commerce, and business services worldwide. Its FedEx Express segment offers shipping services for delivery of packages and freight.
239	FIDELITY NATIONAL INFO SVCS	FIS	85,540	Fidelity National Information Services, Inc. provides technology solutions for merchants, banks, and capital markets firms worldwide. It operates through Merchant Solutions, Banking Solutions, and Capital Market Solutions segments.
240	FIRSTCASH INC	FCFS	3,413	FirstCash, Inc., together with its subsidiaries, operates retail pawn stores in the United States and Latin America.
241	FISERV INC	FISV	78,617	Fiserv, Inc., together with its subsidiaries, provides payment and financial services technology worldwide. The company operates through Acceptance, Fintech, and Payments segments.
242	FIVE BELOW INC	FIVE	6,308	Five Below, Inc. operates as a specialty value retailer in the United States.
243	FLEETCOR TECHNOLOGIES INC	FLT	24,555	FLEETCOR Technologies, Inc. provides digital payment solutions for businesses to control purchases and make payments.
244	FLIR SYSTEMS INC	FLIR	6,998	FLIR Systems, Inc., together with its subsidiaries, designs, develops, markets, and distributes thermal imaging systems, visible-light imaging systems, locator systems, measurement and diagnostic systems, and threat-detection solutions worldwide.

245	FLOWERS FOODS INC	FLO	4,598	Flowers Foods, Inc. produces and markets packaged bakery products in the United States. It offers fresh breads, buns, rolls, snack cakes, and tortillas, as well as frozen breads and rolls under the Nature's Own, Dave's Killer Bread, Wonder, Canyon Bakehouse, Mrs.
246	FLOWSERVE CORP	FLS	6,497	Flowserve Corporation designs, develops, manufactures, distributes, and services industrial flow management equipment in the United States, Canada, Mexico, the Middle East, Africa, the Asia Pacific, and Europe.
247	FOOT LOCKER INC	FL	3,956	Foot Locker, Inc., through its subsidiaries, operates as an athletic footwear and apparel retailer.
248	FORTUNE BRANDS HOME & SECUR	FBHS	9,119	Fortune Brands Home & Security, Inc. provides home and security products for residential home repair, remodeling, new construction, and security applications. It operates in three segments: Plumbing, Outdoors & Security, and Cabinets.
249	FORWARD AIR CORP	FWRD	1,948	Forward Air Corporation, together with its subsidiaries, operates as an asset-light freight and logistics company in the United States and Canada. The company operates through two segments, Expedited Freight and Intermodal.
250	FOX FACTORY HOLDING CP	FOXF	2,683	Fox Factory Holding Corp. designs, engineers, manufactures, and markets ride dynamics products worldwide.
251	FRANKLIN ELECTRIC CO INC	FELE	2,659	Franklin Electric Co., Inc., together with its subsidiaries, designs, manufactures, and distributes water and fuel pumping systems worldwide. It operates in three segments: Water Systems, Fueling Systems, and Distribution.
252	FTI CONSULTING INC	FCN	4,138	FTI Consulting, Inc. provides business advisory services to manage change, mitigate risk, and resolve disputes worldwide. Its Corporate Finance & Restructuring segment provides business transformation, transactions, turnaround, restructuring, and bankruptcy services.
253	GAP INC	GPS	6,459	The Gap, Inc. operates as an apparel retail company. The company offers apparel, accessories, and personal care products for men, women, and children under the Old Navy, Gap, Banana Republic, Athleta, Intermix, and Janie and Jack brands.
254	GARMIN LTD	GRMN	18,603	Garmin Ltd. designs, develops, manufactures, markets, and distributes a range of navigation, communication, and information devices in the Americas, the Asia Pacific, Australian Continent, Europe, the Middle East, and Africa.
255	GARTNER INC	IT	13,739	Gartner, Inc. operates as a research and advisory company in the United States, Canada, Europe, the Middle East, Africa, and internationally. It operates through three segments: Research, Conferences, and Consulting.
256	GATX CORP	GATX	2,886	GATX Corporation (NYSE: GATX) strives to be recognized as the finest railcar leasing company in the world by our customers, our shareholders, our employees and the communities where we operate.

257	GCI LIBERTY INC	GLIBA	7,507	As of December 18, 2020, GCI Liberty, Inc. operates as a subsidiary of Liberty Broadband Corporation.
258	GENERAC HOLDINGS INC	GNRC	6,293	Generac Holdings Inc. designs, manufactures, and sells power generation equipment, energy storage systems, and other power products for the residential, and light commercial and industrial markets worldwide.
259	GENERAL DYNAMICS CORP	GD	51,073	General Dynamics Corporation operates as an aerospace and defense company worldwide. It operates through four segments: Aerospace, Marine Systems, Combat Systems, and Technologies.
260	GENERAL MILLS INC	GIS	38,442	General Mills, Inc. manufactures and markets branded consumer foods worldwide. The company operates in five segments: North America Retail; Convenience Stores & Foodservice; Europe & Australia; Asia & Latin America; and Pet.
261	GENESCO INC	GCO	578	Genesco Inc. operates as a retailer and wholesaler of footwear, apparel, and accessories. The company operates through four segments: Journeys Group, Schuh Group, Johnston & Murphy Group, and Licensed Brands.
262	GENPACT LTD	G	8,017	Genpact Limited provides business process outsourcing and information technology (IT) services North and Latin America, India, rest of Asia, and Europe.
263	GENTEX CORP	GNTX	7,282	Gentex Corporation designs, develops, manufactures, markets, and supplies digital vision, connected car, dimmable glass, and fire protection products in the United States, Germany, Japan, Mexico, and internationally. It operates through Automotive Products and Other segments.
264	GENTHERM INC	THRM	1,450	Gentherm Incorporated designs, develops, manufactures, and markets thermal management technologies. The company operates through two segments, Automotive and Medical.
265	GENUINE PARTS CO	GPC	15,444	Genuine Parts Company distributes automotive replacement parts, and industrial parts and materials.
266	GIBRALTAR INDUSTRIES INC	ROCK	1,629	Gibraltar Industries, Inc. manufactures and distributes building products for the renewable energy, conservation, residential, and infrastructure markets in North America and Asia.
267	G-III APPAREL GROUP LTD	GIII	1,306	G-III Apparel Group, Ltd. designs, manufactures, and markets men's and women's apparel. It operates through two segments: Wholesale Operations and Retail Operations.
268	GLOBAL PAYMENTS INC	GPN	54,809	Global Payments Inc. provides payment technology and software solutions for card, electronic, check, and digital-based payments in the Americas, Europe, and the Asia-Pacific. The company operates through three segments: Merchant Solutions, Issuer Solutions, and Business and Consumer Solutions.
269	GLOBUS MEDICAL INC	GMED	5,878	Globus Medical, Inc., a medical device company, develops and commercializes healthcare solutions for patients with musculoskeletal disorders.

270	GOLD RESOURCE CORP	GORO	364	Gold Resource Corporation explores for, develops, produces, and sells gold and silver in Mexico and the United States. It also explores for copper, lead, and zinc deposits.
271	GORMAN-RUPP CO	GRC	978	The Gorman-Rupp Company designs, manufactures, and sells pumps and pump systems worldwide.
272	GP STRATEGIES CORP	GPX	225	GP Strategies Corporation provides performance improvement and learning solutions worldwide.
273	GRACE (W R) & CO	GRA	4,662	W. R. Grace & Co., through its subsidiaries, produces and sells specialty chemicals and materials worldwide. It operates through two segments, Grace Catalysts Technologies and Grace Materials Technologies.
274	GRACO INC	GGG	8,699	Graco Inc. designs, manufactures, and markets systems and equipment used to move, measure, control, dispense, and spray fluid and powder materials worldwide.
275	GRAINGER (W W) INC	GWW	18,174	W.W. Grainger, Inc. distributes maintenance, repair, and operating (MRO) products and services in the United States, Canada, and internationally.
276	GRAND CANYON EDUCATION INC	LOPE	4,608	Grand Canyon Education, Inc. provides education services to colleges and universities in the United States.
277	GRAPHIC PACKAGING HOLDING CO	GPK	4,833	Graphic Packaging Holding Company, together with its subsidiaries, provides paper-based packaging solutions to food, beverage, foodservice, and other consumer products companies.
278	GRAY TELEVISION INC	GTN	2,123	Gray Television, Inc., a television broadcast company, owns and operates television stations and digital assets in the United States.
279	GREEN BRICK PARTNERS INC	GRBK	580	Green Brick Partners, Inc. operates as a homebuilding and land development company in the United States. It operates in three segments: Builder operations Central, Builder operations Southeast, and Land development.
280	GREEN DOT CORP	GDOT	1,207	Green Dot Corporation operates as a financial technology and bank holding company in the United States. It operates in two segments, Account Services, and Processing and Settlement Services.
281	GREENBRIER COS INC (THE)	GBX	889	The Greenbrier Companies, Inc. designs, manufactures, and markets railroad freight car equipment in North America, Europe, and South America. It operates through three segments: Manufacturing; Wheels, Repair & Parts; and Leasing & Services.
282	GREIF INC -CL A	GEF	2,064	Greif, Inc. produces and sells industrial packaging products and services worldwide. It operates through four segments: Rigid Industrial Packaging & Services; Paper Packaging & Services; Flexible Products & Services; and Land Management.
283	GRIFFON CORP	GFF	982	Griffon Corporation, through its subsidiaries, engages in the consumer and professional products, home and building products, and defense electronics businesses primarily in the United States, Europe, Canada, Australia, the United Kingdom, Mexico, and China.

284	GROUP 1 AUTOMOTIVE INC	GPI	1,863	Group 1 Automotive, Inc., through its subsidiaries, operates in the automotive retail industry.
285	GUESS INC	GES	1,402	Guess , Inc. designs, markets, distributes, and licenses lifestyle collections of contemporary apparel and accessories for men, women, and children that reflect the American lifestyle and European fashion sensibilities.
286	H&E EQUIPMENT SERVICES INC	HEES	1,198	H&E Equipment Services, Inc. operates as an integrated equipment services company. The company operates in five segments: Equipment Rentals, New Equipment Sales, Used Equipment Sales, Parts Sales, and Repair and Maintenance Services.
287	HACKETT GROUP INC	HCKT	480	The Hackett Group, Inc. operates as a strategic advisory and technology consulting firm primarily in North America and internationally.
288	HANESBRANDS INC	HBI	5,382	Hanesbrands Inc., a consumer goods company, designs, manufactures, sources, and sells a range of basic apparel for men, women, and children in the United States. The company operates through three segments: Innerwear, Activewear, and International.
289	HARLEY-DAVIDSON INC	HOG	5,670	Harley-Davidson, Inc. manufactures and sells custom, cruiser, and touring motorcycles. The company operates in two segments, Motorcycles and Related Products and Financial Services.
290	HASBRO INC	HAS	14,454	Hasbro, Inc., together with its subsidiaries, operates as a play and entertainment company. The company's U.S.
291	HAVERTY FURNITURE	HVT	385	Haverty Furniture Companies, Inc. operates as a specialty retailer of residential furniture and accessories in the United States. The company offers furniture merchandise under the Havertys brand name.
292	HAWAIIAN HOLDINGS INC	HA	1,351	Hawaiian Holdings, Inc., through its subsidiary, Hawaiian Airlines, Inc., engages in the scheduled air transportation of passengers and cargo.
293	HAWKINS INC	HWKN	374	Hawkins, Inc. blends, manufactures, and distributes chemicals and other specialty ingredients in the United States and internationally. It operates through three segments: Industrial, Water Treatment, and Health and Nutrition.
294	HCA HEALTHCARE INC	HCA	50,026	HCA Healthcare, Inc., through its subsidiaries, operates as a health care services company in the United States.
295	HEALTHCARE SERVICES GROUP	HCSG	1,803	Healthcare Services Group, Inc. provides management, administrative, and operating services to the housekeeping, laundry, linen, facility maintenance, and dietary service departments of nursing homes, retirement complexes, rehabilitation centers, and hospitals in the United States.
296	HEALTHEQUITY INC	HQY	4,694	HealthEquity, Inc. provides technology-enabled services platforms to consumers and employers in the United States.

297	HEALTHSTREAM INC	HSTM	881	HealthStream, Inc. provides workforce and provider solutions for healthcare organizations in the United States. It operates through two segments, Workforce Solutions and Provider Solutions.
298	HEARTLAND EXPRESS INC	HTLD	1,727	Heartland Express, Inc., together with its subsidiaries, operates as a short-to-medium haul truckload carrier in the United States and Canada.
299	HEICO CORP	HEI	14,333	HEICO Corporation, through its subsidiaries, designs, manufactures, and sells aerospace, defense, and electronic related products and services in the United States and internationally.
300	HEIDRICK & STRUGGLES INTL	HSII	623	Heidrick & Struggles International, Inc., together with its subsidiaries, provides executive search and consulting services to businesses and business leaders worldwide.
301	HELEN OF TROY LTD	HELE	4,147	Helen of Troy Limited designs, develops, imports, markets, and distributes a portfolio of consumer products worldwide. The company operates in three segments: Housewares, Health & Home, and Beauty.
302	HELIOS TECHNOLOGIES INC	HLIO	1,482	Helios Technologies, Inc., together with its subsidiaries, develops, manufactures, and sells solutions for the hydraulics and electronics markets in the Americas, Europe, the Middle East, Africa, and the Asia Pacific. The company operates in two segments, Hydraulics and Electronics.
303	HENRY (JACK) & ASSOCIATES	JKHY	14,102	Jack Henry & Associates, Inc. provides technology solutions and payment processing services primarily for financial services organizations in the United States.
304	HENRY SCHEIN INC	HSIC	9,565	Henry Schein, Inc. provides health care products and services to dental practitioners and laboratories, physician practices, government, institutional health care clinics, and other alternate care clinics worldwide.
305	HERBALIFE NUTRITION LTD	HLF	6,550	Herbalife Nutrition Ltd. offers nutrition solutions in North America, Mexico, South and Central America, Europe, the Middle East, Africa, and the Asia Pacific. The company provides products in the areas of weight management; targeted nutrition; energy, sports, and fitness; and outer nutrition.
306	HERSHEY CO	HSY	30,694	The Hershey Company, together with its subsidiaries, manufactures and sells confectionery products and pantry items. The company operates in two segments, North America; and International and Other.
307	HEXCEL CORP	HXL	6,129	Hexcel Corporation, together with its subsidiaries, develops, manufactures, and markets structural materials for use in commercial aerospace, space and defense, and industrial markets. It operates in two segments, Composite Materials and Engineered Products.
308	HIBBETT SPORTS INC	HIBB	418	Hibbett Sports, Inc., together with its subsidiaries, engages in the retail of athletic-inspired fashion products. Its stores offer a range of

merchandise, including athletic footwear, athletic and fashion apparel, team sports equipment, and related accessories.

309	HILLENBRAND INC	HI	1,936	Hillenbrand, Inc. operates as a diversified industrial company in the United States and internationally. The company operates through three segments: Advanced Process Solutions, Molding Technology Solutions, and Batesville.
310	HILTON WORLDWIDE HOLDINGS	HLT	30,942	Hilton Worldwide Holdings Inc., a hospitality company, owns, leases, manages, develops, and franchises hotels and resorts. It operates through two segments, Management and Franchise, and Ownership. The company engages in the hotel management and licensing of its brands.
311	HNI CORP	HNI	1,596	HNI Corporation, together with its subsidiaries, manufactures and sells workplace furnishings and residential building products in the United States, Canada, China, Hong Kong, India, Mexico, Dubai, Taiwan, and Singapore.
312	HOME DEPOT INC	HD	245,664	The Home Depot, Inc. operates as a home improvement retailer.
313	HONEYWELL INTERNATIONAL INC	HON	125,865	Honeywell International Inc. operates as a diversified technology and manufacturing company worldwide.
314	HOOKER FURNITURE CORP	HOFT	292	Hooker Furniture Corporation, together with its subsidiaries, designs, manufactures, imports, and markets residential household, hospitality, and contract furniture. The company operates through three segments: Hooker Branded, Home Meridian, and Domestic Upholstery.
315	HORMEL FOODS CORP	HRL	21,855	Hormel Foods Corporation produces and markets various meat and food products to retail, foodservice, deli, and commercial customers in the United States and internationally.
316	HUB GROUP INC - CL A	HUBG	1,745	Hub Group, Inc., an asset-light freight transportation management company, provides intermodal, truck brokerage, trucking, managed transportation, freight consolidation, warehousing, last mile delivery, international transportation, and other logistics services in North America.
317	HUBBELL INC	HUBB	8,058	Hubbell Incorporated, together with its subsidiaries, designs, manufactures, and sells electrical and electronic products in the United States and internationally. The company operates through two segments, Electrical Solution and Utility Solution.
318	HUNT (JB) TRANSPRT SVCS INC	JBHT	12,404	J.B. Hunt Transport Services, Inc. provides surface transportation and delivery services in North America. It operates through five segments: Intermodal (JBI), Dedicated Contract Services (DCS), Integrated Capacity Solutions (ICS), Final Mile Services (FMS), and Truckload (JBT).
319	HUNTINGTON INGALLS IND INC	HII	10,236	Huntington Ingalls Industries, Inc. engages in designing, building, overhauling, and repairing military ships in the United States. It



				operates through three segments: Ingalls Shipbuilding, Newport News Shipbuilding, and Technical Solutions.
320	HURCO COS INC	HURC	235	Hurco Companies, Inc., an industrial technology company, designs, manufactures, and sells computerized machine tools to companies in the metal cutting industry worldwide.
321	HURON CONSULTING GROUP INC	HURN	1,561	Huron Consulting Group Inc., a professional services firm, provides consultancy services in the United States and internationally.
322	HYATT HOTELS CORP	H	9,112	Hyatt Hotels Corporation operates as a hospitality company in the United States and internationally. It operates through four segments: Owned and Leased Hotels, Americas Management and Franchising, ASPAC Management and Franchising, and EAME/SW Asia Management and Franchising.
323	ICF INTERNATIONAL INC	ICFI	1,729	ICF International, Inc. provides management, marketing, technology, and policy consulting and implementation services to government and commercial clients in the United States and internationally.
324	IDEX CORP	IEX	13,087	IDEX Corporation, together with its subsidiaries, operates as an applied solutions company worldwide. The company operates through three segments: Fluid & Metering Technologies (FMT), Health & Science Technologies (HST), and Fire & Safety/Diversified Products (FSDP).
325	IDEXX LABS INC	IDXX	22,319	IDEXX Laboratories, Inc. develops, manufactures, and distributes products and services primarily for the companion animal veterinary, livestock and poultry, dairy, and water testing markets worldwide.
326	IDT CORP	IDT	169	IDT Corporation operates in the communications and payment industries in the United States and internationally. The company operates through two segments, Telecom & Payment Services, and net2phone.
327	II-VI INC	IIVI	4,371	II-VI Incorporated develops, manufactures, and markets engineered materials, and optoelectronic components and devices worldwide. The company operates through two segments, Compound Semiconductors and Photonic Solutions.
328	ILLINOIS TOOL WORKS	ITW	57,446	Illinois Tool Works Inc. manufactures and sells industrial products and equipment worldwide. It operates through seven segments: Automotive OEM; Food Equipment; Test & Measurement and Electronics; Welding; Polymers & Fluids; Construction Products; and Specialty Products.
329	ILLUMINA INC	ILMN	48,766	Illumina, Inc. provides sequencing and array-based solutions for genetic and genomic analysis.
330	IMAX CORP	IMAX	1,250	IMAX Corporation, together with its subsidiaries, operates as an entertainment technology company worldwide. It offers cinematic solution comprising proprietary software, theater architecture, intellectual property, and specialized equipment.

331	INCYTE CORP	INCY	18,877	Incyte Corporation, a biopharmaceutical company, focuses on the discovery, development, and commercialization of proprietary therapeutics in the United States and internationally.
332	INGREDION INC	INGR	6,211	Ingredion Incorporated, together with its subsidiaries, produces and sells starches and sweeteners for various industries. It operates through four segments: North America; South America; Asia Pacific; and Europe, Middle East, and Africa.
333	INNOSPEC INC	IOSP	2,535	Innospec Inc. develops, manufactures, blends, markets, and supplies specialty chemicals in the United States, rest of North America, the United Kingdom, rest of Europe, and internationally. It operates through Fuel Specialties, Performance Chemicals, and Oilfield Services segments.
334	INSIGHT ENTERPRISES INC	NSIT	2,479	Insight Enterprises, Inc. provides information technology hardware, software, and services solutions in the United States, Canada, Europe, the Middle East, Africa, and the Asia-Pacific.
335	INSPERITY INC	NSP	3,388	Insperty, Inc. provides human resources (HR) and business solutions to improve business performance for small and medium-sized businesses.
336	INSTALLED BLDG PRODUCTS INC	IBP	2,067	Installed Building Products, Inc., together with its subsidiaries, engages in the installation of insulation, waterproofing, fire-stopping, fireproofing, garage doors, rain gutters, window blinds, shower doors, closet shelving and mirrors, and other products in the continental United States.
337	INSTEEL INDUSTRIES	IIIN	395	Insteel Industries, Inc., together with its subsidiaries, manufactures and markets steel wire reinforcing products for concrete construction applications. The company offers pre-stressed concrete strand (PC strand) and welded wire reinforcement (WWR) products.
338	INTEL CORP	INTC	256,757	Intel Corporation designs, manufactures, and sells essential technologies for the cloud, smart, and connected devices for retail, industrial, and consumer uses worldwide. The company operates through DCG, IOTG, Mobileye, NSG, PSG, CCG, and All Other segments.
339	INTER PARFUMS INC	IPAR	2,291	Inter Parfums, Inc., together with its subsidiaries, manufactures, markets, and distributes a range of fragrances and fragrance related products in the United States and internationally. The company operates in two segments, European Based Operations and United States Based Operations.
340	INTERFACE INC	TILE	969	Interface, Inc., a modular flooring company, designs, produces, and sells modular carpet products primarily in the Americas, Europe, and the Asia-Pacific.
341	INTERPUBLIC GROUP OF COS	IPG	8,940	The Interpublic Group of Companies, Inc. provides advertising and marketing services worldwide. It operates in two segments, Integrated Agency Networks (IAN) and IPG DXTRA.
342	INTL BUSINESS MACHINES CORP	IBM	118,908	International Business Machines Corporation provides integrated solutions and services worldwide.

343	INTL FLAVORS & FRAGRANCES	IFF	13,778	International Flavors & Fragrances Inc., together with its subsidiaries, manufactures and sells cosmetic active and natural health ingredients for use in various consumer products in Europe, Africa, the Middle East, Greater Asia, North America, and Latin America.
344	INTL PAPER CO	IP	18,057	International Paper Company operates as a paper and packaging company primarily in United States, the Middle East, Europe, Africa, Pacific Rim, Asia, and rest of the Americas. It operates through three segments: Industrial Packaging, Global Cellulose Fibers, and Printing Papers.
345	INTUIT INC	INTU	80,189	Intuit Inc. provides financial management and compliance products and services for consumers, small businesses, self-employed, and accounting professionals in the United States, Canada, and internationally.
346	INTUITIVE SURGICAL INC	ISRG	68,573	Intuitive Surgical, Inc., together with its subsidiaries, designs, develops, manufactures, and markets da Vinci surgical systems, and related instruments and accessories in the United States and internationally.
347	IPG PHOTONICS CORP	IPGP	7,682	IPG Photonics Corporation develops and manufactures a range of high-performance fiber lasers, fiber amplifiers, and diode lasers used in various applications primarily in materials processing worldwide.
348	IQVIA HOLDINGS INC	IQV	29,712	IQVIA Holdings Inc. provides advanced analytics, technology solutions, and clinical research services to the life sciences industry in the Americas, Europe, Africa, and the Asia-Pacific.
349	IROBOT CORP	IRBT	1,435	iRobot Corporation designs, builds, and sells robots in the United States, Europe, the Middle East, Africa, Japan, and internationally. It offers Roomba floor vacuuming robots; Braava family of automatic floor mopping robots; and Root robots to help children learn how to code.
350	ITRON INC	ITRI	3,353	Itron, Inc., a technology and service company, provides end-to-end solutions that help manage operations in the energy, water, and smart city space worldwide. The company operates through three segments: Device Solutions, Networked Solutions, and Outcomes.
351	ITT INC	ITT	6,489	ITT Inc. manufactures and sells engineered critical components and customized technology solutions for the energy, transportation, and industrial markets worldwide. The company operates through three segments: Motion Technologies, Industrial Process, and Connect & Control Technologies.
352	J & J SNACK FOODS CORP	JJSF	3,628	J & J Snack Foods Corp. manufactures, markets, and distributes various nutritional snack foods and beverages to the food service and retail supermarket industries in the United States, Mexico, and Canada. It operates in three segments: Food Service, Retail Supermarkets, and Frozen Beverages.

353	JABIL INC	JBL	5,134	Jabil Inc. provides manufacturing services and solutions worldwide. The company operates in two segments, Electronics Manufacturing Services and Diversified Manufacturing Services. It offers electronics design, production, and product management services.
354	JACK IN THE BOX INC	JACK	2,223	Jack in the Box Inc. operates and franchises Jack in the Box quick-service restaurants. As of September 27, 2020, it operated and franchised 2,241 Jack in the Box quick-service restaurants primarily in the western and southern United States, including one in Guam.
355	JACOBS ENGINEERING GROUP INC	J	12,158	Jacobs Engineering Group Inc. provides consulting, technical, scientific, and project delivery services for the government and private sectors in the United States, Europe, Canada, India, rest of Asia, Australia, New Zealand, South America, Mexico, the Middle East, and Africa.
356	JETBLUE AIRWAYS CORP	JBLU	5,279	JetBlue Airways Corporation provides air passenger transportation services. As of December 31, 2020, the company operated a fleet of 63 Airbus A321 aircraft, 1 Airbus A220 aircraft, 13 Airbus A321 neo aircraft, 130 Airbus A320 aircraft, and 60 Embraer E190 aircraft.
357	JOHN BEAN TECHNOLOGIES	JBT	3,568	John Bean Technologies Corporation provides technology solutions to food and beverage industry and equipment and services to air transportation industries. The company operates through JBT FoodTech and JBT AeroTech segments.
358	JOHNSON & JOHNSON	JNJ	384,004	Johnson & Johnson researches and develops, manufactures, and sells a range of products in the health care field worldwide. It operates through three segments: Consumer Health, Pharmaceutical, and Medical Devices.
359	JOHNSON OUTDOORS INC -CLASS A	JOUT	588	Johnson Outdoors Inc. designs, manufactures, and markets camping, diving, watercraft, and marine electronics products worldwide.
360	KADANT INC	KAI	1,202	Kadant Inc. supplies critical components and engineered systems worldwide. It operates through three segments: Flow Control, Industrial Processing, and Material Handling.
361	KANSAS CITY SOUTHERN	KSU	14,721	Kansas City Southern, a transportation holding company, provides domestic and international rail transportation services in North America.
362	KAR AUCTION SERVICES INC	KAR	2,807	KAR Auction Services, Inc., together with its subsidiaries, provides used vehicle auctions and related vehicle remarketing services for the automotive industry in the United States, Europe, Canada, Mexico, and the United Kingdom.
363	KB HOME	KBH	3,099	KB Home operates as a homebuilding company in the United States. It operates through four segments: West Coast, Southwest, Central, and Southeast.
364	KELLOGG CO	K	23,621	Kellogg Company, together with its subsidiaries, manufactures and markets ready-to-eat cereal and convenience foods. The company operates through four segments: North America, Europe, Latin America, and Asia Middle East Africa.

365	KFORCE INC	KFRC	910	Kforce Inc. provides professional staffing services and solutions in the United States. It operates through Technology (Tech) and Finance and Accounting (FA) segments.
366	KIMBALL ELECTRONICS INC	KE	338	Kimball Electronics, Inc. provides contract electronics manufacturing services and diversified manufacturing services to customers in the automotive, medical, industrial, and public safety end markets.
367	KIMBALL INTERNATIONAL - CL B	KBAL	427	Kimball International, Inc. designs, manufactures, and sells furniture products under the Kimball, National, Kimball Hospitality, and D'style by Kimball Hospitality brands in the United States and internationally.
368	KIMBERLY-CLARK CORP	KMB	46,966	Kimberly-Clark Corporation, together with its subsidiaries, manufactures and markets personal care and consumer tissue products worldwide. It operates through three segments: Personal Care, Consumer Tissue, and K-C Professional.
369	KIRBY CORP	KEX	5,368	Kirby Corporation operates domestic tank barges in the United States.
370	KLA CORP	KLAC	30,234	KLA Corporation designs, manufactures, and markets process control and yield management solutions for the semiconductor and related nanoelectronics industries worldwide.
371	KNIGHT-SWIFT TRPTN HLDGS INC	KNX	6,117	Knight-Swift Transportation Holdings Inc., together with its subsidiaries, provides truckload transportation services in the United States, Mexico, and Canada. The company operates through three segments: Trucking, Logistics, and Intermodal.
372	KNOLL INC	KNL	1,257	Knoll, Inc., together with its subsidiaries, designs, manufactures, markets, and sells commercial and residential furniture, accessories, and coverings for the workplace and residential markets in the United States, Canada, Europe, and internationally.
373	KOHL'S CORP	KSS	6,669	Kohl's Corporation operates as a retail company in the United States. Its stores and Website offer apparel, footwear, accessories, beauty, and home products. The company provides its products primarily under the brand names of Apt.
374	KORN FERRY	KFY	1,570	Korn Ferry, together with its subsidiaries, provides organizational consulting services worldwide. It operates through four segments: Consulting, Digital, Executive Search, and RPO (Recruitment Process Outsourcing) & Professional Search.
375	KRAFT HEINZ CO	KHC	39,231	The Kraft Heinz Company, together with its subsidiaries, manufactures and markets food and beverage products in the United States, Canada, the United Kingdom, and internationally.
376	KROGER CO	KR	21,166	The Kroger Co. operates as a retailer in the United States. The company operates combination food and drug stores, multi-department stores, marketplace stores, and price impact warehouses.

377	L3HARRIS TECHNOLOGIES INC	LHX	39,360	L3Harris Technologies, Inc., an aerospace and defense technology company, provides mission-critical solutions for government and commercial customers worldwide.
378	LABORATORY CP OF AMER HLDGS	LH	16,443	Laboratory Corporation of America Holdings operates as an independent clinical laboratory company worldwide. It operates in two segments, Labcorp Diagnostics (Dx) and Labcorp Drug Development (DD).
379	LAM RESEARCH CORP	LRCX	47,009	Lam Research Corporation designs, manufactures, markets, refurbishes, and services semiconductor processing equipment used in the fabrication of integrated circuits worldwide.
380	LANCASTER COLONY CORP	LANC	4,266	Lancaster Colony Corporation manufactures and markets specialty food products for the retail and foodservice markets in the United States. The company operates in two segments, Retail and Foodservice.
381	LANDSTAR SYSTEM INC	LSTR	4,495	Landstar System, Inc. provides integrated transportation management solutions in the United States, Canada, Mexico, and internationally. The company operates through two segments, Transportation Logistics, and Insurance.
382	LAS VEGAS SANDS CORP	LVS	52,711	Las Vegas Sands Corp., together with its subsidiaries, develops, owns, and operates integrated resorts in Asia and the United States.
383	LAUDER (ESTEE) COS INC -CL A	EL	68,024	The Estee Lauder Companies Inc. manufactures and markets skin care, makeup, fragrance, and hair care products worldwide.
384	LA-Z-BOY INC	LZB	1,075	La-Z-Boy Incorporated manufactures, markets, imports, exports, distributes, and retails upholstery furniture products, accessories, and casegoods furniture products in the United States, Canada, and internationally. It operates through Upholstery, Casegoods, and Retail segments.
385	LCI INDUSTRIES	LCII	2,683	LCI Industries, together with its subsidiaries, manufactures and supplies components for the manufacturers of recreational vehicles (RVs) and adjacent industries in the United States and internationally. It operates in two segments, Original Equipment Manufacturers (OEM) and Aftermarket.
386	LEAR CORP	LEA	8,292	Lear Corporation designs, develops, engineers, manufactures, assembles, and supplies automotive seating, and electrical distribution systems and related components for automotive original equipment manufacturers in North America, Europe, Africa, Asia, and South America.
387	LEGGETT & PLATT INC	LEG	6,699	Leggett & Platt, Incorporated designs, manufactures, and markets engineered components and products worldwide. It operates through three segments: Bedding Products; Specialized Products; and Furniture, Flooring & Textile Products.
388	LEIDOS HOLDINGS INC	LDOS	13,802	Leidos Holdings, Inc. provides services and solutions in the defense, intelligence, civil, and health markets in the United States and internationally. It operates through three segments: Defense Solutions, Civil, and Health.

389	LEMAITRE VASCULAR INC	LMAT	725	LeMaitre Vascular, Inc. designs, markets, sells, services, and supports medical devices and implants for the treatment of peripheral vascular disease worldwide.
390	LENNAR CORP	LEN	18,372	Lennar Corporation, together with its subsidiaries, operates as a homebuilder primarily under the Lennar brand in the United States. It operates through Homebuilding East, Homebuilding Central, Homebuilding Texas, Homebuilding West, Financial Services, Multifamily, and Lennar Other segments.
391	LENNOX INTERNATIONAL INC	LII	9,416	Lennox International Inc., through its subsidiaries, designs, manufactures, and markets a range of products for the heating, ventilation, air conditioning, and refrigeration markets in the United States, Canada, and internationally.
392	LGI HOMES INC	LGIH	1,792	LGI Homes, Inc. designs, constructs, and sells homes in the United States. It offers entry-level homes, such as detached and attached homes, and move-up homes under the LGI Homes brand name; and luxury series homes under the Terrata Homes brand name.
393	LHC GROUP INC	LHCG	4,269	LHC Group, Inc., a health care provider, specializes in the post-acute continuum of care primarily for Medicare beneficiaries in the United States.
394	LIBERTY MEDIA SIRIUSXM GROUP	LSXMK	15,261	The Liberty SiriusXM Group, through its subsidiaries, engages in entertainment business in the United States and Canada.
395	LIFEVANTAGE CORP	LFVN	194	LifeVantage Corporation engages in the identification, research, development, and distribution of nutrigenomic activators, dietary supplements, nootropics, pre- and pro-biotics, weight management, and skin and hair care products.
396	LILLY (ELI) & CO	LLY	119,276	Eli Lilly and Company discovers, develops, manufactures, and markets human pharmaceutical products worldwide.
397	LINCOLN ELECTRIC HLDGS INC	LECO	5,861	Lincoln Electric Holdings, Inc., through its subsidiaries, designs, develops, manufactures, and sells welding, cutting, and brazing products worldwide. The company operates through three segments: Americas Welding, International Welding, and The Harris Products Group.
398	LINDE PLC	LIN	113,770	Linde plc operates as an industrial gas company in North and South America, Europe, the Middle East, Africa, and the Asia Pacific. It offers oxygen, nitrogen, argon, rare gases, carbon dioxide, hydrogen, helium, electronic and specialty gases, acetylene, and carbon monoxide.
399	LITHIA MOTORS INC -CL A	LAD	3,410	Lithia Motors, Inc. operates as an automotive retailer in the United States. The company operates through three segments: Domestic, Import, and Luxury.
400	LITTELFUSE INC	LFUS	4,664	Littelfuse, Inc. manufactures and sells circuit protection, power control, and sensing products in the Asia-Pacific, the Americas, and Europe.

401	LKQ CORP	LKQ	10,950	LKQ Corporation distributes replacement parts, components, and systems used in the repair and maintenance of vehicles. It operates through three segments: North America, Europe, and Specialty.
402	LOCKHEED MARTIN CORP	LMT	109,026	Lockheed Martin Corporation, a security and aerospace company, engages in the research, design, development, manufacture, integration, and sustainment of technology systems, products, and services worldwide.
403	LOWE'S COS INC	LOW	88,691	Lowe's Companies, Inc., together with its subsidiaries, operates as a home improvement retailer in the United States and internationally. The company offers a line of products for construction, maintenance, repair, remodeling, and decorating.
404	LULULEMON ATHLETICA INC	LULU	31,204	lululemon athletica inc., together with its subsidiaries, designs, distributes, and retails athletic apparel and accessories for women and men. It operates through two segments, Company-Operated Stores and Direct to Consumer.
405	LYONDELLBASELL INDUSTRIES NV	LYB	31,507	LyondellBasell Industries N.V. operates as a chemical company in the United States, Germany, Mexico, Italy, Poland, France, Japan, China, the Netherlands, and internationally.
406	M/I HOMES INC	MHO	1,117	M/I Homes, Inc., together with its subsidiaries, operates as a builder of single-family homes in Ohio, Indiana, Illinois, Michigan, Minnesota, North Carolina, Florida, and Texas, the United States.
407	MACY'S INC	M	4,929	Macy's, Inc., an omnichannel retail organization, operates stores, websites, and applications under the Macy's, Bloomingdale's, and Bluemercury brands.
408	MADDEN STEVEN LTD	SHOO	3,592	Steven Madden, Ltd. designs, sources, markets, and sells fashion-forward branded and private label footwear for women, men, and children in the United States and internationally.
409	MAGELLAN HEALTH INC	MGLN	1,927	Magellan Health, Inc., together with its subsidiaries, provides healthcare management services in the United States. The company operates in Healthcare and Pharmacy Management segments.
410	MALIBU BOATS INC	MBUU	1,070	Malibu Boats, Inc. designs, manufactures, distributes, markets, and sells a range of recreational powerboats. It operates through three segments: Malibu, Cobalt, and Pursuit.
411	MANHATTAN ASSOCIATES INC	MANH	5,061	Manhattan Associates, Inc. develops, sells, deploys, services, and maintains software solutions to manage supply chains, inventory, and omni-channel operations for retailers, wholesalers, manufacturers, logistics providers, and other organizations.
412	MANPOWERGROUP	MAN	5,697	ManpowerGroup Inc. provides workforce solutions and services in the Americas, Southern Europe, Northern Europe, and the Asia Pacific Middle East region.
413	MANTECH INTL CORP	MANT	3,209	ManTech International Corporation provides technology solutions and services for U.S. defense, intelligence community, and federal civilian agencies worldwide.



414	MARATHON PETROLEUM CORP	MPC	39,102	Marathon Petroleum Corporation, together with its subsidiaries, engages in refining, marketing, retailing, and transporting petroleum products primarily in the United States. It operates in two segments: Refining & Marketing, and Midstream.
415	MARCUS CORP	MCS	983	The Marcus Corporation, together with its subsidiaries, owns and operates movie theatres, and hotels and resorts in the United States.
416	MARINE PRODUCTS CORP	MPX	488	Marine Products Corporation designs, manufactures, and sells recreational fiberglass powerboats for the sportboat, sport fishing, and jet boat markets worldwide.
417	MARRIOTT INTL INC	MAR	49,063	Marriott International, Inc. operates, franchises, and licenses hotel, residential, and timeshare properties worldwide. The company operates through North American Full-Service, North American Limited-Service, and Asia Pacific segments.
418	MARRIOTT VACATIONS WORLDWIDE	VAC	5,354	Marriott Vacations Worldwide Corporation, a vacation company, develops, markets, sells, and manages vacation ownership and related products. It operates through two segments, Vacation Ownership and Exchange & Third-Party Management.
419	MARTEN TRANSPORT LTD	MRTN	1,176	Marten Transport, Ltd. operates as a temperature-sensitive truckload carrier for shippers in the United States, Canada, and Mexico. It operates through four segments: Truckload, Dedicated, Intermodal, and Brokerage.
420	MARTIN MARIETTA MATERIALS	MLM	17,450	Martin Marietta Materials, Inc., a natural resource-based building materials company, supplies aggregates and heavy-side building materials to the construction industry in the United States and internationally.
421	MASCO CORP	MAS	13,226	Masco Corporation designs, manufactures, and distributes home improvement and building products in North America, Europe, and internationally. The company operates through two segments, Plumbing Products and Decorative Architectural Products.
422	MASIMO CORP	MASI	8,487	Masimo Corporation develops, manufactures, and markets noninvasive monitoring technologies and hospital automation solutions worldwide.
423	MATSON INC	MATX	1,750	Matson, Inc., together with its subsidiaries, provides ocean transportation and logistics services.
424	MAXAR TECHNOLOGIES INC	MAXR	939	Maxar Technologies Inc. provides earth intelligence and space infrastructure solutions in the United States, Asia, South America, Europe, the Middle East, Australia, Canada, and internationally. It operates through Earth Intelligence and Space Infrastructure segments.
425	MAXIMUS INC	MMS	4,943	Maximus, Inc. provides business process services (BPS) to government health and human services programs worldwide. It operates through three segments: U.S. Services, U.S. Federal Services, and Outside the U.S. The U.S.

426	MCDONALD'S CORP	MCD	147,476	McDonald's Corporation operates and franchises McDonald's restaurants in the United States and internationally. Its restaurants offer various food products and beverages, as well as breakfast menu. As of December 31, 2020, the company operated 39,198 restaurants.
427	MCGRATH RENTCORP	MGRC	1,860	McGrath RentCorp operates as a business to business rental company in the United States and internationally. It rents and sells relocatable modular buildings, portable storage containers, electronic test equipment and related accessories, and liquid and solid containment tanks and boxes.
428	MCKESSON CORP	MCK	21,912	McKesson Corporation provides pharmaceuticals and medical supplies in the United States and internationally. It operates through four segments: U.S. Pharmaceutical, Prescription Technology Solutions, International, and Medical-Surgical Solutions. The U.S.
429	MDC HOLDINGS INC	MDC	2,388	M.D.C. Holdings, Inc., through its subsidiaries, engages in the homebuilding and financial service businesses.
430	MEDIFAST INC	MED	1,289	Medifast, Inc., through its subsidiaries, manufactures and distributes weight loss, weight management, healthy living products, and other consumable health and nutritional products in the United States and the Asia-Pacific.
431	MERCK & CO	MRK	230,924	Merck & Co., Inc. operates as a healthcare company worldwide. It operates through two segments, Pharmaceutical and Animal Health segments.
432	MERCURY SYSTEMS INC	MRCY	4,303	Mercury Systems, Inc., a technology company, manufactures and sells components, modules, and subsystems in the United States, Europe, and the Asia Pacific.
433	MERIDIAN BIOSCIENCE INC	VIVO	405	Meridian Bioscience, Inc., a life science company, develops, manufactures, distributes, and sells diagnostic test kits primarily for gastrointestinal and respiratory infectious diseases, and elevated blood lead levels worldwide.
434	MERITAGE HOMES CORP	MTH	2,334	Meritage Homes Corporation designs and builds single-family homes in the United States. The company operates through two segments, Homebuilding and Financial Services. It acquires and develops land; and constructs, markets, and sells homes for first-time and first move-up buyers.
435	MESA LABORATORIES INC	MLAB	992	Mesa Laboratories, Inc. designs, manufactures, and markets quality control instruments and disposable products in the United States, Canada, Europe, and Japan.
436	METHODE ELECTRONICS INC	MEI	1,113	Methode Electronics, Inc. designs, manufactures, and markets component and subsystem devices worldwide. It operates through four segments: Automotive, Industrial, Interface, and Medical.
437	METTLER-TOLEDO INTL INC	MTD	19,138	Mettler-Toledo International Inc. manufactures and supplies precision instruments and services worldwide. It operates in five segments: U.S. Operations, Swiss Operations, Western European Operations, Chinese Operations, and Other.

438	MGP INGREDIENTS INC	MGPI	825	MGP Ingredients, Inc., together with its subsidiaries, produces and supplies distilled spirits, and specialty wheat proteins and starch food ingredients. It operates through two segments, Distillery Products and Ingredient Solutions.
439	MICROSOFT CORP	MSFT	1,540,774	Microsoft Corporation develops, licenses, and supports software, services, devices, and solutions worldwide.
440	MIDDLEBY CORP	MIDD	6,154	The Middleby Corporation designs, manufactures, markets, distributes, and services a range of foodservice, food processing, and residential kitchen equipment in the United States, Canada, Asia, Europe, the Middle East, and Latin America.
441	MILLER INDUSTRIES INC/TN	MLR	423	Miller Industries, Inc., together with its subsidiaries, engages in the manufacture and sale of towing and recovery equipment.
442	MINERALS TECHNOLOGIES INC	MTX	1,991	Minerals Technologies Inc. develops, produces, and markets various specialty mineral, mineral-based, and synthetic mineral products, and supporting systems and services.
443	MISTRAS GROUP INC	MG	413	Mistras Group, Inc. provides technology-enabled asset protection solutions worldwide. The company operates through three segments: Services, International, and Products and Systems.
444	MKS INSTRUMENTS INC	MKSI	6,006	MKS Instruments, Inc. provides instruments, systems, subsystems, and process control solutions that measure, monitor, deliver, analyze, power, and control critical parameters of manufacturing processes worldwide.
445	MOHAWK INDUSTRIES INC	MHK	9,769	Mohawk Industries, Inc. designs, manufactures, sources, distributes, and markets flooring products for remodeling and new constructions of residential and commercial spaces in the United States, Europe, Russia, and internationally.
446	MOLSON COORS BEVERAGE CO	TAP	11,688	Molson Coors Beverage Company manufactures, markets, and sells beer and other malt beverage products in the United States, Canada, Europe, and internationally. The company was formerly known as Molson Coors Brewing Company and changed its name to Molson Coors Beverage Company in January 2020.
447	MONARCH CASINO & RESORT INC	MCRI	881	Monarch Casino & Resort, Inc., through its subsidiaries, owns and operates the Atlantis Casino Resort Spa, a hotel/casino facility in Reno, Nevada. It also owns and operates the Monarch Casino Resort Spa Black Hawk in Black Hawk, Colorado.
448	MONDELEZ INTERNATIONAL INC	MDLZ	79,040	Mondelez International, Inc., through its subsidiaries, manufactures, markets, and sells snack food and beverage products worldwide.
449	MONOLITHIC POWER SYSTEMS INC	MPWR	7,765	Monolithic Power Systems, Inc. designs, develops, and markets integrated power semiconductor solutions and power delivery architectures for computing and storage, automotive, industrial, communications, and consumer applications markets.
450	MONRO INC	MNRO	1,458	Monro, Inc. provides automotive undercar repair, and tire sales and services in the United States.

451	MONSTER BEVERAGE CORP	MNST	34,107	Monster Beverage Corporation, through its subsidiaries, develops, markets, sells, and distributes energy drink beverages and concentrates in the United States and internationally. It operates through three segments: Monster Energy Drinks, Strategic Brands, and Other.
452	MOODY'S CORP	MCO	44,559	Moody's Corporation operates as an integrated risk assessment firm worldwide. It operates in two segments, Moody's Investors Service and Moody's Analytics.
453	MOOG INC -CL A	MOG.A	2,828	Moog Inc. designs, manufactures, and integrates precision motion and fluid controls and controls systems for original equipment manufacturers and end users in the aerospace, defense, and industrial markets worldwide.
454	MORNINGSTAR INC	MORN	6,483	Morningstar, Inc. provides independent investment research services in North America, Europe, Australia, and Asia.
455	MOTOROLA SOLUTIONS INC	MSI	27,474	Motorola Solutions, Inc. provides mission critical communications and analytics in the United States, the United Kingdom, Canada, and internationally. The company operates in two segments, Products and Systems Integration, and Services and Software.
456	MOVADO GROUP INC	MOV	283	Movado Group, Inc. designs, develops, sources, markets, and distributes watches in the United States and internationally. It operates in two segments, Watch and Accessory Brands; and Company Stores.
457	MSA SAFETY INC	MSA	4,908	MSA Safety Incorporated develops, manufactures, and supplies safety products that protect people and facility infrastructures in the oil, gas, petrochemical, fire service, construction, utilities, and mining industries worldwide. It operates through Americas and International segments.
458	MSC INDUSTRIAL DIRECT -CL A	MSM	3,665	MSC Industrial Direct Co., Inc., together with its subsidiaries, distributes metalworking and maintenance, repair, and operations (MRO) products in the United States, Canada, Mexico, and the United Kingdom.
459	MUELLER INDUSTRIES	MLI	1,808	Mueller Industries, Inc. manufactures and sells copper, brass, aluminum, and plastic products in the United States, the United Kingdom, Canada, South Korea, the Middle East, China, and Mexico.
460	MURPHY USA INC	MUSA	3,564	Murphy USA Inc. engages in marketing of retail motor fuel products and convenience merchandise. The company operates retail stores under the Murphy USA and Murphy Express brand names.
461	MYR GROUP INC	MYRG	543	MYR Group Inc., through its subsidiaries, provides electrical construction services in the United States and Canada. It operates through two segments, Transmission and Distribution, and Commercial and Industrial.
462	NACCO INDUSTRIES -CL A	NC	253	NACCO Industries, Inc., together with its subsidiaries, engages in the mining and natural resources businesses. The company operates through three segments: Coal Mining, North American Mining, and Minerals Management.

463	NAPCO SECURITY TECH INC	NSSC	429	Napco Security Technologies, Inc. develops, manufactures, and sells security products in the United States and internationally.
464	NATHAN'S FAMOUS INC	NATH	253	Nathan's Famous, Inc., together with its subsidiaries, operates in the foodservice industry. The company owns and franchises restaurants under the Nathan's Famous brand name, as well as sells products bearing the Nathan's Famous trademarks through various channels of distribution.
465	NATIONAL BEVERAGE CORP	FIZZ	2,342	National Beverage Corp., through its subsidiaries, develops, produces, markets, and sells a portfolio of sparkling waters, juices, energy drinks, and carbonated soft drinks primarily in the United States and Canada.
466	NATIONAL CINEMEDIA INC	NCMI	565	National CineMedia, Inc., through its subsidiary, National CineMedia, LLC, operates a digital in-theater network in North America.
467	NATIONAL HEALTHCARE CORP	NHC	1,325	National HealthCare Corporation operates, manages, and provides services to skilled nursing facilities, assisted living facilities, independent living facilities, home health care programs, and a behavioral health hospital.
468	NATIONAL INSTRUMENTS CORP	NATI	5,526	National Instruments Corporation provides a software-centric platform and systems to engineers and scientists worldwide.
469	NATIONAL PRESTO INDS INC	NPK	619	National Presto Industries Inc. provides housewares and small appliances, and defense and safety products primarily in North America.
470	NATIONAL RESEARCH CORP	NRC	1,645	National Research Corporation provides analytics and insights that facilitate measurement and enhancement of the patient and employee experience in the United States and Canada.
471	NEENAH INC	NP	1,186	Neenah, Inc., a specialty materials company, produces and sells performance-based technical products, and fine paper and packaging products worldwide.
472	NEOGEN CORP	NEOG	3,771	Neogen Corporation, together with its subsidiaries, develops, manufactures, and markets various products for food and animal safety worldwide. It operates through two segments, Food Safety and Animal Safety.
473	NETAPP INC	NTAP	9,586	NetApp, Inc. provides software, systems, and services to manage and share data on-premises, and private and public clouds worldwide.
474	NETFLIX INC	NFLX	141,985	Netflix, Inc. provides entertainment services. It offers TV series, documentaries, and feature films across various genres and languages.
475	NETGEAR INC	NTGR	733	NETGEAR, Inc. designs, develops, and markets networking and Internet connected products for consumers, businesses, and service providers. It operates in two segments, Connected Home, and Small and Medium Business.

476	NEW YORK TIMES CO -CL A	NYT	5,320	The New York Times Company, together with its subsidiaries, provides news and information for readers and viewers across various platforms worldwide.
477	NEWMARKET CORP	NEU	5,444	NewMarket Corporation, through its subsidiaries, engages in the petroleum additives businesses.
478	NEXSTAR MEDIA GROUP	NXST	5,364	Nexstar Media Group, Inc., a television broadcasting and digital media company, focuses on the acquisition, development, and operation of television stations and interactive community websites and digital media services in the United States.
479	NIC INC	EGOV	1,497	NIC Inc., together with its subsidiaries, provides digital government services and payment solutions that enable governments to use technology to provide various services to businesses and citizens in the United States.
480	NIKE INC -CL B	NKE	153,588	NIKE, Inc., together with its subsidiaries, designs, develops, markets, and sells athletic footwear, apparel, equipment, and accessories worldwide. The company offers NIKE brand products in six categories, including running, NIKE basketball, the Jordan brand, football, training, and sportswear.
481	NORDSON CORP	NDSN	9,032	Nordson Corporation engineers, manufactures, and markets products and systems to dispense, apply, and control adhesives, coatings, polymers, sealants, biomaterials, and other fluids worldwide.
482	NORDSTROM INC	JWN	5,735	Nordstrom, Inc., a fashion retailer, provides apparels, shoes, beauty, accessories, and home goods for women, men, young adults, and children.
483	NORFOLK SOUTHERN CORP	NSC	50,067	Norfolk Southern Corporation, together with its subsidiaries, engages in the rail transportation of raw materials, intermediate products, and finished goods in the United States.
484	NORTHROP GRUMMAN CORP	NOC	57,735	Northrop Grumman Corporation operates as an aerospace and defense company worldwide. The company operates through four segments: Aeronautics Systems, Defense Systems, Mission Systems, and Space Systems.
485	NOVANTA INC	NOVT	3,100	Novanta Inc., together with its subsidiaries, designs, manufactures, markets, and sells photonics, vision, and precision motion components and sub-systems to original equipment manufacturers in the medical and industrial markets worldwide.
486	NU SKIN ENTERPRISES -CL A	NUS	2,278	Nu Skin Enterprises, Inc. develops and distributes personal care and wellness products worldwide.
487	NUCOR CORP	NUE	16,986	Nucor Corporation manufactures and sells steel and steel products. It operates through three segments: Steel Mills, Steel Products, and Raw Materials.
488	NV5 GLOBAL INC	NVEE	648	NV5 Global, Inc. provides professional and technical engineering and consulting services to public and private sector clients in the

infrastructure, utility services, construction, real estate, and environmental markets in the United States and internationally.

489	NVE CORP	NVEC	252	NVE Corporation develops and sells devices that use spintronics, a nanotechnology that utilizes electron spin to acquire, store, and transmit information. The company manufactures spintronic products, including sensors and couplers for use in acquiring and transmitting data.
490	NVR INC	NVR	13,836	NVR, Inc. operates as a homebuilder in the United States. The company operates in two segments, Homebuilding and Mortgage Banking. It primarily constructs and sells single-family detached homes, townhomes, and condominium buildings under the Ryan Homes, NVHomes, and Heartland Homes names.
491	OIL DRI CORP AMERICA	ODC	259	Oil-Dri Corporation of America, together with its subsidiaries, develops, manufactures, and markets sorbent products in the United States and internationally. It operates in two segments, Retail and Wholesale Products Group; and Business to Business Products Group.
492	OLD DOMINION FREIGHT	ODFL	15,123	Old Dominion Freight Line, Inc. operates as a less-than-truckload (LTL) motor carrier in the United States and North America. It provides regional, inter-regional, and national LTL services, including expedited transportation.
493	OLLIE'S BARGAIN OUTLET HLDGS	OLLI	3,342	Ollie's Bargain Outlet Holdings, Inc. operates as a retailer of brand name merchandise.
494	OMEGA FLEX INC	OFLX	1,083	Omega Flex, Inc., together with its subsidiaries, manufactures and sells flexible metal hoses and accessories in the United States and internationally.
495	OMNICOM GROUP	OMC	17,589	Omnicom Group Inc., together with its subsidiaries, provides advertising, marketing, and corporate communications services. It provides a range of services in the areas of advertising, customer relationship management, public relations, and healthcare.
496	ORACLE CORP	ORCL	164,913	Oracle Corporation provides products and services that address enterprise information technology environments worldwide.
497	ORASURE TECHNOLOGIES INC	OSUR	496	OraSure Technologies, Inc., together with its subsidiaries, develops, manufactures, markets, and sells oral fluid diagnostic products and specimen collection devices in the United States, Europe, and internationally. The company operates in two segments, Diagnostics and Molecular Solutions.
498	O'REILLY AUTOMOTIVE INC	ORLY	33,141	O'Reilly Automotive, Inc., together with its subsidiaries, operates as a retailer of automotive aftermarket parts, tools, supplies, equipment, and accessories in the United States.
499	ORION ENGINEERED CARBONS SA	OEC	1,162	Orion Engineered Carbons S.A., together with its subsidiaries, produces and sells carbon black products in Germany, the United States, South Korea, Brazil, China, South Africa, the rest of Europe,

and internationally. It operates in two segments, Specialty Carbon Black and Rubber Carbon Black.

500	OSHKOSH CORP	OSK	5,153	Oshkosh Corporation designs, manufactures, and markets specialty vehicles and vehicle bodies worldwide. The company's Access Equipment segment provides aerial work platforms and telehandlers for use in various construction, industrial, institutional, and general maintenance applications.
501	OWENS CORNING	OC	7,098	Owens Corning manufactures and markets a range of insulation, roofing, and fiberglass composite materials in the United States, Canada, Europe, the Asia Pacific, and internationally. It operates in three segments: Composites, Insulation, and Roofing.
502	OXFORD INDUSTRIES INC	OXM	1,183	Oxford Industries, Inc., an apparel company, designs, sources, markets, and distributes products of lifestyle and other brands worldwide.
503	P.A.M. TRANSPORTATION SVCS	PTSI	332	P.A.M. Transportation Services, Inc., through its subsidiaries, operates as a truckload transportation and logistics company in the United States, Mexico, and Canada. The company is involved in the transportation of general commodities.
504	PACCAR INC	PCAR	27,392	PACCAR Inc designs, manufactures, and distributes light, medium, and heavy-duty commercial trucks in the United States, Europe, and internationally. It operates through three segments: Truck, Parts, and Financial Services.
505	PACKAGING CORP OF AMERICA	PKG	10,600	Packaging Corporation of America manufactures and sells containerboard and corrugated packaging products in the United States. The company operates through Packaging and Paper segments.
506	PARK AEROSPACE CORP	PKE	285	Park Aerospace Corp. develops and manufactures solution and hot-melt advanced composite materials used to produce composite structures for the aerospace market.
507	PARK OHIO HOLDINGS CORP	PKOH	426	Park-Ohio Holdings Corp. provides supply chain management outsourcing services, capital equipment, and manufactured components in the United States, Europe, Asia, Mexico, Canada, and internationally.
508	PARKER-HANNIFIN CORP	PH	23,560	Parker-Hannifin Corporation manufactures and sells motion and control technologies and systems for various mobile, industrial, and aerospace markets worldwide. The company operates through two segments, Diversified Industrial and Aerospace Systems.
509	PATRICK INDUSTRIES INC	PATK	1,245	Patrick Industries, Inc. manufactures and distributes components, building products, and materials for the recreational vehicle, marine, manufactured housing, and industrial markets in the United States and Canada.
510	PAYCHEX INC	PAYX	25,934	Paychex, Inc. provides integrated human capital management solutions for human resources (HR), payroll, benefits, and insurance



				services for small- to medium-sized businesses in the United States and Europe.
511	PAYCOM SOFTWARE INC	PAYC	15,266	Paycom Software, Inc. provides cloud-based human capital management (HCM) solution delivered as software-as-a-service for small to mid-sized companies in the United States.
512	PAYPAL HOLDINGS INC	PYPL	126,883	PayPal Holdings, Inc. operates as a technology platform and digital payments company that enables digital and mobile payments on behalf of consumers and merchants worldwide. Its payment solutions include PayPal, PayPal Credit, Braintree, Venmo, Xoom, Hyperwallet, and iZettle products.
513	PBF ENERGY INC	PBF	3,758	PBF Energy Inc., together with its subsidiaries, engages in refining and supplying petroleum products. The company operates in two segments, Refining and Logistics.
514	PC CONNECTION INC	CNXN	1,308	PC Connection, Inc., together with its subsidiaries, provides a range of information technology (IT) solutions. The company operates through three segments: Business Solutions, Enterprise Solutions, and Public Sector Solutions.
515	PENSKE AUTOMOTIVE GROUP INC	PAG	4,072	Penske Automotive Group, Inc., a diversified transportation services company, operates automotive and commercial truck dealerships. The company operates through four segments: Retail Automotive, Retail Commercial Truck, Other, and Non-Automotive Investments.
516	PERFICIENT INC	PRFT	1,460	Perficient, Inc. provides digital consultancy services and solutions in the United States.
517	PERKINELMER INC	PKI	10,792	PerkinElmer, Inc. provides products, services, and solutions to the diagnostics, life sciences, and applied services markets worldwide. The company operates in two segments, Discovery & Analytical Solutions and Diagnostics.
518	PETMED EXPRESS INC	PETS	580	PetMed Express, Inc., together with its subsidiaries, doing business as 1-800-PetMeds, operates as a pet pharmacy in the United States. The company markets prescription and non-prescription pet medications, and other health products for dogs, cats, and horses.
519	PFIZER INC	PFE	216,822	Pfizer Inc. discovers, develops, manufactures, markets, distributes, and sells biopharmaceutical products worldwide.
520	PGT INNOVATIONS INC	PGTI	872	PGT Innovations, Inc., together with its subsidiaries, manufactures and supplies impact-resistant residential windows and doors in the Southeastern United States, Western United States, the Gulf Coast, Coastal mid-Atlantic, the Caribbean, Central America, and Canada.
521	PHILIP MORRIS INTERNATIONAL	PM	132,391	Philip Morris International Inc., through its subsidiaries, manufactures and sells cigarettes, other nicotine-containing products, smoke-free products, and related electronic devices and accessories.
522	PHILLIPS 66	PSX	49,135	Phillips 66 operates as an energy manufacturing and logistics company. It operates through four segments: Midstream, Chemicals, Refining, and Marketing and Specialties (M&S).

523	PHOTRONICS INC	PLAB	774	Photronics, Inc., together with its subsidiaries, engages in the manufacture and sale of photomask products and services in the United States, Taiwan, Korea, Europe, China, and internationally.
524	PILGRIM'S PRIDE CORP	PPC	8,165	Pilgrim's Pride Corporation produces, processes, markets, and distributes fresh, frozen, and value-added chicken and pork products in the United States, the United Kingdom, Mexico, France, Puerto Rico, the Netherlands, rest of Europe, the Middle East, Asia, and internationally.
525	PLANET FITNESS INC	PLNT	5,864	Planet Fitness, Inc., together with its subsidiaries, franchises and operates fitness centers under the Planet Fitness brand. It operates through three segments: Franchise, Corporate-Owned Stores, and Equipment.
526	PLEXUS CORP	PLXS	1,813	Plexus Corp., together with its subsidiaries, provides electronic manufacturing services in the Americas, Europe, the Middle East, Africa, and the Asia-Pacific.
527	POLARIS INC	PII	6,246	Polaris Inc. designs, engineers, manufactures, and markets power sports vehicles worldwide. It operates in five segments: ORV/Snowmobiles, Motorcycles, Global Adjacent Markets, Aftermarket, and Boats.
528	POOL CORP	POOL	8,511	Pool Corporation distributes swimming pool supplies, equipment, and related leisure products in the United States and internationally.
529	POWELL INDUSTRIES INC	POWL	453	Powell Industries, Inc., together with its subsidiaries, designs, develops, manufactures, sells, and services custom-engineered equipment and systems for the distribution, control, and monitoring of electrical energy.
530	PPG INDUSTRIES INC	PPG	31,461	PPG Industries, Inc. manufactures and distributes paints, coatings, and specialty materials worldwide.
531	PRA HEALTH SCIENCES INC	PRAH	7,057	PRA Health Sciences, Inc., a contract research organization, provides outsourced clinical development and data solution services to the biotechnology and pharmaceutical industries worldwide. It operates in two segments, Clinical Research and Data Solutions.
532	PREFORMED LINE PRODUCTS CO	PLPC	301	Preformed Line Products Company, together with its subsidiaries, designs and manufactures products and systems used in the construction and maintenance of overhead, ground-mounted, and underground networks for the energy, telecommunication, cable operator, information, and other industries.
533	PREMIER INC	PINC	2,455	Premier, Inc., together with its subsidiaries, operates as a healthcare improvement company in the United States. It operates through two segments, Supply Chain Services and Performance Services.
534	PRESTIGE CONSUMER HEALTHCARE	PBH	1,837	Prestige Consumer Healthcare Inc., together with its subsidiaries, develops, manufactures, markets, distributes, and sells over-the-counter (OTC) healthcare products in North America, Australia, and internationally.

535	PRICESMART INC	PSMT	2,017	PriceSmart, Inc. owns and operates U.S. style membership shopping warehouse clubs in Central America, the Caribbean, and Colombia. Its warehouse clubs sell brand name and private label consumer products and provide services, such as optical and tires to individuals and businesses.
536	PRIMORIS SERVICES CORP	PRIM	1,082	Primoris Services Corporation, a specialty contractor company, provides a range of construction, fabrication, maintenance, replacement, and engineering services in the United States and Canada.
537	PROCTER & GAMBLE CO	PG	296,503	The Procter & Gamble Company provides branded consumer packaged goods to consumers in North and Latin America, Europe, the Asia Pacific, Greater China, India, the Middle East, and Africa.
538	PROTO LABS INC	PRLB	2,720	Proto Labs, Inc., together with its subsidiaries, operates as an e-commerce driven digital manufacturer of custom prototypes and on-demand production parts in the worldwide.
539	PULTEGROUP INC	PHM	10,485	PulteGroup, Inc., through its subsidiaries, primarily engages in the homebuilding business in the United States. The company acquires and develops land primarily for residential purposes; and constructs housing on such land.
540	PVH CORP	PVH	6,302	PVH Corp. operates as an apparel company worldwide. The company operates through six segments: Tommy Hilfiger North America, Tommy Hilfiger International, Calvin Klein North America, Calvin Klein International, Heritage Brands Wholesale, and Heritage Brands Retail.
541	QUAKER CHEMICAL CORP	KWR	2,918	Quaker Chemical Corporation develops, produces, and markets various formulated chemical specialty products for a range of heavy industrial and manufacturing applications. It operates through four segments: Americas; Europe, Middle East, and Africa; Asia/Pacific; and Global Specialty Businesses.
542	QUANTA SERVICES INC	PWR	5,795	Quanta Services, Inc. provides specialty contracting services worldwide.
543	QUEST DIAGNOSTICS INC	DGX	14,203	Quest Diagnostics Incorporated provides diagnostic testing, information, and services in the United States and internationally.
544	RADNET INC	RDNT	1,021	RadNet, Inc., together with its subsidiaries, provides outpatient diagnostic imaging services in the United States.
545	RAYTHEON CO	RTN	61,176	Raytheon Company develops technologically advanced and integrated products, services, and solutions for the defense and other government markets worldwide.
546	RBC BEARINGS INC	ROLL	2,824	RBC Bearings Incorporated manufactures and markets engineered precision bearings and components in North America, Europe, Asia, and Latin America. It operates through four segments: Plain Bearings, Roller Bearings, Ball Bearings, and Engineered Products.

547	REGAL BELOIT CORP	RBC	3,493	Regal Beloit Corporation, together with its subsidiaries, designs, manufactures, and sells electric motors, electrical motion controls, and power generation and transmission products worldwide.
548	REGENERON PHARMACEUTICALS	REGN	41,407	Regeneron Pharmaceuticals, Inc. discovers, invents, develops, manufactures, and commercializes medicines for treating various medical conditions worldwide.
549	RELIANCE STEEL & ALUMINUM CO	RS	8,006	Reliance Steel & Aluminum Co. operates as a metals service center company.
550	REPLIGEN CORP	RGEN	4,817	Repligen Corporation develops and commercializes bioprocessing technologies and systems for use in biological drug manufacturing process in North America, Europe, the Asia Pacific, and internationally.
551	RESMED INC	RMD	27,818	ResMed Inc. develops, manufactures, distributes, and markets medical devices and cloud-based software applications that diagnose, treat, and manage respiratory disorders comprising sleep apnea, chronic obstructive pulmonary disease, neuromuscular disease, and other chronic diseases.
552	REXNORD CORP	RXN	2,714	Rexnord Corporation designs, manufactures, and markets process and motion control, and water management products worldwide. It operates in two segments, Process & Motion Control Platform and Water Management Platform.
553	RH	RH	4,016	RH, together with its subsidiaries, operates as a retailer in the home furnishings. It offers products in various categories, including furniture, lighting, textiles, bathware, decor, outdoor and garden, and child and teen furnishings.
554	ROBERT HALF INTL INC	RHI	7,270	Robert Half International Inc. provides staffing and risk consulting services in North America, South America, Europe, Asia, and Australia.
555	ROCKWELL AUTOMATION	ROK	19,067	Rockwell Automation, Inc. provides industrial automation and digital transformation solutions. The company operates in two segments, Architecture & Software, and Control Products & Solutions.
556	ROGERS CORP	ROG	2,317	Rogers Corporation designs, develops, manufactures, and sells engineered materials and components worldwide. It operates in Advanced Connectivity Solutions (ACS), Elastomeric Material Solutions (EMS), Power Electronics Solutions (PES), and Other segments.
557	ROLLINS INC	ROL	10,858	Rollins, Inc., through its subsidiaries, provides pest and termite control services to residential and commercial customers.
558	ROPER TECHNOLOGIES INC	ROP	36,875	Roper Technologies, Inc. designs and develops software, and engineered products and solutions.
559	ROSS STORES INC	ROST	40,027	Ross Stores, Inc., together with its subsidiaries, operates off-price retail apparel and home fashion stores under the Ross Dress for Less and dd's DISCOUNTS brands. Its stores primarily offer apparel, accessories, footwear, and home fashions.

560	ROYAL CARIBBEAN GROUP	RCL	27,877	Royal Caribbean Group operates as a cruise company worldwide. The company operates cruises under the Royal Caribbean International, Celebrity Cruises, Azamara, and Silversea Cruises brands, which comprise a range of itineraries that call on approximately 1,000 destinations.
561	RPM INTERNATIONAL INC	RPM	9,685	RPM International Inc. manufactures and sells specialty chemicals for the industrial, specialty, and consumer markets worldwide.
562	RUSH ENTERPRISES INC	RUSHA	1,676	Rush Enterprises, Inc., through its subsidiaries, operates as an integrated retailer of commercial vehicles and related services in the United States. The company operates a network of commercial vehicle dealerships under the Rush Truck Centers name.
563	RUTHS HOSPITALITY GROUP INC	RUTH	617	Ruth's Hospitality Group, Inc., together with its subsidiaries, develops, operates, and franchises fine dining restaurants under the Ruth's Chris Steak House name.
564	S&P GLOBAL INC	SPGI	66,624	S&P Global Inc., together with its subsidiaries, provides ratings, benchmarks, analytics, and data to the capital and commodity markets worldwide.
565	SABRE CORP	SABR	6,143	Sabre Corporation, through its subsidiary, Sabre Holdings Corporation, provides technology solutions to the travel and tourism industry worldwide. It operates in three segments: Travel Network, Airline Solutions, and Hospitality Solutions.
566	SAGA COMMUNICATIONS INC	SGA	182	Saga Communications, Inc., a broadcast company, acquires, develops, and operates broadcast properties in the United States.
567	SAIA INC	SAIA	2,415	Saia, Inc., through its subsidiaries, operates as a transportation company in North America. The company provides less-than-truckload services for shipments between 100 and 10,000 pounds; and other value-added services, including non-asset truckload, expedited, and logistics services.
568	SALLY BEAUTY HOLDINGS INC	SBH	1,738	Sally Beauty Holdings, Inc. operates as a specialty retailer and distributor of professional beauty supplies. The company operates through two segments, Sally Beauty Supply and Beauty Systems Group.
569	SANFILIPPO JOHN B&SON	JBSS	974	John B. Sanfilippo & Son, Inc., together with its subsidiary, JBSS Ventures, LLC, processes and distributes tree nuts and peanuts in the United States.
570	SCANSOURCE INC	SCSC	611	ScanSource, Inc. distributes technology products and solutions in the United States, Canada, and internationally. It operates in two segments, Worldwide Barcode, Networking & Security; and Worldwide Communications & Services.
571	SCHWEITZER-MAUDUIT INTL INC	SWM	1,297	Schweitzer-Mauduit International, Inc., together with its subsidiaries, provides engineered solutions and advanced materials for various industries worldwide. It operates through two segments, Advanced Materials & Structures and Engineered Papers.

572	SCIENCE APPLICATIONS INTL CP	SAIC	5,091	Science Applications International Corporation provides technical, engineering, and enterprise information technology (IT) services primarily in the United States.
573	SEALED AIR CORP	SEE	6,154	Sealed Air Corporation provides food safety and security, and product protection solutions and equipment in North America, South America, Europe, the Middle East, Africa, and the Asia Pacific. It operates in two segments, Food and Protective.
574	SELECT MEDICAL HOLDINGS CORP	SEM	3,135	Select Medical Holdings Corporation, through its subsidiary, Select Medical Corporation, operates critical illness recovery hospitals, rehabilitation hospitals, outpatient rehabilitation clinics, and occupational health centers in the United States.
575	SENECA FOODS CORP	SENEA	355	Seneca Foods Corporation provides packaged fruits and vegetables in the United States and internationally.
576	SENSIENT TECHNOLOGIES CORP	SXT	2,794	Sensient Technologies Corporation, together with its subsidiaries, develops, manufactures, and markets colors, flavors, and other specialty ingredients in North America, Europe, the Asia Pacific, and internationally.
577	SHAKE SHACK INC	SHAK	2,050	Shake Shack Inc. owns, operates, and licenses Shake Shack restaurants (Shacks) in the United States and internationally. Its Shacks offers hamburgers, hot dogs, chicken, crinkle cut fries, shakes, frozen custard, beer, wine, and other products.
578	SHERWIN-WILLIAMS CO	SHW	53,770	The Sherwin-Williams Company develops, manufactures, distributes, and sells paints, coatings, and related products to professional, industrial, commercial, and retail customers. It operates in three segments: The Americas Group, Consumer Brands Group, and Performance Coatings Group.
579	SHOE CARNIVAL INC	SCVL	502	Shoe Carnival, Inc., together with its subsidiaries, operates as a family footwear retailer in the United States.
580	SHUTTERSTOCK INC	SSTK	1,522	Shutterstock, Inc., a technology company, provides content, and tools and services in North America, Europe, and internationally.
581	SIGNET JEWELERS LTD	SIG	1,271	Signet Jewelers Limited engages in the retail sale of diamond jewelry, watches, and other products. As of February 02, 2019, it operated 3,334 stores and kiosks. The company operates through three segments: North America, International, and Other.
582	SILGAN HOLDINGS INC	SLGN	3,443	Silgan Holdings Inc., together with its subsidiaries, manufactures and sells rigid packaging for consumer goods products in North America, Europe, and internationally. It operates through three segments: Metal Containers, Closures, and Plastic Containers.
583	SIMPSON MANUFACTURING INC	SSD	3,547	Simpson Manufacturing Co., Inc., through its subsidiaries, designs, engineers, manufactures, and sells wood and concrete building construction products.
584	SIMULATIONS PLUS INC	SLP	1,187	Simulations Plus, Inc. develops drug discovery and development software for mechanistic modeling and simulation, and prediction of

				properties of molecules utilizing artificial-intelligence- and machine-learning-based technology worldwide.
585	SIRIUS XM HOLDINGS INC	SIRI	31,546	Sirius XM Holdings Inc. provides satellite radio services on a subscription fee basis in the United States.
586	SIX FLAGS ENTERTAINMENT CORP	SIX	3,818	Six Flags Entertainment Corporation owns and operates regional theme and waterparks under the Six Flags name. Its parks offer various thrill rides, water attractions, themed areas, concerts and shows, restaurants, game venues, and retail outlets.
587	SKECHERS U S A INC	SKX	6,629	Skechers U.S.A., Inc. designs, develops, markets, and distributes footwear for men, women, and children; and performance footwear for men and women under the Skechers brand worldwide. It operates through three segments: Domestic Wholesale, International Wholesale, and Direct-to-Consumer.
588	SKYWORKS SOLUTIONS INC	SWKS	13,480	Skyworks Solutions, Inc., together with its subsidiaries, designs, develops, manufactures, and markets proprietary semiconductor products, including intellectual property in the United States, China, South Korea, Taiwan, Europe, the Middle East, Africa, and rest of Asia-Pacific.
589	SLEEP NUMBER CORP	SNBR	1,377	Sleep Number Corporation, together with its subsidiaries, provides sleep solutions and services in the United States. The company designs, manufactures, markets, retails, and services beds, pillows, sheets, and other bedding products under the Sleep Number name.
590	SMITH (A.O.)	AOS	7,735	A. O. Smith Corporation manufactures and markets residential and commercial gas and electric water heaters, boilers, tanks, and water treatment products in North America, China, Europe, and India. It operates through two segments, North America and Rest of World.
591	SMUCKER (JM) CO	SJM	13,108	The J. M. Smucker Company manufactures and markets food and beverage products worldwide. It operates in four segments: U.S. Retail Pet Foods, U.S. Retail Coffee, U.S. Retail Consumer Foods, and International and Away From Home.
592	SNAP-ON INC	SNA	9,258	Snap-on Incorporated manufactures and markets tools, equipment, diagnostics, and repair information and systems solutions for professional users worldwide.
593	SONIC AUTOMOTIVE INC - CL A	SAH	1,337	Sonic Automotive, Inc. operates as an automotive retailer in the United States. It operates in two segments, Franchised Dealerships and EchoPark.
594	SONOCO PRODUCTS CO	SON	6,184	Sonoco Products Company manufactures and sells industrial and consumer packaging products in North and South America, Europe, Australia, and Asia.
595	SOUTHERN COPPER CORP	SCCO	32,841	Southern Copper Corporation engages in mining, exploring, smelting, and refining copper and other minerals in Peru, Mexico, Argentina, Ecuador, and Chile.

596	SOUTHWEST AIRLINES	LUV	28,019	Southwest Airlines Co. operates as a passenger airline company that provide scheduled air transportation services in the United States and near-international markets.
597	SP PLUS CORP	SP	974	SP Plus Corporation provides parking management, ground transportation, baggage, and other ancillary services in North America. The company operates through Commercial, Aviation, and Other segments.
598	SPIRIT AEROSYSTEMS HOLDINGS	SPR	7,644	Spirit AeroSystems Holdings, Inc. designs and manufactures commercial aerostructures worldwide. It operates through three segments: Fuselage Systems, Propulsion Systems, and Wing Systems.
599	SPIRIT AIRLINES INC	SAVE	2,759	Spirit Airlines, Inc. provides airline services. It serves 78 destinations in 16 countries in the United States, Latin America, and the Caribbean.
600	SPORTSMANS WAREHOUSE HLDGS	SPWH	281	Sportsman's Warehouse Holdings, Inc., together with its subsidiaries, operates as an outdoor sporting goods retailer in the United States.
601	SPROUTS FARMERS MARKET	SFM	2,274	Sprouts Farmers Market, Inc. offers fresh, natural, and organic food products in the United States. It operates through Healthy Grocery Stores segment.
602	SPS COMMERCE INC	SPSC	1,932	SPS Commerce, Inc. provides cloud-based supply chain management solutions worldwide.
603	SS&C TECHNOLOGIES HLDGS INC	SSNC	15,632	SS&C Technologies Holdings, Inc., together with its subsidiaries, provides software products and software-enabled services to financial services and healthcare industries.
604	STANDARD MOTOR PRODS	SMP	1,195	Standard Motor Products, Inc. manufactures and distributes replacement parts for motor vehicles in the automotive aftermarket industry.
605	STANDEX INTERNATIONAL CORP	SXI	704	Standex International Corporation, together with subsidiaries, manufactures and sells various products and services for commercial and industrial markets in the United States and internationally.
606	STANLEY BLACK & DECKER INC	SWK	25,442	Stanley Black & Decker, Inc. engages in the tools and storage, industrial, and security businesses worldwide.
607	STARBUCKS CORP	SBUX	104,742	Starbucks Corporation, together with its subsidiaries, operates as a roaster, marketer, and retailer of specialty coffee worldwide. The company operates through three segments: Americas, International, and Channel Development.
608	STEELCASE INC	SCS	1,901	Steelcase Inc. manufactures and sells integrated furniture settings, user-centered technologies, and interior architectural products. It operates through Americas, EMEA, and Other segments.
609	STEPAN CO	SCL	2,306	Stepan Company, together with its subsidiaries, produces and sells specialty and intermediate chemicals to other manufacturers for use



in various end products in North America, Europe, Latin America, and Asia.

610	STERIS PLC	STE	11,887	STERIS plc provides infection prevention and other procedural products and services worldwide. It operates in four segments: Healthcare Products, Healthcare Specialty Services, Life Sciences, and Applied Sterilization Technologies.
611	STRATEGIC EDUCATION INC	STRA	3,490	Strategic Education, Inc., through its subsidiaries, provides post-secondary education and non-degree programs. It operates in three segments: Strayer University, Capella University, and Australia/New Zealand.
612	STURM RUGER & CO INC	RGR	821	Sturm, Ruger & Company, Inc., together with its subsidiaries, designs, manufactures, and sells firearms under the Ruger name and trademark in the United States. It operates in two segments, Firearms and Castings.
613	SUPERIOR GROUP OF COS INC	SGC	206	Superior Group of Companies, Inc. manufactures and sells apparel and accessories in the United States and internationally. It operates through three segments: Uniforms and Related Products, Remote Staffing Solutions, and Promotional Products.
614	SYKES ENTERPRISES INC	SYKE	1,532	Sykes Enterprises, Incorporated, together with its subsidiaries, provides customer experience management, multichannel demand generation, and digital transformation services.
615	SYNNEX CORP	SNX	6,233	SYNNEX Corporation provides business process services in the United States and internationally.
616	SYSCO CORP	SYU	27,781	Sysco Corporation, through its subsidiaries, markets and distributes a range of food and related products primarily to the foodservice or food-away-from-home industry in the United States, Canada, the United Kingdom, France, and internationally. It operates through three segments: U.S.
617	TAPESTRY INC	TPR	3,668	Tapestry, Inc. provides luxury accessories and branded lifestyle products in the United States, Japan, Greater China, Other Asia, and internationally. The company operates through three segments: Coach, Kate Spade, and Stuart Weitzman.
618	TARGET CORP	TGT	55,835	Target Corporation operates as a general merchandise retailer in the United States.
619	TAYLOR MORRISON HOME CORP	TMHC	2,314	Taylor Morrison Home Corporation, together with its subsidiaries, operates as a public homebuilder in the United States. The company designs, builds, and sells single and multi-family detached and attached homes; and develops lifestyle and master-planned communities.
620	TECH DATA CORP	TECD	5,099	Tech Data Corporation operates as a distributor of technology products and solutions.
621	TECHTARGET INC	TTGT	735	TechTarget, Inc., together with its subsidiaries, provides marketing and sales services that deliver business impact for enterprise technology companies in North America and internationally.

622	TEGNA INC	TGNA	3,629	TEGNA Inc. operates as a media company in the United States. The company operates television stations that deliver television programming and digital content.
623	TELEDYNE TECHNOLOGIES INC	TDY	12,665	Teledyne Technologies Incorporated provides instrumentation, digital imaging, aerospace and defense electronics, and engineered systems in the United States, the United Kingdom, Canada, Denmark, France, the Netherlands, and internationally.
624	TELEPHONE & DATA SYSTEMS INC	TDS	2,924	Telephone and Data Systems, Inc., a telecommunications company, provides communications services in the United States. It operates through three segments: UScellular, Wireline, and Cable.
625	TEMPUR SEALY INTL INC	TPX	4,684	Tempur Sealy International, Inc., together with its subsidiaries, develops, manufactures, markets, and distributes bedding products in the United States, Canada, and internationally.
626	TENET HEALTHCARE CORP	THC	3,963	Tenet Healthcare Corporation operates as a diversified healthcare services company. The company operates in three segments: Hospital Operations and Other, Ambulatory Care, and Conifer.
627	TENNANT CO	TNC	1,429	Tennant Company, together with its subsidiaries, designs, manufactures, and markets floor cleaning equipment in the Americas, Europe, the Middle East, Africa, and the Asia Pacific.
628	TETRA TECH INC	TTEK	4,734	Tetra Tech, Inc. provides consulting and engineering services worldwide. The company operates through Government Services Group (GSG) and Commercial/International Services Group (CIG) segments.
629	TEXAS INSTRUMENTS INC	TXN	119,570	Texas Instruments Incorporated designs, manufactures, and sells semiconductors to electronics designers and manufacturers worldwide. It operates in two segments, Analog and Embedded Processing.
630	TEXAS ROADHOUSE INC	TXRH	3,909	Texas Roadhouse, Inc., together with its subsidiaries, operates casual dining restaurants in the United States and internationally. The company operates and franchises Texas Roadhouse and Bubba's 33 restaurants.
631	TEXTRON INC	TXT	10,167	Textron Inc. operates in the aircraft, defense, industrial, and finance businesses worldwide.
632	THERMON GROUP HOLDINGS INC	THR	496	Thermon Group Holdings, Inc. provides engineered industrial process heating solutions for process industries worldwide.
633	THOR INDUSTRIES INC	THO	6,292	Thor Industries, Inc. designs, manufactures, and sells recreational vehicles (RVs), and related parts and accessories in the United States, Canada, and Europe.
634	TIFFANY & CO	TIF	16,243	Tiffany & Co., through its subsidiaries, designs, manufactures, and retails jewelry and other items. The company offers jewelry collections, engagement rings, and wedding bands. It also sells watches, home and accessories products, and fragrances; and wholesales diamonds and earnings.

635	TILLY'S INC	TLYS	253	Tilly's, Inc. operates as a specialty retailer of casual apparel, footwear, accessories, and hardgoods for young men and women, and boys and girls in the United States.
636	TJX COS INC (THE)	TJX	70,795	The TJX Companies, Inc., together with its subsidiaries, operates as an off-price apparel and home fashions retailer. It operates through four segments: Marmaxx, HomeGoods, TJX Canada, and TJX International.
637	T-MOBILE US INC	TMUS	67,198	T-Mobile US, Inc., together with its subsidiaries, provides mobile communications services in the United States, Puerto Rico, and the United States Virgin Islands. The company offers voice, messaging, and data services to 102.1 million customers in the postpaid, prepaid, and wholesale markets.
638	TOLL BROTHERS INC	TOL	5,605	Toll Brothers, Inc., together with its subsidiaries, designs, builds, markets, sells, and arranges finance for a range of detached and attached homes in luxury residential communities in the United States. The company operates in two segments, Traditional Home Building and Urban Infill.
639	TOOTSIE ROLL INDUSTRIES INC	TR	2,236	Tootsie Roll Industries, Inc., together with its subsidiaries, manufactures and sells confectionery products primarily in the United States, Canada, Mexico, and internationally.
640	TORO CO	TTC	8,233	The Toro Company designs, manufactures, and markets professional and residential equipment worldwide.
641	TRACTOR SUPPLY CO	TSCO	11,041	Tractor Supply Company operates as a rural lifestyle retailer in the United States.
642	TRANSCAT INC	TRNS	196	Transcat, Inc. provides calibration and laboratory instrument services in North America and internationally. It operates in two segments, Service and Distribution.
643	TRANSDIGM GROUP INC	TDG	27,836	TransDigm Group Incorporated designs, produces, and supplies aircraft components in the United States and internationally.
644	TRANSUNION	TRU	16,155	TransUnion provides risk and information solutions. The company operates in three segments: U.S. Markets, International, and Consumer Interactive. The U.S.
645	TREX CO INC	TREX	5,235	Trex Company, Inc. manufactures and distributes wood and plastic composite products, and related accessories primarily for residential decking, and railing applications in the United States.
646	TRI POINTE HOMES INC	TPH	2,121	Tri Pointe Homes, Inc. engages in the design, construction, and sale of single-family attached and detached homes in the United States.
647	TRINET GROUP INC	TNET	3,910	TriNet Group, Inc. provides human resources (HR) solutions for small and midsize businesses in the United States.
648	TRINITY INDUSTRIES	TRN	2,649	Trinity Industries, Inc. provides rail transportation products and services in North America. It operates through three segments: Railcar Leasing and Management Services Group, Rail Products Group, and All Other.

649	TRINSEO SA	TSE	1,451	Trinseo S.A., a materials company, manufactures and markets synthetic rubber, latex binders, and plastic products in the United States, Europe, the Asia-Pacific, and internationally.
650	TRIPADVISOR INC	TRIP	4,174	TripAdvisor, Inc. operates as an online travel company. It operates in two segments, Hotels, Media & Platform; and Experiences & Dining.
651	TTEC HOLDINGS INC	TTEC	1,842	TTEC Holdings, Inc., a customer experience technology and services company, focuses on the design, implementation, and delivery of transformative customer experience for various brands. It operates through TTEC Digital and TTEC Engage segments.
652	TUCOWS INC	TCX	654	Tucows Inc. provides network access, domain name registration, email, mobile telephony, and other Internet services in Canada, the United States, and Europe. It operates through two segments, Network Access Services and Domain Services.
653	TUPPERWARE BRANDS CORP	TUP	420	Tupperware Brands Corporation operates as a consumer products company worldwide.
654	TYLER TECHNOLOGIES INC	TYL	11,793	Tyler Technologies, Inc. provides integrated information management solutions and services for the public sector in the United States and internationally. The company operates in two segments, Enterprise Software, and Appraisal and Tax.
655	U S LIME & MINERALS	USLM	508	United States Lime & Minerals, Inc. manufactures and supplies lime and limestone products in the United States. It operates through two segments, Lime and Limestone Operations, and Natural Gas Interests.
656	U S PHYSICAL THERAPY INC	USPH	1,461	U.S.
657	UBIQUITI INC	UI	11,117	Ubiquiti Inc. develops networking technology for service providers, enterprises, and consumers. It develops technology platforms for high-capacity distributed Internet access, unified information technology, and consumer electronics for professional, home, and personal use.
658	UFP INDUSTRIES INC	UFPI	2,929	UFP Industries, Inc., through its subsidiaries, designs, manufactures, and markets wood and wood-alternative products in North America, Europe, Asia, and Australia.
659	UFP TECHNOLOGIES INC	UFPT	369	UFP Technologies, Inc. designs and converts foams, films, and plastics materials for the medical, automotive, consumer, electronics, industrial, and aerospace and defense markets in the United States.
660	ULTA BEAUTY INC	ULTA	15,166	Ulta Beauty, Inc. operates as a beauty retailer in the United States.
661	UNDER ARMOUR INC	UAA	9,204	Under Armour, Inc., together with its subsidiaries, develops, markets, and distributes branded performance apparel, footwear, and accessories for men, women, and youth primarily in North America, Europe, the Middle East, Africa, the Asia-Pacific, and Latin America.

662	UNIFIRST CORP	UNF	3,639	UniFirst Corporation provides workplace uniforms and protective work wear clothing in the United States, Europe, and Canada. The company operates through U.S. and Canadian Rental and Cleaning, Manufacturing, Specialty Garments Rental and Cleaning, and First Aid segments.
663	UNION PACIFIC CORP	UNP	125,125	Union Pacific Corporation, through its subsidiary, Union Pacific Railroad Company, engages in the railroad business in the United States.
664	UNITED PARCEL SERVICE INC	UPS	100,274	United Parcel Service, Inc. provides letter and package delivery, transportation, logistics, and financial services. It operates through three segments: U.S. Domestic Package, International Package, and Supply Chain & Freight. The U.S.
665	UNITED RENTALS INC	URI	12,401	United Rentals, Inc., through its subsidiaries, operates as an equipment rental company. It operates in two segments, General Rentals; and Trench, Power and Fluid Solutions.
666	UNIVERSAL CORP/VA	UVV	1,080	Universal Corporation supplies leaf tobacco products worldwide. The company operates through North America, South America, Africa, Europe, Asia, Dark Air-Cured, Oriental, and Special Services segments.
667	UNIVERSAL DISPLAY CORP	OLED	9,786	Universal Display Corporation engages in the research, development, and commercialization of organic light emitting diode (OLED) technologies and materials for use in display and solid-state lighting applications.
668	UNIVERSAL ELECTRONICS INC	UEIC	729	Universal Electronics Inc.
669	UNIVERSAL HEALTH SVCS INC	UHS	12,438	Universal Health Services, Inc., through its subsidiaries, owns and operates acute care hospitals, and outpatient and behavioral health care facilities. The company operates through Acute Care Hospital Services and Behavioral Health Care Services segments.
670	UNIVERSAL LOGISTICS HLDGS	ULH	517	Universal Logistics Holdings, Inc. provides transportation and logistics solutions in the United States, Mexico, Canada, and Colombia.
671	URBAN OUTFITTERS INC	URBN	2,508	Urban Outfitters, Inc. engages in the retail and wholesale of general consumer products. The company operates through three segments: Retail, wholesale, and Subscription.
672	US CELLULAR CORP	USM	3,116	United States Cellular Corporation provides wireless telecommunications services in the United States. The company offers wireless services, including voice, messaging, and data services.
673	USANA HEALTH SCIENCES INC	USNA	1,701	USANA Health Sciences, Inc. develops, manufactures, and sells science-based nutritional and personal care products.
674	UTAH MEDICAL PRODUCTS INC	UTMD	402	Utah Medical Products, Inc. manufactures and distributes medical devices for the healthcare industry in the United States, Europe, and internationally.

675	VALERO ENERGY CORP	VLO	38,330	Valero Energy Corporation manufactures, markets, and sells transportation fuels and petrochemical products in the United States, Canada, the United Kingdom, Ireland, and internationally. It operates through three segments: Refining, Renewable Diesel, and Ethanol.
676	VALMONT INDUSTRIES INC	VMI	3,227	Valmont Industries, Inc. produces and sells fabricated metal products in the United States, Australia, Denmark, and internationally. The company operates through four segments: Engineered Support Structures, Utility Support Structures, Coatings, and Irrigation.
677	VALUE LINE INC	VALU	298	Value Line, Inc., together with its subsidiaries, produces and sells investment periodicals and related publications primarily in the United States.
678	VARIAN MEDICAL SYSTEMS INC	VAR	10,813	Varian Medical Systems, Inc. designs, manufactures, sells, and services medical devices and software products for treating cancer and other medical conditions worldwide. It operates through Oncology Systems and Proton Solutions segments.
679	VECTRUS INC	VEC	591	Vectrus, Inc. provides facility and base operations, supply chain and logistics, information technology mission support, and engineering and digital integration services.
680	VEEVA SYSTEMS INC	VEEV	21,859	Veeva Systems Inc. provides cloud-based software for the life sciences industry in North America, Europe, the Asia Pacific, the Middle East, Africa, and Latin America.
681	VERA BRADLEY INC	VRA	321	Vera Bradley, Inc., together with its subsidiaries, designs, manufactures, and sells women's handbags, luggage and travel items, fashion and home accessories, and gifts. It operates through three segments: Vera Bradley Direct, Vera Bradley Indirect, and Pura Vida.
682	VERISIGN INC	VRSN	22,489	VeriSign, Inc., together with its subsidiaries, provides domain name registry services and internet infrastructure that enables internet navigation for various recognized domain names worldwide.
683	VERIZON COMMUNICATIONS INC	VZ	253,940	Verizon Communications Inc. offers communications, information, and entertainment products and services to consumers, businesses, and governmental entities worldwide.
684	VF CORP	VFC	21,027	V.F. Corporation engages in the design, production, procurement, marketing, and distribution of branded lifestyle apparel, footwear, and related products for men, women, and children in the Americas, Europe, and the Asia-Pacific. It operates through four segments: Outdoor, Active, and Work.
685	VIAD CORP	VVI	1,373	Viad Corp operates as an experiential services company in the United States, Canada, the United Kingdom, continental Europe, the United Arab Emirates, and Iceland. It operates through three segments: GES North America, GES EMEA, and Pursuit.

686	VILLAGE SUPER MARKET -CL A	VLGEA	367	Village Super Market, Inc. operates a chain of supermarkets in the United States. Its stores feature specialty departments, such as an on-site bakery, an expanded delicatessen, various natural and organic foods, ethnic and international foods, prepared foods, and pharmacies.
687	VIRTUSA CORP	VRTU	856	Virtusa Corporation provides digital engineering and information technology (IT) outsourcing services primarily in North America, Europe, and Asia.
688	VISTEON CORP	VC	2,421	Visteon Corporation engineers, designs, and manufactures automotive electronics and connected car solutions for vehicle manufacturers worldwide.
689	VSE CORP	VSEC	417	VSE Corporation operates as a diversified products and services aftermarket company in the United States. The company operates in three segments: Aviation, Fleet, and Federal and Defense.
690	VULCAN MATERIALS CO	VMC	19,060	Vulcan Materials Company produces and supplies construction aggregate primarily in the United States. It operates through four segments: Aggregates, Asphalt, Concrete, and Calcium.
691	WABASH NATIONAL CORP	WNC	786	Wabash National Corporation designs, manufactures, and distributes engineered solutions for the transportation, logistics, and distribution industries primarily in the United States.
692	WABCO HOLDINGS INC	WBC	6,947	WABCO Holdings Inc., together with its subsidiaries, supplies electronic, mechanical, electro-mechanical, and aerodynamic products worldwide.
693	WABTEC CORP	WAB	14,914	Westinghouse Air Brake Technologies Corporation provides technology-based equipment, systems, and services for the freight rail and passenger transit vehicle industries worldwide. It operates through two segments, Freight and Transit.
694	WALGREENS BOOTS ALLIANCE INC	WBA	32,910	Walgreens Boots Alliance, Inc. operates as a pharmacy-led health and beauty retail company. It operates through three segments: Retail Pharmacy USA, Retail Pharmacy International, and Pharmaceutical Wholesale.
695	WALMART INC	WMT	324,292	Walmart Inc. engages in the operation of retail, wholesale, and other units worldwide. The company operates through three segments: Walmart U.S., Walmart International, and Sam's Club.
696	WATERS CORP	WAT	14,623	Waters Corporation, a specialty measurement company, provides analytical workflow solutions in Asia, the Americas, and Europe. It operates through two segments, Waters and TA.
697	WATSCO INC	WSO	7,766	Watsco, Inc., together with its subsidiaries, distributes air conditioning, heating, and refrigeration equipment; and related parts and supplies in the United States, Canada, Mexico, and Puerto Rico.
698	WD-40 CO	WDFC	2,793	WD-40 Company develops and sells maintenance products, and homecare and cleaning products in the Americas, Europe, the Middle East, Africa, and the Asia-Pacific.

699	WEIS MARKETS INC	WMK	1,089	Weis Markets, Inc. engages in the retail sale of food in Pennsylvania and surrounding states.
700	WENDY'S CO	WEN	4,995	The Wendy's Company, together with its subsidiaries, operates as a quick-service restaurant company. It operates through three segments: Wendy's U.S., Wendy's International, and Global Real Estate & Development.
701	WERNER ENTERPRISES INC	WERN	2,520	Werner Enterprises, Inc., a transportation and logistics company, engages in transporting truckload shipments of general commodities in interstate and intrastate commerce in the United States, Mexico, and internationally.
702	WESCO INTL INC	WCC	2,482	WESCO International, Inc. provides business-to-business distribution, logistics, and supply chain solutions in the United States, Canada, and internationally.
703	WEST PHARMACEUTICAL SVSC INC	WST	11,137	West Pharmaceutical Services, Inc. designs and produces containment and delivery systems for injectable drugs and healthcare products in the Americas, Europe, the Middle East, Africa, and the Asia Pacific.
704	WESTLAKE CHEMICAL CORP	WLK	9,006	Westlake Chemical Corporation, together with its subsidiaries, manufactures and markets basic chemicals, vinyls, polymers, and building products worldwide. It operates through two segments, Vinyls and Olefins.
705	WEYCO GROUP INC	WEYS	261	Weyco Group, Inc., together with its subsidiaries, designs and distributes footwear for men, women, and children. It operates through two segments, North American Wholesale Operations and North American Retail Operations.
706	WILLIAMS-SONOMA INC	WSM	5,406	Williams-Sonoma, Inc. operates as an omni-channel specialty retailer of various products for home.
707	WILLIS LEASE FINANCE CORP	WLFC	374	Willis Lease Finance Corporation operates as a lessor and servicer of commercial aircraft and aircraft engines worldwide. The company operates through two segments, Leasing and Related Operations, and Spare Parts Sales.
708	WINGSTOP INC	WING	2,540	Wingstop Inc., together with its subsidiaries, franchises and operates restaurants under the Wingstop brand name. Its restaurants offer classic wings, boneless wings, and tenders that are cooked-to-order, and hand-sauced-and-tossed in various flavors.
709	WINNEBAGO INDUSTRIES	WGO	1,816	Winnebago Industries, Inc. manufactures and sells recreation vehicles and marine products primarily for use in leisure travel and outdoor recreation activities.
710	WOLVERINE WORLD WIDE	WWW	2,738	Wolverine World Wide, Inc. designs, manufactures, sources, markets, licenses, and distributes footwear, apparel, and accessories in the United States, Europe, the Middle East, Africa, the Asia Pacific, Canada and Latin America.



711	WOODWARD INC	WWD	6,654	Woodward, Inc. designs, manufactures, and services control solutions for the aerospace and industrial markets worldwide. The company operates in two segments, Aerospace and Industrial.
712	WORLD FUEL SERVICES CORP	INT	2,831	World Fuel Services Corporation engages in the distribution of fuel and related products & services in the aviation, marine and land transportation industries worldwide.
713	WORLD WRESTLING ENTMT INC	WWE	5,013	World Wrestling Entertainment, Inc., an integrated media and entertainment company, engages in the sports entertainment business in North America, Europe, the Middle East, Africa, the Asia Pacific, and Latin America. It operates through three segments: Media, Live Events, and Consumer Products.
714	WORTHINGTON INDUSTRIES	WOR	1,634	Worthington Industries, Inc., a metals manufacturing company, focuses on value-added steel processing and manufactured metal products in the United States, Austria, Canada, Mexico, Poland, and Portugal. It operates through two segments, Steel Processing and Pressure Cylinders.
715	WW INTERNATIONAL INC	WW	2,576	WW International, Inc. provides weight management products and services worldwide. The company operates in four segments: North America, Continental Europe, United Kingdom, and Other.
716	XILINX INC	XLNX	19,003	Xilinx, Inc. designs and develops programmable devices and associated technologies worldwide.
717	XYLEM INC	XYL	14,193	Xylem Inc., together with its subsidiaries, engages in the design, manufacture, and servicing of engineered products and solutions for the water and wastewater applications in the United States, Europe, the Asia Pacific, and internationally.
718	YUM BRANDS INC	YUM	30,219	YUM! Brands, Inc., together with its subsidiaries, develops, operates, and franchises quick service restaurants worldwide. It operates through four segments: the KFC Division, the Pizza Hut Division, the Taco Bell Division, and the Habit Burger Grill Division.
719	ZOETIS INC	ZTS	62,936	Zoetis Inc. discovers, develops, manufactures, and commercializes animal health medicines, vaccines, and diagnostic products in the United States and internationally.
720	ZUMIEZ INC	ZUMZ	805	Zumiez Inc., together with its subsidiaries, operates as a specialty retailer of apparel, footwear, accessories, and hardgoods for young men and women. Its hardgoods include skateboards, snowboards, bindings, components, and other equipment.