STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

In the matter of

Liberty Utilities (Granite State Electric) Corp.

Docket No. DE 19-064

Petition for Permanent Rate Increase

DIRECT TESTIMONY

OF

Dr. Pradip K. Chattopadhyay
Assistant Consumer Advocate

December 6, 2019

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I. INTRODUCTION

Q. Please state your name, business address and occupation.

A. My name is Pradip K. Chattopadhyay. My business address is 21 South Fruit Street, Suite 18, Concord, New Hampshire. I am employed as the Assistant Consumer Advocate/Rate and Market Policy Director with the New Hampshire Office of Consumer Advocate (OCA).

Q. Please describe your formal education and professional experience.

A. I have a Ph.D. in Economics from the University of Washington, Seattle, which I earned in 1997. I have also taken courses in City and Regional Planning with applications to Energy Planning from Ohio State University, Columbus OH, in 2001-02. I have taught several courses in economics at the University of Washington as an instructor and adjunct faculty at its Business School. I am also associated with the Southern New Hampshire University (SNHU) as an adjunct faculty, where I teach several courses in economics.

From March 1998 to October 1999, I was a consultant with the National Council of Applied Economic Research, New Delhi, India. From November 1999 to August 2001, I was the Economist at the Uttar Pradesh Electricity Regulatory Commission (UPERC) in India, and advised UPERC on tariff issues. From September 2001 to June 2002, I worked at the National Regulatory Research Institute, Columbus, Ohio, as a graduate research associate while pursuing advanced courses in Energy Planning in the City and Regional Planning Program at Ohio State University. From June 2002 to July 2002, I worked at the World Bank, Washington D.C. as a short-term consultant/intern with its Energy and Water Division.

I worked at the New Hampshire Public Utilities Commission (Commission) from August 2002 to January 2007 in the capacity of a Utility Analyst. My responsibilities at the Commission as an analyst were in electric utility issues including analyzing and advising the Commission on rate design, cost of capital issues, wholesale market issues, and other regional matters. I briefly worked at the Massachusetts Department of Telecommunications and Energy (later reorganized into Department of Public Utilities (MA-DPU)) starting in January 2007 as an Economist. At MA-DPU, I represented the staff and examined gas demand estimation and forecasting, decoupling issues, and environmental remediation matters.

I returned to the Commission in June 2007 to join its Telecom Division as its Assistant Director, and continued in that position until December 2010. I was also helping other divisions as an expert witness in economics-related issues as well as advising the Commission on regional electric matters including FERC jurisdictional issues. I joined the Commission's Regional Energy Division in January 2010 as the Regional Energy Analyst, and was advising the Commission in that capacity until I joined the Antitrust and Utilities Division, Office of the Minnesota Attorney General, in August 2013.

I came back to New Hampshire in March 2014 and worked as an independent consultant until the end of August, 2014, representing the Minnesota Attorney General. I joined Liberty Utilities at the end of August, 2014 as a Forecasting Analyst for its Energy Procurement Department. I worked with Liberty Utilities for about three months, before starting my own consultancy firm. In December 2014, I joined the OCA as its Rate and Market Policy Director. I was later appointed the Assistant Consumer Advocate at the OCA.

Q. Have you previously provided testimony before this Commission?

A. Yes.

Q. In which dockets did you testify?

A. I provided testimony before the Commission in the following dockets:

- DE 03-200 – Rate design testimony which was about delivery rates for retail ratepayers of Public Service of New Hampshire (PSNH);
- DE 06-028 – Cost of capital testimony which was also about PSNH's delivery rates;
- DT 07-027 – Status of competition in retail telephony under TDS;
- DG 08-009 – Cost of equity testimony related to gas delivery rates of National Grid NH;
- DE 09-035 – Cost of equity testimony in the matter of electric distribution rates (PSNH);
- DG 14-380 – Petition of Liberty Utilities (EnergyNorth Natural Gas) requesting approval of firm transportation contract (North East Direct (NED));
- DG 15-155 – Petition of Valley Green, LLC requesting franchise in City of Lebanon and Town of Hanover, New Hampshire;
- DG 15-289 – Petition of Liberty Utilities (EnergyNorth Natural Gas) requesting franchise in City of Lebanon and Town of Hanover, New Hampshire;
- DG 15-494 – Petition of Liberty Utilities (EnergyNorth Natural Gas) requesting approval of firm transportation contract (NED);
- DE 16-383 – Petition of Liberty Utilities (Granite State Electric) for Permanent Rate Increase;
- DE 16-384 – Petition of Unitil for Permanent Rate Increase;

- DG 16-852 – EnergyNorth's Petition for Lebanon-Hanover Franchise Approval;
- DG 17-048 – EnergyNorth's Gas Distribution Service Rate Case;
- DG 17-070 – Northern Utilities' Gas Distribution Service Rate Case;
- DW 18-165 – Abenaki-Rosebrook Rate Case; Oral Testimony on Return on Equity;
- DW 18 –118 – HAWC Rate Case; Oral Testimony on Return on Equity;
- DG 18-140 – Liberty Utilities' Petition for Approval of RNG Supply and Transportation Contract; and
- DG 17-198 – Liberty Utilities' Petition for Approval of Natural Gas Supply Strategy.

Q. Have you ever provided testimony and affidavits before other Commissions?

A. Yes. I have testified on cost of capital before the Minnesota Public Utilities Commission in dockets G008/GR-13-316 and GR 13-617. I have also provided an affidavit before the Federal Energy Regulatory Commission in a FERC Docket ER 09-14-000 on NSTAR's petition for ROE incentive adders on behalf of the New England Conference of Public Utilities Commissioners (NECPUC).

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to recommend, for Granite State Electric, the rate of return on equity in accordance with standards set forth in *Bluefield Water Works v. Public Service Comm'n*, 262 U.S. 679, 692-93 (1923), (*Bluefield*) and *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591, 605, (1944) (*Hope*). On advice of counsel, I understand that the standard set forth by the U.S. Supreme Court is that a public utility may be allowed to earn a return comparable to a return on investments in other enterprises having similar risks in order to allow the utility the opportunity to attract capital and to maintain its credit. "The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties." *Bluefield*, 262 U.S. at 693. I also state my views on Granite State Electric's recommendations on cost of equity, and articulate reasons why I agree or disagree with those recommendations.

Q. What Rate of Return on Equity (ROE) and Rate of Return on Capital are the Company requesting in this case?

A. The Company is requesting a return on common equity of 10 percent. Based on the actual net cost of debt, and the requested capital structure, the Company is seeking approval of 8.19 percent return on capital.

Q. What do you recommend as the allowed ROE for the company?

A. I am recommending a return of 8.23 percent as a specific point estimate. Based on my analysis, I am also recommending a range of returns on equity that I consider reasonable for the company, i.e., 8.15 percent to 8.35 percent.

Q. Please discuss how your testimony is organized.

A. Section II briefly reports my analysis of implications of observed market-to-book ratios[1] in the electric utility industry. In Section III, which has three subsections, I use several approaches to derive estimates of the cost of equity and I conclude by stating my recommendation on the cost of equity. Finally, Section IV includes the schedules that inform the OCA's analysis.

[1] This ratio relates the market price of stock to its book value.

II. MARKET-TO-BOOK RATIO, EXPECTED RETURN ON EQUITY AND REQUIRED RETURN ON EQUITY

Q. Why is it important to analyze observed market-to-book ratios of the electric utility industry and Granite State Electric's proxy group?

A. It is important to investigate market-to-book ratios essentially for three reasons. First, the current level of market-to-book ratio for a regulated company (which, of course, compares the market value of its common stock to the value of its assets as reflected on the company's books) is very telling with respect to the divergence between the expected return on equity and the opportunity cost of equity with respect to the regulated company's common stock. (I explain why this divergence is an important factor in the discussion that immediately follows.) Second, whether the market-to-book ratio is significantly higher than one has implications for the application of the Discounted Cash Flow (DCF) approach to estimating the opportunity cost of equity. Finally, one of the DCF approaches that I have relied on uses market-to-book ratios as an input. What follows in this section is predominantly the discussion of the first two reasons mentioned above. The need for tracking the market-to-book ratios of the constituent companies in the proxy group is primarily taken up in detail in subsection III.A.

Q. What is the relevance of the market-to-book ratio in the determination of the cost of equity?

A. When the market-to-book ratio of a utility is significantly higher than one, it indicates that the return on equity that is *expected* by investors, which is greatly influenced by the allowed rate of return for a regulated entity, exceeds the true opportunity cost of equity. In other words, in the prevailing economic environment, the return that investors *expect* to receive is greater than the return they would *require* in order to invest in the stock.

This has another important implication. While the DCF construct is predicated on using long-term expectations, in practice the DCF method relies on investors' expectations over the medium term. Analysts' projections about investors' sentiments on relevant variables are not available beyond three to five years into the future. The DCF method in practice therefore captures investors' medium-term expectations that the market-to-book ratio will continue to remain substantially higher than one, assuming the ratio is already at that level. I delve into this issue in greater detail (Pages 14-18 of my testimony) in my discussion of the characteristics of the DCF method, especially as it is implemented in practical terms. The methods in the current environment, therefore, tend to produce estimates for ROE that reasonably exceed the "true" cost of equity.[2]

Q. Please explain why the expected return on equity exceeds the cost of equity when the market-to-book ratio is significantly greater than one.

A. This fundamental result stems from the seminal Discounted Cash Flow (DCF) analysis, which succinctly translates into the equation

$$\frac{P}{B} = \frac{r_e - b_e r_e}{K - b_e r_e} \text{ .... Equation (1)}$$

[2] I use the phrase "true cost of equity" interchangeably with "cost of equity." I use both to refer to the opportunity cost associated with purchasing equity, i.e. the minimum return necessary to attract sufficient capital.

where r_e is the expected return on equity, B is the book value of stock, b_e is the expected retention ratio,[3] P is the market stock price, and K is the cost of equity, i.e., the required return on equity.[4]

The DCF approach is based on the premise that the market price of a particular stock equilibrates to the sum of the stream of returns expected in the future from the stock by investors, discounted by the market cost of equity. This is an explicit way of modeling investor behavior, and is a well-accepted way of explaining observed investor behavior. Heuristically speaking, if the stock price is lower than the market-equilibrium price, the demand for the stock would be greater than the supply, and stock sellers would raise their price to take advantage of the situation. Likewise, if the price of the stock was higher than the market-equilibrium price, the demand would be less than the supply of stocks, putting pressure on the sellers to lower their price to reduce excess supply. It follows that when the expected return on equity is greater (smaller) than the cost of equity, the market-to-book ratio would be greater (smaller) than one.

Q. Can you explain Equation (1) in greater detail?

A. Yes. If the expected return on equity exceeds the market cost of equity, the price of the stock would have to be higher relative to the book value to ensure that the expected dividend on the stock, i.e., $B(r_e - b_e r_e)$, equals the minimum required dividend, i.e. $P(K - b_e r_e)$. A look at comparative statics is helpful.[5] Everything else being equal, if the expected return on equity

[3] Retention ratio is the percentage of earnings that is retained to grow a business.
[4] *See* Roger Morin's *Regulatory Finance*, Utilities' Cost of Capital, Public Utilities Report, Inc. (1994), Page 248. The result holds even if we model new equity financing, as long as the growth in the number of outstanding stocks is reasonably low ceteris paribus, which in practice is generally true. Retention ratio is the proportion of earnings that is kept back as retained earnings; i.e. (net income *less* dividends)/net income.
[5] Comparative statics is a comparison of two economic outcomes when a pertinent variable is changed from one level to another, ceteris paribus.

increases (decreases), the expected dividend would momentarily be higher (lower) than $P(K - b_e r_e)$. Ceteris paribus, this would trigger a greater (lower) demand for the stock than the supply, which would consequently lead to a higher (lower) market price for the stock. The adjustments would continue until Equation (1) holds, i.e. until there is equilibrium.

A simple numerical example would be helpful. Suppose the expected return on equity, r, is 10 percent, and the expected retention ratio, b, is 30 percent. Based on these numbers, $r_e - b_e r_e$ is 7 percent.[6] However, if the cost of equity for the same stock, *K*, is 8 percent, then $(K - b_e r_e)$ must be 5 percent.[7] To ensure that 7 percent of the book value, i.e. the expected dividend, is exactly equal to 5 percent of the stock price, i.e. the minimum required dividend, the only way that equation (1) can hold is through an adjustment to the price of the stock until it is 40 percent higher than the book value of the stock, i.e., the market-to-book ratio is exactly equal to 1.4.

Q. Please explain the difference between the cost of equity and the expected return on equity in greater detail.

A. While the expected rate of return on equity for a regulated utility is an accounting return, i.e., it depends on the return allowed by the regulator as well as how the utility performs operationally, the cost of equity is the opportunity cost of equity, which is the minimum return required to attract investment by investors.[8]

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[6] $(r_e - b_e r_e)$ =10 - 0.30*10= 10-3 = 7.

[7] $(K - b_e r_e)$=8 - 0.30*10= 8-3= 5.

[8] "A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions in general." *Bluefield*, 262 U.S. at 693.

Ideally, a fair and reasonable return on equity for a regulated utility would equal the opportunity cost of equity. A look at a group of regulated utilities of comparable risk is instructive in estimating the opportunity cost of equity. Intrinsic to the determination of the allowed return at any point in time is the need to avoid unnecessary wealth transfer from ratepayers to shareholders, given the prevailing economic environment. To balance the interests of ratepayers and the financial viability of the utility properly, any approach to determine the cost of equity must reasonably target the need to encourage investment in the utility's equity at the least cost to its ratepayers.

The expected return on equity for investment in a regulated utility at any point in time is influenced by the return currently allowed on such investment, as authorized by the regulator in the previous determination of such return. It is also influenced by investors' expectations about possible changes in the future, especially with respect to operating efficiency and income opportunities. The expected return on equity for a regulated utility can be greater, lesser or the same as the cost of equity at any point in time.

Q. Have you analyzed the electric utility industry's market-to-book ratios?

A. Yes, I have. In order to recommend the rate of return on Granite State Electric's equity, I have analyzed the market-to-book ratios for the electric utility industry, Granite State Electric's witness Mr. Cochrane's recommended proxy group, and OCA's recommended proxy group. These are depicted in Figure 1 below. As for the electric industry's situation, I have used SNL's Index, SNL Electric Company, which includes all publicly traded (NYSE, NYSE MKT, NASDAQ, OTC) Electric Utilities and Transmission companies in SNL's coverage universe.

Q. What do the electric utilities' market-to-book ratios indicate about the relationship between the investors' expected return on equity and the cost of equity in the current environment?

A. Figure 1 shows that the average market-to-book-ratio of SNL electric companies as well as Mr. Cochrane's proxy group have remained persistently well above one over the past six years; the average market-to-book ratios for SNL electric utilities and Mr. Cochrane's proxy group over the last six years have been 2.17 and 1.92, respectively.[9] As for the OCA's proxy group, the average market-to-book ratio for the corresponding period has been 1.78.

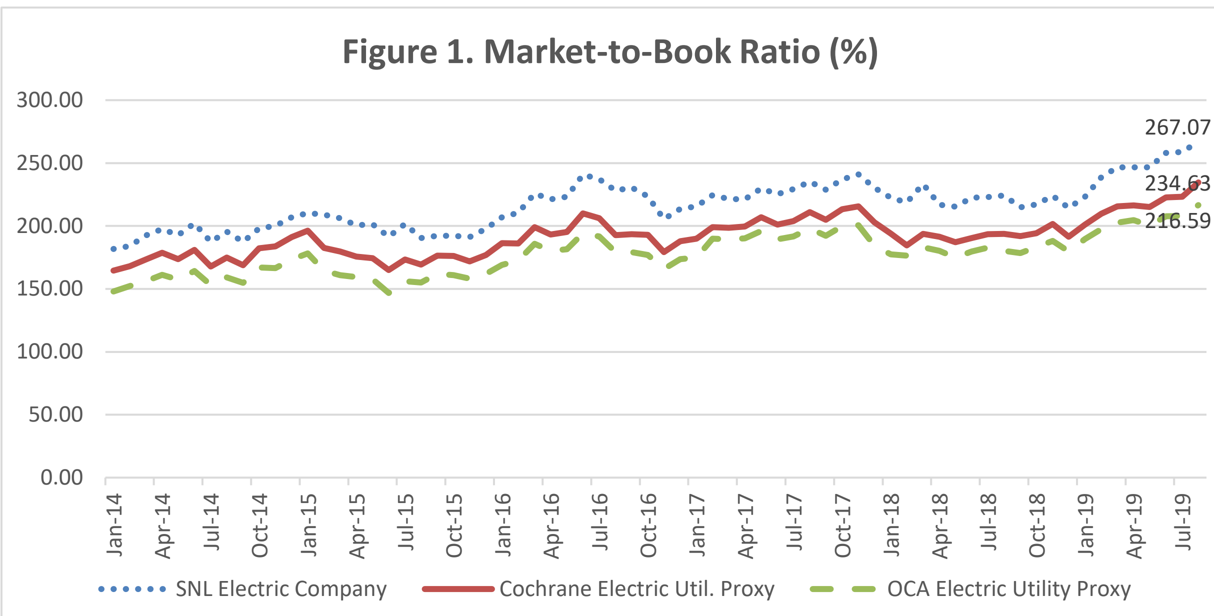

Figure 1. Market-to-Book Ratio (%)

More importantly, as for the more current market-to-book ratios (August, 2019), they are 2.67, 2.35 and 2.17 for SNL electric companies, Mr. Cochrane's proxy group and the OCA's proxy group, respectively. This indicates that the true cost of equity currently is comfortably less than the return on equity expected by investors in electric utilities. In view of that, it is plain that

[9] Data downloaded from SNL on October 28th, 2019.

if the cost of equity is estimated based on existing expected return on common equity, the resulting return would unreasonably benefit shareholders at the expense of ratepayers.

Q. In view of the observed market-to-book ratio being considerably higher than one, do you have any recommendation on your preferred approach on estimating the cost of equity?

A. Yes, I do. I recommend relying predominantly on the DCF approach in determining the allowed return on equity for Granite State Electric.

One of the methods that Mr. Cochrane used to estimate his recommended cost of equity, the Capital Asset Pricing Model (CAPM) predominantly uses historical stock-price appreciation as the basis for measuring the expected return on common equity. Even when attempting to look at forward-looking estimates, the method relies considerably on the historical trends in stock prices. Not trivially, the betas under the CAPM approach are generally based on historical prices. In a climate of market-to-book ratios being significantly greater than one, if historically prices have tended to appreciate significantly because allowed returns (that are to begin with higher than the true cost of equity) have moved further away from the true cost of equity, the method will tend to produce estimates that will also be further away from the true cost of equity.

In contrast, the forward-looking DCF approach tends to correct somewhat for the deviation between stock prices and book values. While the growth component is influenced positively by price appreciation, the dividend yield component is negatively influenced by price appreciation, thus producing a cost of equity estimate that relative to the other methods is more in line with the true market cost of equity. It is true that investors' medium-term expectation about ongoing sales in shares and the persistence of a greater-than-one market-to-book ratio, and our reliance in practice on expectations of growth over the medium-term, tend to produce a higher DCF estimate of cost of equity than the true cost of equity. However, investors understand that a continuing divergence between the stock price and the book value is unsustainable in the long-run. That understanding gets somewhat reflected in the forward-looking DCF method, even as it is usually implemented. In view of that, I recommend reliance on methods that are based on the DCF approach.

Q. Do you have any additional observations on the application of DCF in estimating the cost of equity?

A. Yes. In the application of DCF it is important to ensure that the inputs are estimated reasonably accurately. Myron J. Gordon, who popularized the use of the DCF method for estimating ROE, states that "the perfect capital markets cost of capital can be measured without bias only in the special and uninteresting case where the allowed rate of return already is equal to the cost of capital. When the allowed rate of return is above (below) the "true" cost of capital, the measured cost of capital is biased up (down)."[10] In the traditional model (wherein debt is valued at embedded cost, not at the market cost of debt), the conclusion that the allowed rate of return is above (below) the cost of capital when the market-to-book value ratio is above (below) one remains true.[11] The traditional estimate of the cost of capital is however not too problematic as long as the inputs to the return on equity estimation are reflected reasonably accurately. There are compelling reasons to conclude however that the company's implementation of the DCF approach leads to an upward-biased estimate of the cost of equity, precisely due to the reliance on inaccurate inputs.

[10] *See* "The Cost of Capital to a Public Utility", Myron J. Gordon, 1974, Pages 9-10.

[11] *Id.* at 8.

First, the standard DCF model is based on the premise that all key variables like the stock price, book value, earnings, and dividends grow at the same rate in the long-run, and in the absence of external financing, market price converges to the book value. Theoretically, a market-to-book ratio that is significantly greater than one at any point in time implies that investors in general expect the price over earnings ratio to decrease in the long-run. This translates into a growth projection for stock price that lags the growth projection for earnings growth. Under the standard DCF construct, since in the long-run both the stock price and earnings are premised to grow at the same rate, the long-term equilibrium growth lies somewhere between the expected earnings growth and the expected growth in price. In the current environment, the exclusive use of earnings growth projections theoretically leads to an upward-biased estimate of the DCF growth component, and consequently produces an upward-biased estimate of the opportunity cost of equity.[12]

Second, very importantly, analysts' growth estimates have been shown to be overly optimistic and overstate the actual reported earnings. It is instructive to look at "The Cost of Capital - A Practioner's Guide," by David C. Parcell, prepared for the Society of Utility and Regulatory Financial Analysts (2010 edition), pages 142-43, specifically for the insight that follows:

[12] It is instructive to see Roger Morin's *Regulatory Finance*, Utilities' Cost of Capital, Public Utilities Report, Inc. (1994), page 123. Dr. Morin states that the "[a]pplication of the standard DCF model would result in a downward-biased estimate of the cost of equity to a public utility whose current market-to-book ratio is less than 1 and that is expected to converge toward 1 by investors." This is because investors recognize that a continuous divergence away from a market-to-book ratio equal to one is unsustainable. Investors' expectation about increase or decrease in the market-to-book ratio affects the growth component of the DCF model, biasing its result positively or negatively. When the market-to-book ratio is less than one, it is reasonable to assume that the investors expect the ratio to increase. The expected growth increase in market-to-book ratio results in price appreciation that exceeds the growth in earnings and application of the standard DCF approach will lead to a downward-biased estimate of the cost of equity. In contrast, when the market-to-book ratio is significantly greater than one, it is reasonable to assume that the investors expect the ratio to decrease. In that case, the expected decrease in the market-to-book ratio results in price appreciation that lags the growth in earnings and the application of the standard DCF approach will produce an upward-biased estimate of the cost of equity (k).

> A study by Dreman and Berry concluded that consensus estimates of EPS differ significantly from actual reported earnings. They also concluded that the average error appears to be increasing over time and that analysts are optimistic on average. They conclude "These findings question the use of finely calibrated earnings forecasts that are integral to the most common valuation/models and indirectly question the valuation methods themselves" (Dreman and Berry, 1995, 30). A similar study by Clayman and Schwartz compared Zacks Investment Research EPS projections with actual EPS for 399 companies for the period 1982-1992. They concluded that analysts' forecasts of EPS overstated actual EPS by as much as fifty percent. They conclude "…market participants should take analysts' innate overestimation biases into account when making stock valuation judgments" (Clayman and Schwartz, 1994, 68). Still another study by Chopra (1998) concluded 'Analysts' forecasts of EPS and growth in EPS tend to be overly optimistic. He concluded that analysts' forecasts of EPS over the past 13 years have been more than twice actual growth rate.[13]

To prevent reliance on overly optimistic and overstated growth earnings, it is important that at the minimum the DCF growth variable input should not be solely based on earnings growth projections or any other solitary variable's growth projections. I discuss this issue in greater detail in subsection III.A to further support this conclusion.

III. ESTIMATING COST OF EQUITY USING SEVERAL APPROACHES

Q. Which approaches have you used to estimate the cost of equity?

A. While I have relied primarily on the DCF construct to estimate the cost of equity for the utility, I have also estimated the cost of equity using the CAPM construct. As for the DCF construct, I have used the standard DCF approach (subsection III.A), where the cost of equity is estimated as the sum of the dividend yield and a measure of the growth component. While I

[13] Not surprisingly, one research thread on investors' projection of earnings per share (EPS) growth has been to explain the "optimistic bias in earnings forecasts by security analysts". The explanations include strategic reporting bias, selection bias, cognitive bias, and bias due to skewed distribution of earnings and analysts' efforts to produce more accurate forecast. See "Earnings skewness and analyst forecast bias", Zhaoyang Gu & Joanna Shuang Wu, Journal of Accounting & Economics 35(2003) 5-29, page 6.

have derived an estimate of the cost of equity using the CAPM approach (subsection III.B), for reasons I discuss later, I do not base my point-estimate recommendation on that method. The CAPM estimation is nevertheless useful as it provides a check on the reasonableness of the DCF estimates.[14] In each of these subsections I comment on Mr. Cochrane's analysis to the extent it is relevant to my recommendation. Finally, I conclude this section with my recommendation on the cost of equity for Granite State Electric.

Q. Apart from your preference for the DCF approach due to market-to-book ratio consideration, are there other reasons why you rely primarily on the DCF construct to estimate the cost of equity?

A. Of the methods that Mr. Cochrane used to estimate his recommended cost of equity, CAPM predominantly uses historical data as the basis for measuring the expected return on common equity. Compared to attempts at forward-looking estimations, CAPM relies to a great extent on the historical trends in stock prices, for example, to measure the betas required for the CAPM analysis. This may provide insight into what returns investors expect based on past experience, but it has somewhat limited value in assessing what returns are necessary to attract needed capital going forward. By contrast, the DCF approach is essentially forward looking. Also, the fundamental underlying construct behind the DCF analysis, i.e., the value of a common stock equating to the sum of the discounted stream of future income from that stock, is widely accepted. Further, regarding the techniques that are used to estimate the cost of equity for regulated utilities, the DCF model is the most commonly used model for estimating the cost of

[14] When the market-to-book ratio remains consistently significantly higher than 1, the CAPM estimate tends to be upward biased and provides some direction towards what would be a reasonable allowed return on equity, even when one bases that allowed return on the DCF construct.

common equity for public utilities.[15] In fact, the Commission in New Hampshire has predominantly relied on the DCF construct previously.

III.A Discounted Cash Flow Approach

Q. Which DCF model do you use to estimate the cost of equity?

A. I use a single-stage DCF model to derive estimates for the cost of equity for a group of companies that forms a reasonable proxy for Granite State Electric. The two essential elements of this method are the dividend yield and the growth component. While I discuss the estimation of both elements later in detail, it is important to point out that the growth component of the DCF equation tends to be the most critical element in the use of the DCF methodology. A couple of things render the estimation of the growth component somewhat challenging. First, while the growth component of the single-stage DCF model is in principle meant to be based on long-term projections, in practice, it is based at most on three-to-five-years' projections, since long-term projections are seldom available. Second, "it is reasonable to believe that investors, as a group, do not utilize a single growth estimate when they price a utility's stock."[16] While growth projections by equity analysts are available on variables like earnings, dividends, book value per share, among other things, what weight one should give to different projections is often a matter of contention. Unlike Mr. Cochrane's approach, which relies only on earnings growth to estimate the growth component, I have relied on three estimates for the growth component: (1) the average of the growth rates in earnings per share (EPS), book value per share (BVPS), and

[15] See "*The Cost of Capital - A Practioner's Guide*," by David C. Parcell, prepared for the Society of Utility and Regulatory Financial Analysts (2010 edition), Page 124.

[16] *The Cost of Capital - A Practitioner's Guide*, by David C. Parcell, prepared for the Society of Utility and Regulatory Financial Analysts (2010 edition), page 146.

dividends per share (DPS); (2) earnings growth only; and (3) sum of internal growth rate, i.e., *br*, and the external growth component, i.e., *sv*.[17] Of course, I strongly disagree with Mr. Cochrane's sole reliance on earnings growth projections for reasons already discussed, but also I do not believe that investors rely only on earnings growth rates when they price a utility's stock. I discuss this in greater detail later.

Q. Briefly describe the Single Stage DCF Method.

A. The single-stage DCF model is typically represented by the equation, $K = \frac{D_1}{P} + g$ where K is the estimate of the cost of equity, $\frac{D_1}{P}$ is next period's dividend yield, i.e. next period's dividend divided by the stock price, and g is the expected (constant) growth rate in dividends. The model is based on the premise that since cash dividends are the only income from a share of stock held in perpetuity, the value of that stock is the present value of its stream of future cash dividends, where the discount rate is the market's required return, i.e., K. Expected future dividends are represented by applying a constant growth rate to the current observable dividend, to obtain the functionally elegant expression for K.

Q. What criteria did you use to select the DCF proxy group?

A. When choosing my recommended sample, I effectively began with Value Line's universe of electric companies (Value Line Electric Universe) that Mr. Cochrane subjected to his proxy screening analysis. I find that all but the fourth criteria that were used by him are reasonable; see Company's Testimony at page II-465, lines 13-21. To ensure that the companies selected for Granite State Electric's proxy group are predominantly regulated electric utilities, I only

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[17] The alternative is based on the formula, *br + sv*, where *b* is the retention ratio, *r* is the expected return on equity, *s* is the expected funds raised from the sale of stock as a fraction of existing equity, and *v* is (1-(B/P)), where B is the book value of the share and P is the price of the share.

included them in the proxy group if at least 70 percent of the revenues over 2015 are attributable to regulated electric business and at least 80 percent of the assets are attributable to regulated business over 2016-2018.

Q. Why do your criteria differ from that of Mr. Cochrane's criteria?

A. In creating a reasonably "pure play" proxy group that is comparable to Granite State Electric it is important that these companies exhibit a fairly high percentage of regulated assets in total assets and have the majority of their revenue coming from electric regulated operations. To better assess whether a company should be included in a proxy for Granite State Electric, I believe we should strive to have it sufficiently reflective of a "pure play" regulated electric utility. I find that cut-offs of at least 80 percent for regulated assets and at least 70 percent for regulated electric revenues are reasonable, given the dearth of standalone companies that are publicly traded and consist solely of regulated electric business.

Q. What is your recommended DCF proxy?

A. Using information provided by the Company in response to data requests about Value Line electric companies and additional research of 10-K forms and SNL data, and applying the cut-offs of 70 percent for electric revenue in total revenue and 80 percent for regulated assets in total assets, I preliminarily determined the list of companies that exceed those cutoffs. I then, based on the latest information, applied the other screening criteria (same as Mr. Cochrane's criteria) to determine that the appropriate proxy group consists of (1) Alliant Energy Corporation (LNT), (2) Ameren Corporation (AEE), (3) American Electric Power Inc. (AEP), (4) Avista Corporation (AVA), (5) Consolidated Edison (ED), (6) Duke Energy Corporation (DUK), (7) Edison International (EIX), (8) Evergy Inc. (EVRG), (9) Eversource Energy (ES), (10) Entergy Corporation (ETR), (11) First Energy Corporation, (12) IDACORP, Inc. (IDA), (13) NorthWestern Corporation (NWE), (14) OGE Energy Corporation (OGE), (15) Pinnacle West Capital Corporation (PNW), (16) PNM Resources Inc. (PNM),(17) Portland General Electric Company (POR), (18) PPL Corporation (PPL), (19) Southern Company (SO), and (20) XCEL Energy Inc. (XEL).[18] I have eliminated El Paso Electric Company from the proxy group as it in the process of being acquired by Infrastructure Investments Fund (IIF). The transaction will require approvals from Public Utilities of Texas, New Mexico Public Regulation Commission and Federal Energy Regulatory Commission. That creates some uncertainty as to whether the transaction will materialize. I would also consider such a transaction transformative enough that it is reasonable to exclude the Company from the proxy group.

Q. Do you believe that the group listed above is a reasonable proxy for Granite State Electric?

A. Yes, I do. The screening criteria go a long way in ensuring that my proxy group reasonably reflects the risk profile of Granite State Electric's electric utility business. For example, the proxy group's average percentage of assets subject to electric utility regulation is 95 percent and the average percentage of revenue subject to regulated electric business is 90.8 percent in 2015, which are reasonably close to complete regulation as is the case for the distribution business of Granite State Electric in New Hampshire. Also, a check (see Schedule PKC-1) reveals that the S&P credit-ratings for the group range between BBB to A-. The rating associated with Algonquin Power & Utilities Corporation (Granite State Electric's parent) is BBB. As for the capital structure, the company has proposed a common equity ratio of 55 percent. A look at the proxy group indicates that over 2016 to 2018 the average equity ratio has been 46.7 percent. (Schedule PKC-2 for Value Line data). While Granite State Electric's parent has a rating that is lower than the average credit rating of the proxy group, the company's

[18] The abbreviations represent the ticker symbols.

proposed capital structure is less leveraged than that of the proxy group's capital structure. It is reasonable to conclude that the proxy group's cost of equity estimate would reasonably inform what the allowed returns on equity and capital should be for the company.

Q. Did you consider any additional check on the reasonableness of your DCF proxy?

A. Yes. As a rough check to examine the reasonableness of the OCA proxy group, I also briefly looked at the economic conditions characterizing New Hampshire relative to the nation based on state coincident index data provided by the Federal Reserve Bank of Philadelphia. As for August 2019 year-to-year growth in the index, while New Hampshire grew by 3.5 percent, the US economy grew by only 2.85 percent. Also, as for the states served by the companies included in the proxy, the corresponding growth rates varied between -0.12 percent and 4.35 percent. Only 6 of the relevant 41 states registered higher growth compared to New Hampshire.[19]

Q. What bearing do the economic conditions, as described above, have on the reasonableness of the DCF proxy group?

A. Investors are assumed to be aware of current regional and national economic conditions. Investors in Granite State Electric's distribution business in New Hampshire are expected to know that the local economy has been outperforming the national economy as well as states in which the proxy group's businesses operate. An investor's opportunity cost of equity, i.e., investor's required return, is expected to be lower for investing in an economic activity in New Hampshire when compared to investing in a comparable activity operating in an environment

[19] "The coincident indexes combine four state-level indicators to summarize current economic conditions in a single statistic. The four state-level variables in each coincident index are nonfarm payroll employment, average hours worked in manufacturing by production workers, the unemployment rate, and wage and salary disbursements deflated by the consumer price index (U.S. city average). The trend for each state's index is set to the trend of its gross domestic product (GDP), so long-term growth in the state's index matches long-term growth in its GDP." *See* https://www.philadelphiafed.org/research-and-data/regional-economy/indexes/coincident.

that is relatively less robust, all else equal. In view of all of these considerations, it is my conclusion that the proxy group, as chosen is rather conservative and reasonable.

Q. Please explain why you used pricing data from October 31, 2019 to November 29, 2019 to measure the dividend yields for the proxy's constituent companies.

A. Investors' expectations about how companies will fare in the future are captured in the most recently observed market price and dividend data. Data from fairly long historical periods are unlikely to reflect investors' current expectations. That said, it is also true that some smoothing of the price trend is useful as it filters possible transitory and temporary changes that characterize daily movements in prices. I have, therefore, as of preparing this testimony, used daily pricing data from the most recent month to calculate the average price, which in conjunction with the annualized dividend helps measure the dividend yield (Schedule PKC-4) component of the DCF based cost of equity.

Q. Mr. Cochrane exclusively uses expected earnings growth rates for the growth component in his single-stage DCF analysis. Do you agree with his approach?

A. No. It is unreasonable to assume that investors use a single growth estimate when pricing a utility's stock.

Both market realities and research indicate that not all investors are alike and they do not only care about earnings growth. While providing a review of dividend policy theories and evidence, Malkawi, Rafferty and Pillai (2010) survey academic research that explores why dividends matter to investors.[20] Different researchers have provided empirical support for different theories. To just note a couple of them, some have argued that dividends are sought as

[20] *See* "*Dividend Policy: A Review of Theories and Empirical Evidence,*" Malkawi, Rafferty, and Pillai, International Bulletin of Business Administration, ISSN: 1451-243X Issue 9 (2010). Even managers need to consider dividends policy carefully because investors not only view dividends as being a return to shareholders but also watch movements in dividends to infer about the health of the firm. *See* "*Topics in Finance Part VII – Dividend Policy*" Judy Laux, American Journal of Business Education – November 2011, Volume 4, Number 11.

investors prefer "bird in the hand" dividends rather than "two in the bush" future capital gains. Others have argued that investors care about after-tax return and the differential tax treatment of capital gains and dividends influences their demand for shares. In discussing why dividends matter, some of the theories and empirical analysis directly stress how different investors may view dividends differently. For example, investors whose dividends are taxed higher than their capital gains may prefer earnings-driven stocks rather than dividends paying stocks, or how institutional investors as opposed to individual investors are more attracted towards dividend-paying stocks, etc. It also remains true that companies pay out dividends in billions of dollars in the marketplace suggesting that companies recognize that investors value them. I believe it is inappropriate to assume that only earnings growth expectations matter to investors.[21]

Q. What measures of the growth component do you consider?

A. Since the DCF estimate is derived from the concept that cash dividends are the only income from a share of stock held to infinity, in principle, it is the growth in dividends that should be used for the growth component. Investors, however, have different expectations about growth and no single indicator captures the expectations of all investors. Also, whether growth in dividends per share (DPS) is sustainable or not is pertinent and its sustainability is affected by how both earnings per share (EPS) and book value per share (BVPS) perform in the future. Sustainability of growth in dividends under the DCF construct assumes that EPS, DPS and BVPS will grow at the same rate in the future. Value Line five-year projections for the growth rates in earnings, dividends and book value, however, reveal that these financial variables are expected to grow at significantly different rates over the next three to five years.

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[21] *See also The Cost of Capital - A Practitioner's Guide*, by David C. Parcell, prepared for the Society of Utility and Regulatory Financial Analysts (2010 edition), page 146.

In view of that, sole reliance on either dividends growth rate, book value growth rate or earnings growth rate is unlikely to produce a reliable measure of the DCF growth component. I instead use the average of the three expected growth rates as one of the measures for the growth component to represent the growth component in the DCF analysis. One may reasonably assume that the sustainable long-run growth rate to which earnings, dividends and book value growth rates may converge in the future is represented by their average, rather than just one of those variables. I have used the average of the Value Line five-year projections for growth in DPS and BVPS *and* the average of the Value Line, Zacks and SNL median long-term projections for EPS growth rates to calculate the growth component. While in principle the single-stage DCF model is meant to be based on long-term projections, its application however is based on at most five-year projections, as truly long-term projections are seldom available.

I have also considered a second measure of the growth component, which is based on estimates for the internal and external components for growth, retention ratio, expected return on common equity, market-to-book ratio, and growth in the number of outstanding shares (called retention growth). Finally, even though I have reservations about Mr. Cochrane's sole reliance on earnings growth as a measure of the growth component, I considered and applied that approach to my proxy to derive another DCF estimate for the cost of equity (*see* Schedule PKC-5 for the calculation of the growth components; *see also* Schedules PKC-6 and PKC-7 for the inputs for external and internal growth components).

Q. Please explain how you estimate the growth component based on the retention ratio, expected return on common equity, market-to-book ratio, and growth in the number of outstanding stocks.

A. I have used Value Line's expectation regarding retention ratios and returns on equity for five years into the future to derive estimates for b and r and have used them to calculate the expected internal growth component, i.e. br. To account for growth expectations from external financing and derive estimates of the external growth component, I have also used the latest market-to-book ratios from Yahoo Finance and the average of Value Line's five-year projections for the number of outstanding shares. That is helpful in calculating the external growth component, i.e. $s_e v$, where s_e = expected funds raised from sale of stock as a fraction of existing equity, and $v = \left(1 - \frac{B}{P}\right)$.[22] The revised formulation for the growth component can be alternatively expressed as $b_e r_e + g_e\left(\frac{P}{B} - 1\right)$, where g_e is the expected growth rate in the number of outstanding shares. In short, the growth component can be viewed as the sum of the "internal" growth rate, i.e. $b_e r_e$, and the "external" growth rate, i.e. $g_e\left(\frac{P}{B} - 1\right)$.

Q. Do you employ any outlier-determination approach?

A. Yes.

Q. Please describe your outlier-determination approach.

A. I have employed the statistical outlier-determination approach that cost of equity estimates lying outside the bandwidth of the mean plus or minus two times the variance are not statistically representative of the proxy. In terms of probabilistic distribution terminology, this selection criterion effectively mimics the widely-used statistical confidence interval of 95 percent. I have also eliminated ROE estimates that are less than the recent yield on Utility A

[22] See "*The Cost of Capital to a Public Utility*," Myron Gordon, MSU Public Utilities Studies (1974), page 30.

preferred stocks, i.e. 5.99 percent *plus* 50 basis points (see Value Line's Selection & Opinion, November 29, 2019).

Q. What are the DCF estimates for your proxy?

A. The single-stage DCF estimate, based on the average expected growth rates in earnings, dividends and book value, is 8.05 percent. Schedule PKC-8 provides the calculations. When only the EPS growth rate is used for the growth component, the single-stage DCF method produces an estimate of 8.48 percent. When the "internal-plus-external" growth approach is used, the DCF method produces an estimate of 8.15 percent. I have applied my recommended outlier-determination criteria in deriving these estimates.

Q. While Mr. Cochrane provides DCF estimates using the multi-stage DCF approach, you have not done so. Why?

A. The Multi-Stage approach relies on one's judgment over how growth rates will pan out in the future. It is no different from the kind of judgment I have applied with respect to weighting different growth estimates even though they are all derived from applying the single-stage DCF approach. Also, one of the primary uses of the Multi-Stage DCF approach is for a company that is not in a sufficiently stable environment. Certainly, with respect to Granite State Electric, there is no reason to believe that is the case. I, therefore, do not conduct a Multi-Stage DCF estimation for the return on equity.

Q. Mr. Cochrane recommends adjustment for flotation costs in his estimates of the cost of equity. Do you agree with that adjustment?

A. No. As I have noted already, the DCF approach, informed by equity analysts' projections, in practice relies on investors' expectations about earnings and dividends and other relevant variables over three to five years. Even with reasonable treatment of the DCF growth component, the approach tends to internalize the medium term expectation that the market-to-book ratio will persist at levels relatively close to what is currently being observed. Given the reliance at best on medium term expectations, we tend to derive estimates of the ROE that are sufficiently above the true cost of equity in a setting where the stock prices are significantly above the book value. Flotation cost is effectively small enough that my recommended return on equity, which relies on investors' expectations of persistence in the market-to-book ratio being significantly greater than one, already accounts for such costs adequately. Any further adjustment would simply unnecessarily transfer wealth from ratepayers to shareholders.

Q. Do you agree with Mr. Cochrane that there is a need to adjust the return on equity upward due to the consideration of small-size premium?

A. No. Even though he does not recommend an explicit adjustment for small-firm effect, Mr. Cochrane devotes part of his testimony to why he thinks the allowed return on equity should build in some slack for such an adjustment. The Commission should not allow any accommodation of the small size premium. First, there is counter-evidence indicating that the small-firm effect is too dependent on the time-period chosen for analysis, and is dependent on the month of January for high stock price returns. Second, there is also counter-evidence that the size effect may not apply to regulated utility operations.[23]

III.B Capital Asset Pricing Model (CAPM)

Q. Briefly describe the CAPM method.

A. The CAPM method recognizes that common equity capital is more risky than debt from an investor's standpoint, and that investors require higher returns on stocks than on bonds to be

[23] *See, e.g.*,, Block, S.B., "*A Study of Financial Analysts: Practice and Theory*," Association for Investment Management Research (July/August 1999); and Wong, A., "*Utility Stocks and the Size Effect: An Empirical Analysis*," Journal of the Midwest Finance Association (1993).

compensated for the additional risk. The cost of common equity under CAPM is represented by the following equation: $K = R_f + \beta_s * (R_M - R_f)$ where K is the cost of equity, R_f is the yield on risk free securities, R_M is the expected return on the overall market and $(R_M - R_f)$ is the equity risk premium demanded by shareholders to accept equity relative to debt. β_s is the average beta of a group of comparable-risk companies that is used to adjust the risk premium to measure risks specific to the regulated utility in question.

Q. What is Mr. Cochrane's estimate of the cost of equity based on the CAPM method?

A. Mr. Cochrane derives a CAPM estimate of ROE using information from SP 500 stocks by applying the DCF construct to those stocks to estimate the expected return on equity and the yield on 30-year Treasury Bond. His CAPM-based ROE estimate is 10.66 percent.

Q. Do you agree with Mr. Cochrane's CAPM approach? Please explain.

A. No. I do not agree with his approach to measure market risk premium. The disagreement is both with respect to how he measures risk-free return and how he calculates market returns. I discuss these considerations below.

Q. Why do you disagree with Mr. Cochrane's specification of the risk-free rate?

A. I do not agree that the yield on 30-year Treasury bond is a reasonable proxy for the risk-free rate. Strictly speaking, the risk-free return is best captured by short-term Treasury bills, but in recognition that utility rates are usually set for longer periods and interested investors typically have relative long investment time horizons, longer-term bonds are used to capture the risk-free rate when applying CAPM to estimate the cost of equity.

It should be understood that long-term bonds are not risk-free for two main reasons: default (credit) risk and interest rate risk. As for the interest rate risk, the longer termed a default-free bond is, the greater is its interest rate risk. The 10-year Treasury long-term bond is my preferred metric for the risk-free rate when conducting CAPM analysis for regulated companies. It strikes a reasonable balance between choosing a truly interest rate risk-free instrument (like the shortest of short term Treasury bills) and a consideration that investors have relatively long investment horizons and that regulated utility rates are usually set for longer terms than just a few months. [24]

Q. You stated that you do not agree with Mr. Cochrane's approach to calculate market returns. Please explain why.

A. My reservations about Mr. Cochrane's approach stem from two reasons that are related to how he employs the DCF approach in estimating the market returns.

First, I disagree with the sole reliance on earnings growth projections to estimate the DCF growth components, as was discussed before in the section on DCF estimation of the proxy group's cost of equity.

Second, I do not agree that information from stocks that have zero dividend yields should be relied upon significantly to estimate the DCF based market returns. The DCF construct is intrinsically based on modeling net present value of dividend yields that investors receive. Such a construct ideally should not be applied on stocks that do not provide any dividends.

The OCA's CAPM estimation is discussed below in detail by going through the inputs one-by-one.

Q. What beta measures do you use for your sample?

A. I use Value Line beta estimates for the companies that are in the OCA's proxy group (see Schedule PKC-9) to derive the average beta for those companies. The proxy beta is 0.58.

Q. How do you calculate the equity risk premium?

[24] For a good discussion on the determination of risk-free rate, see "*What is the Risk Free Rate? A Search for the Basic Building Block*," Aswath Damodaran, Stern School of Business, New York University, December 2008.

A. Two key elements in the determination of the equity risk premium are the risk-free rate and the expected return on the market portfolio. As a proxy for the risk-free rate, as already discussed earlier, the OCA relies on the average of the current yields on the 10-Year Treasury bond observed over the last month. The average yield over October 31, 2019 to November 29, 2019 has been 1.81 percent.

As for the expected market returns, I applied the DCF construct to the S&P 500 companies essentially using the same approach that Mr. Cochrane followed, but for the DCF growth components, I use not only earnings growth projections, but also latest Value Line dividends and book value growth projections to derive three capitalization-weighted estimates of the expected market return.

Q. How did you derive the three market return estimates?

A. First, using data for only dividend paying stocks from the S&P 500 universe, I derive an estimate of market return that relies on only earnings growth projections. Again using data from only dividend paying stocks, I derive the second estimate of market return relying on the average of the earnings, dividends, and book value growth projections. Finally, using data for all stocks in the S&P 500 universe, I derive the third market return estimate relying on only earnings growth projections. The calculations are reported in Table 1.

As for the sample of companies, while the starting group of companies is same as the S&P 500 companies analyzed by Mr. Cochrane, to ensure that we are consistently looking at the same companies as a group in deriving the market returns for each of the samples informing the three estimates, I have only considered companies for which information is available for all of the required input variables.

Table 1: CAPM Cost of Equity Estimates			
	CAPM1	**CAPM2**	**CAPM3**
	Dividend Paying S&P 500		**All S&P 500**
	EPS growth projection	*Average EPS, DPS & BVPS growth projections*	*EPS growth projection*
DCF Market Return (a)	12.83	11.96	14.41
Risk Free Return (b)	1.81	1.81	1.81
Market Beta (c)	1.003	1.006	1.023
Risk Premium (a)-(b)	11.02	10.15	12.60
Beta adjusted RP (d) = ((a)-(b))/(c)	10.99	10.09	12.32
Proxy group beta (e)	0.58	0.58	0.58
CAPM ROE estimate (b)+(e)* (d)	8.20	7.68	8.98

For the first estimate that relies on information from only dividend-paying stocks, a company is dropped if Value Line does not have data on earnings growth projections, market capitalization or betas. For the second estimate, a company is dropped if Value Line does not have its data for any one of the growth projections (earnings per share, dividends per share or book value per share), market capitalization or betas. For the third estimate, that uses information from all stocks (irrespective of whether those stocks pay dividends) I ignore the companies for which I did not have data for market capitalization, earnings growth projections, or betas (as downloaded from Value Line).

Q. Please summarize the market return estimates.

A. Schedule PKC-11a and PKC-11b report the OCA analyses that rely on Value Line data latest as of November 21, 2019. The resulting expected market returns for the apposite Value Line samples are 12.83 percent, 11.96 percent and 14.41; *see* Table 1. For these estimates, I appropriately adjusted the market capitalization weights to ensure that the weights added up to one for the different samples associated with the estimations. Also, in deriving the projected dividend yields, I applied the same approach that Mr. Cochrane used in his testimony.

Q. Please describe how you estimate the market risk premiums.

A. To derive the market risk premium, the difference between the relevant market return and the bond yield is *divided* by the market-capitalization weighted mean of Value Line betas of the constituent stocks. Doing so is appropriate, as the market proxy in the derivation of the Value Line betas (that would be associated with a beta of one) is expected to be different from that associated with the S&P 500 universe. The betas associated with the proxy groups associated with estimates CAPM1, CAPM2, and CAPM3 are 1.003, 1.006 and 1.023, respectively.

Q. What are your estimates for market-risk premium?

A. When only the dividend-paying subset of stocks in the S&P 500 index is considered, and only EPS growth projections are relied upon to measure the market returns, the estimate of equity risk premium is (12.83 percent *less* 1.81 percent) divided by 1.003, which is the market-capitalization weighted mean Value Line beta for the dividend-paying subset of the sample. The estimate is 10.99 percent.

The same approach was employed to derive the second estimate of the market risk premium relying on the average of EPS, DPS, and BVPS growth projections and information from only dividend-paying S&P 500 stocks. The estimate is 10.09 percent.[25]

Finally, using all stocks in the S&P 500 index, when only EPS growth projections are relied upon to measure the DCF based market returns, the estimate for equity risk premium, is 12.32 percent.

Q. What are the estimates of the cost of equity for the Granite State Electric proxy group based on the three estimated market risk premiums?

A. The last row of Table 1 reports the three estimates. CAPM1, CAPM2 and CAPM3 ROE estimates are 8.20 percent, 7.68 percent and 8.98 percent, respectively.

[25] All numbers reported here are rounded.

III.C Conclusion

Q. Please summarize your cost of equity estimates.

A. The table below reports the cost of equity estimates based on the different methodologies that the OCA relied on.

Table 2: Summary of Cost of Equity Estimates	
DCF (traditional: EPS, BVPS & DPS average)	8.05
DCF (traditional: EPS)	8.48
DCF (*g=br+sv* Method)	8.15
CAPM1	8.20
CAPM2	7.68
CAPM3	8.98

Q. What is your recommendation on the allowed rate of return on equity?

A. Table 2 above summarizes estimates of cost of equity that the OCA's analysis produced. The average of those estimates is 8.26 percent. The range of estimates is 7.68 percent to 8.98 percent. The OCA recommends using solely the DCF approach in estimating the cost of equity, for reasons that were discussed in Sections II and subsection III.A. As stated earlier, the CAPM based cost of equity was estimated mainly as a check. The average of all of the DCF estimates is 8.23 percent. As for a specific point estimate, the OCA therefore recommends an allowed return of 8.23 percent. With respect to what constitutes a reasonable range of allowed return on equity, the OCA recommends 8.15 to 8.35 percent.

Q. Does this conclude your testimony?

A. Yes, it does.

IV. Schedules

Schedule PKC-1

Credit Ratings

Company	Ticker Symbol	Moody's	Credit Watch Outlook	S&P	Credit Watch Outlook
Alliant	LNT	Baa1	Negative	A-	Negative
Ameren Corporation	AEE	Baa1	Stable	BBB+	Stable
AEP Company	AEP	Baa1	Stable	A-	Stable
Avista	AVA	Baa2	Stable	BBB	Stable
Consolidated Edison	ED	Baa1	Stable	A-	Stable
Duke Energy Corporation	DUK	Baa1	Stable	A-	Stable
Edison International	EIX	Baa3	Stable	BBB	Stable
Evergy Inc.	EVRG	Baa2	Stable	A-	Stable
Eversource	ES	Baa1	Stable	A-	Stable
Entergy Corporation	ETR	Baa2	Stable	BBB+	Stable
First Energy Corporation	FE	Baa3	Stable	BBB	Stable
IDACORP, Inc.	IDA	Baa1	Stable	BBB	Stable
NorthWestern Corporation	NWE	Baa2	Stable	BBB	Stable
OGE Energy Corporation	OGE	(P)Baa1	Stable	BBB+	Stable
Pinnacle West Capital Corporation	PNW	A3	Stable	A-	Stable
PNM Resources, Inc.	PNM	Baa3	Stable	BBB+	Negative
Portland General Electric Company	POR	A3	Stable	BBB+	Positive
PPL Corporation	PPL	Baa2	Stable	A-	Stable
Southern Company	SO	Baa3	Stable	A-	Negative
Xcel Energy Inc.	XEL	Baa1	Stable	A-	Stable

Ratings downloaded from SNL data on August 2, 2019.

Schedule PKC-2

Common Equity Ratios

Company	2016	2017	2018	Average (2016-18)	2019	2020	2022-24	Average (2016-21)
Alliant	47.2	48.6	46.7	47.5	48	48	48	48
Ameren Corporation	51.3	49.8	48.8	49.96667	48.5	49	50	49.5
AEP Company	50	51.5	53.2	51.56667	56	55	53.5	54.3
Avista	48.8	52.8	49.5	50.36667	50	49.5	50	49.9
Consolidated Edison	49.2	51.1	48.9	49.73333	48.5	49	49.5	49.2
Duke Energy Corporation	47.4	46	46.2	46.53333	44.5	45	44.5	44.6
Edison International	49.2	45.8	38.3	44.43333	39.5	40.5	42.5	41.5
Evergy Inc.			60	60	50	48.5	47.5	48.2
Eversource	54.4	48.2	46.9	49.83333	46.5	47.5	46.5	46.7
Entergy Corporation	35.5	35.5	35.9	35.63333	37.5	38	40.5	39.4
First Energy Corporation	25.5	15.7	27.4	22.86667	27	27	30.5	29.1
IDACORP, Inc.	55.2	56.3	56.4	55.96667	58.5	57	57	57.3
NorthWestern Corporation	48	49.8	47.8	48.53333	48.5	49.5	52	50.8
OGE Energy Corporation	58.9	58.3	58	58.4	56.5	55.5	54	54.8
Pinnacle West Capital Corporation	54.4	51.1	53	52.83333	53	54	57	55.6
PNM Resources, Inc.	44	43.6	38.6	42.06667	38	43.5	40.5	40.6
Portland General Electric Company	51.6	49.9	53.5	51.66667	50.5	53	51.5	51.6
PPL Corporation	35.7	35.2	36.7	35.86667	41	42.5	45	43.7
Southern Company	35.7	35	37.6	36.1	39	39	41	40.2
Xcel Energy Inc.	43.7	44.1	43.6	43.8	42.5	42	42	42.1
Source: Value Line One-pagers (latest as of Nov. 14, 2019)		**Average**	**46.35**	**46.68**				**46.86**

Schedule PKC-3

STOCK PRICES

Date	LNT	AEE	AEP	AVA	ED	DUK	EIX	EVRG	ES	ETR	FE	IDA	NWE	OGE	PNW	PNM	POR	PPL	SO	XEL
10/31/2019	53.34	77.7	93.67166	47.63375	91.44009	93.25384	62.9	63.40246	83.74	120.5109	47.93197	106.9525	72.52	43.06	93.33701	52.15	56.88	33.49	62.03732	63.51
11/1/2019	53.03	77.36	92.84798	47.97094	90.34939	93.37255	65.58	63.33302	82.79	118.7054	47.97165	107.36	73.22	43.04	93.49	51.76	57.81	33.59	61.64129	63.1
11/4/2019	52.18	76.09	92.09377	47.42548	89.15953	92.64045	66.18	62.61873	81.42	117.644	47.61454	106.36	71.65	42.95	91.72	50.45	56.65	33.47	61.12646	61.65
11/5/2019	51.71	74.96	90.70441	47.09821	87.57307	92.15569	66.14	62.03342	81.08	115.65	46.94	105.39	70.65	42.8	90.78	49.28	55.61	33.57	60.75024	60.54
11/6/2019	51.9	75.56	91.28001	46.96928	87.87053	92.36344	65.67	62.42032	81.39	116.35	47.11	105.25	70.61	42.76	91.17	49.15	55.81	33.31	61.23537	61.26
11/7/2019	51.5	74.63	89.34	46.31472	86.48237	91.59177	65.69	62.32112	79.39	114.73	46.72	103.22	69.59	42.95	87.82	48.11	54.85	33.25	60.1067	60.33
11/8/2019	51.68	73.81	89.07	46.37423	87.17645	88.98984	66.3	62.55921	79.41	114.9	46.59	102.85	68.97	42.83	86.39	47.85	54.74	33.72	60.65123	60.08
11/11/2019	51.6	74.09	88.77	45.85852	86.76	86.66493	66.31	62.1227	79.29	114.09	46.03	102.07	68.11	42.68	85.13	47.44	54.37	33.63	59.86908	60.07
11/12/2019	51.68	74.2	88.5	45.9081	86.42	86.65503	66.84	62.56913	79.19	114.86	46.3	102.33	68.23	42.91	85.61	47.88	54.67	33.73	60.0869	60.17
11/13/2019	52.63	75.58	89.86	46.63208	87.5	87.585	68.11	63.39254	80.91	117.52	46.92	104.28	69.16	43.48	85.94	48.53	55.53	33.81	61.29477	61.64
11/14/2019	53.06	76.53	89.6	46.62216	87.24	88.25	69.68	64.0969	80.8	116.89	46.74	104.29	69.35	43.55	86.99	48.9	55.77	33.62	61.77	61.3
11/15/2019	52.88	76.62	89.56	46.57258	87.73	88.58	70.1	64.23579	81.27	116.71	47.04	104.34	69.35	43.37	87.61	48.41	55.49	33.91	62.2	60.87
11/18/2019	52.85	75.73	90.15	46.642	87.47	88.65	69.5	64.49373	82.15	116.89	46.77	103.38	69.3	43.06	86.8	48.45	55.27	33.65	62.48	60.88
11/19/2019	52.58	75.45	90.67	46.642	86.88	87.03	68.86	64.25563	82.2	116.19	46.43	103.75	69.35	42.74	86.75	48.43	55.16	33.57	62.21	61.32
11/20/2019	53.14	75.47	91.46	46.92	87.31	87.13	70.92	64.46397	82.5	117.06	46.87	105.74	69.93	42.66	87.28	48.84	55.71	33.78	62.78	61.69
11/21/2019	53.38	75.19	91.07	46.65	86.82	86.66	71.01	64.21595	82.22	115.9	46.64	104.57	70.86	42.22	87.27	48.93	55.53	33.67	62.68	61.7
11/22/2019	53.39	74.95	91.54	46.41	86.19	87.14	71.25	63.92825	82.23	115.72	47.34	105.65	71.15	41.99	87.2	48.45	55.48	33.82	62.89	61.26
11/25/2019	52.75	74.17	90.89	46.8	86.04	87.6	70.28	63.085	82.15	115.38	47.72	104.65	71.6	42	86.6	48.35	55.31	33.86	62.18	60.8
11/26/2019	52.97	74.13	91.5	46.91	86.44	88.2	69	63.5	82.72	116.47	47.77	105.25	71.75	42.11	87.5	48.19	55.63	34.1	62.25	61.18
11/27/2019	53.05	74.18	91.59	47.27	86.73	88.56	69.83	63.29	82.9	116.92	47.79	106.16	71.82	42.2	87.39	48.61	55.64	34.3	62.31	61.56
11/29/2019	53	74.33	91.35	47.28	86.89	88.17	69.1	63.27	82.64	116.39	47.69	105.05	71.57	42.06	87.39	48.45	55.51	34.03	61.99	61.49
Average	**52.59**	**75.27**	**90.74**	**46.80**	**87.45**	**89.11**	**68.06**	**63.31**	**81.54**	**116.45**	**47.09**	**104.71**	**70.42**	**42.73**	**88.10**	**48.89**	**55.59**	**33.71**	**61.64**	**61.26**

Source: Yahoo Finance. Downloads on Dec. 2, 2019

Schedule PKC-4

Dividend Yield Estimate for the Next Period			
Company	Average Stock Price	2020 Dividend	Div. Yield(1)
Alliant Energy Corporation	52.59	1.5	2.85%
Ameren Corporation	75.27	2.06	2.74%
AEP Company	90.74	2.88	3.17%
Avista	46.80	1.61	3.44%
Consolidated Edison	87.45	3.06	3.50%
Duke Energy Corporation	89.11	3.82	4.29%
Edison International	68.06	2.49	3.66%
Evergy, Inc.	63.31	2.08	3.29%
Eversource	81.54	2.26	2.77%
Entergy Corporation	116.45	3.74	3.21%
First Energy Corporation	47.09	1.6	3.40%
IDACORP, Inc.	104.71	2.73	2.61%
NorthWestern Corporation	70.42	2.4	3.41%
OGE Energy Corporation	42.73	1.62	3.79%
Pinnacle West Capital Corporation	88.10	3.22	3.65%
PNM Resources, Inc.	48.89	1.24	2.54%
Portland General Electric Company	55.59	1.62	2.91%
PPL Corporation	33.71	1.66	4.92%
Southern Company	61.64	2.54	4.12%
Xcel Energy Inc.	61.26	1.72	2.81%
Average			3.35%

DY data from Value Line (latest one-pagers as of Nov. 14, 2019)

Schedule PKC-5

Growth Components

Company		Value Line 5-yearly projections: EPS growth rate	DPS growth rate	BPS growth rate	Zacks EPS	SNL Median	Average EPS	Average of Average EPS, DPS and BPS	Internal growth	External Growth	Internal plus External growth
Alliant Energy Corporation	LNT	6.5	5.50	7.50	5.50	6.00	6.00	6.33%	3.82%	1.69%	5.51%
Ameren Corporation	AEE	6.5	6.00	5.00	6.20	4.83	5.84	5.61%	4.18%	0.76%	4.94%
AEP Company	AEP	4	5.50	4.00	5.60	5.97	5.19	4.90%	3.43%	1.87%	5.29%
Avista	AVA	3.5	4.00	3.50	3.40	3.51	3.47	3.66%	2.11%	0.96%	3.07%
Consolidated Edison	ED	3	3.50	3.50	2.00	3.00	2.67	3.22%	2.65%	0.18%	2.82%
Duke Energy Corporation	DUK	6	2.50	2.50	4.80	5.00	5.27	3.42%	2.41%	0.31%	2.72%
Edison International	EIX		3.50	4.50	5.30	5.81	5.56	4.52%	5.35%	1.23%	6.58%
Evergy, Inc.	EVRG				6.40	6.36	6.38	6.38%	2.57%	0.00%	2.57%
Eversource	ES	5.5	5.50	4.50	5.60	6.00	5.70	5.23%	3.40%	1.52%	4.92%
Entergy Corporation	ETR	0.5	4.00	4.00	7.00	2.17	3.22	3.74%	3.27%	2.15%	5.42%
First Energy Corporation	FE	6.5	3.50	7.00	6.00	6.00	6.17	5.56%	5.98%	1.08%	7.06%
IDACORP, Inc.	IDA	3.5	6.00	4.00	3.80	3.50	3.60	4.53%	3.50%	0.00%	3.50%
NorthWestern Corporation	NWE	3	4.50	3.00	2.70	3.75	3.15	3.55%	2.94%	0.23%	3.18%
OGE Energy Corporation	OGE	6.5	7.50	3.50	4.50	5.26	5.42	5.47%	3.40%	0.00%	3.40%
Pinnacle West Capital Corpor	PNW	5.5	6.00	4.00	4.90	5.00	5.13	5.04%	3.58%	0.33%	3.91%
PNM Resources, Inc.	PNM	7	7.00	4.00	5.60	6.00	6.20	5.73%	3.97%	2.09%	6.06%
Portland General Electric Com	POR	4.5	6.50	3.00	4.50	4.60	4.53	4.68%	3.14%	0.15%	3.29%
PPL Corporation	PPL	1.5	2.00	5.50		4.00	2.75	3.42%	4.59%	0.32%	4.91%
Southern Company	SO	3.5	3.00	3.50	4.50	4.00	4.00	3.50%	3.04%	1.28%	4.32%
Xcel Energy Inc.	XEL	5.5	6.00	4.50	5.40	6.00	5.63	5.38%	4.03%	0.37%	4.40%
Average		**4.58**	**4.84**	**4.26**	**4.93**	**4.84**	4.78	**4.69%**	**3.57%**	**0.83%**	4.39%

Value Line One-pagers' data latest per Nov. 14, 2019. Zacks and SNL data downloaded on Nov. 27, 2019.

Schedule PKC-6

"External Component" of COE

		current market to book ratio	# of shares 2020	# of shares 2023	growth rate in # of shares	sv
Alliant Energy Corporation	LNT	2.55	242	250	1.09%	1.69%
Ameren Corporation	AEE	2.27	250.5	255	0.60%	0.76%
AEP Company	AEP	2.28	496	518	1.46%	1.87%
Avista	AVA	1.66	68	71	1.45%	0.96%
Consolidated Edison	ED	1.6	341	344	0.29%	0.18%
Duke Energy Corporation	DUK	1.44	754	770	0.70%	0.31%
Edison International	EIX	1.92	370	385	1.33%	1.23%
Evergy, Inc.	EVRG	1.67	212	212	0.00%	0.00%
Eversource	ES	2.2	337	350	1.27%	1.52%
Entergy Corporation	ETR	2.31	200	210	1.64%	2.15%
First Energy Corporation	FE	3.53	543	550	0.43%	1.08%
IDACORP, Inc.	IDA	2.14	50.4	50.4	0.00%	0.00%
NorthWestern Corporation	NWE	1.79	50.65	51.1	0.30%	0.23%
OGE Energy Corporation	OGE	2.01	200	200	0.00%	0.00%
Pinnacle West Capital Corporation	PNW	1.75	112.5	114	0.44%	0.33%
PNM Resources, Inc.	PNM	2.29	81	85	1.62%	2.09%
Portland General Electric Company	POR	1.92	89.55	90	0.17%	0.15%
PPL Corporation	PPL	2.07	773	780	0.30%	0.32%
Southern Company	SO	2.36	1050	1080	0.94%	1.28%
Xcel Energy Inc.	XEL	2.45	526	530	0.25%	0.37%

Source: Value Line (data as of Nov. 14, 2019)

Market to book ratio (mrq) based on yahoo finance data from Dec. 2, 2019.

Schedule PKC-7

Expected Return on Equity

EXPECTED ROE		2020	2022-2024	2020-24
Alliant Energy Corporation	LNT	10.50%	10.00%	10.13%
Ameren Corporation	AEE	10.00%	10.50%	10.38%
AEP Company	AEP	10.50%	10.50%	10.50%
Avista	AVA	7.00%	8.00%	7.75%
Consolidated Edison	ED	8.00%	8.50%	8.38%
Duke Energy Corporation	DUK	8.00%	8.50%	8.38%
Edison International	EIX	11.00%	11.00%	11.00%
Evergy, Inc.	EVRG	8.50%	8.50%	8.50%
Eversource	ES	9.00%	9.00%	9.00%
Entergy Corporation	ETR	11.00%	11.00%	11.00%
First Energy Corporation	FE	17.00%	16.00%	16.25%
IDACORP, Inc.	IDA	9.00%	9.50%	9.38%
NorthWestern Corporation	NWE	9.00%	9.00%	9.00%
OGE Energy Corporation	OGE	10.50%	11.50%	11.25%
Pinnacle West Capital Cor	PNW	10.00%	10.50%	10.38%
PNM Resources, Inc.	PNM	10.00%	9.50%	9.63%
Portland General Electric C	POR	8.50%	9.00%	8.88%
PPL Corporation	PPL	14.00%	13.00%	13.25%
Southern Company	SO	12.00%	12.50%	12.38%
Xcel Energy Inc.	XEL	10.50%	11.00%	10.88%
Average				10.31%

Schedule PKC-7 Page 2/2

Retention Ratio (b)

		2020			2022-24			Average
		earnings pershare	dividends pershare	b	earnings pershare	dividends pershare	b	Retention ratio (b)
Alliant Energy Corporation	LNT	2.40	1.50	0.38	2.80	1.74	0.38	0.38
Ameren Corporation	AEE	3.50	2.06	0.41	4.25	2.55	0.40	0.40
AEP Company	AEP	4.40	2.88	0.35	5.00	3.40	0.32	0.33
Avista	AVA	2.15	1.61	0.25	2.50	1.80	0.28	0.27
Consolidated Edison	ED	4.40	3.06	0.30	5.00	3.40	0.32	0.32
Duke Energy Corporation	DUK	5.20	3.82	0.27	5.75	4.05	0.30	0.29
Edison International	EIX	4.50	2.49	0.45	5.50	2.75	0.50	0.49
Evergy, Inc.	EVRG	3.20	2.08	0.35	3.50	2.50	0.29	0.30
Eversource	ES	3.65	2.26	0.38	4.25	2.65	0.38	0.38
Entergy Corporation	ETR	5.55	3.74	0.33	6.25	4.45	0.29	0.30
First Energy Corporation	FE	2.55	1.60	0.37	3.00	1.90	0.37	0.37
IDACORP, Inc.	IDA	4.60	2.73	0.41	5.25	3.35	0.36	0.37
NorthWestern Corporation	NWE	3.60	2.40	0.33	4.00	2.70	0.33	0.33
OGE Energy Corporation	OGE	2.25	1.62	0.28	2.75	1.90	0.31	0.30
Pinnacle West Capital Cor	PNW	5.05	3.22	0.36	5.75	3.80	0.34	0.34
PNM Resources, Inc.	PNM	2.25	1.24	0.45	2.50	1.50	0.40	0.41
Portland General Electric C	POR	2.55	1.62	0.36	3.00	1.95	0.35	0.35
PPL Corporation	PPL	2.55	1.66	0.35	2.75	1.80	0.35	0.35
Southern Company	SO	3.20	2.54	0.21	3.75	2.78	0.26	0.25
Xcel Energy Inc.	XEL	2.75	1.72	0.37	3.25	2.05	0.37	0.37

Source: Value Line one-pagers (latest data as of Nov. 14, 2019)

Schedule PKC-8

DCF ROE Estimates

Company		Average of EPS, DPS, and BVPS growth rates	br and sv	EPS growth rates
Alliant Energy Corporation	LNT	9.19%	8.37%	8.85%
Ameren Corporation	AEE	8.35%	7.67%	8.58%
AEP Company	AEP	8.07%	8.47%	8.36%
Avista	AVA	7.10%	6.51%	6.91%
Consolidated Edison	ED	6.72%	6.32%	6.17%
Duke Energy Corporation	DUK	7.71%	7.01%	9.55%
Edison International	EIX	8.18%	10.24%	9.21%
Evergy, Inc.	EVRG	9.67%	5.85%	9.67%
Eversource	ES	8.00%	7.69%	8.47%
Entergy Corporation	ETR	6.95%	8.63%	6.43%
First Energy Corporation	FE	8.95%	10.46%	9.56%
IDACORP, Inc.	IDA	7.14%	6.10%	6.21%
NorthWestern Corporation	NWE	6.96%	6.59%	6.56%
OGE Energy Corporation	OGE	9.26%	7.19%	9.21%
Pinnacle West Capital Corporati	PNW	8.70%	7.57%	8.79%
PNM Resources, Inc.	PNM	8.27%	8.59%	8.74%
Portland General Electric Compa	POR	7.59%	6.21%	7.45%
PPL Corporation	PPL	8.34%	9.84%	7.67%
Southern Company	SO	7.62%	8.44%	8.12%
Xcel Energy Inc.	XEL	8.19%	7.20%	8.44%
Average		*8.05%*	*7.75%*	*8.15%*
Average plus 2*SD		9.72%	10.48%	10.47%
Average minus 2*SD		6.38%	5.01%	5.83%
Cost of Equity estimate		**8.05%**	**8.15%**	**8.48%**

The shaded cells are the outliers based on the screening discussed in the testimomy.

Schedule PKC-9

PROXY BETA

Company		VL Betas
Alliant Energy Corporation	LNT	0.60
Ameren Corporation	AEE	0.55
AEP Company	AEP	0.55
Avista	AVA	0.60
Consolidated Edison	ED	0.45
Duke Energy Corporation	DUK	0.50
Edison International	EIX	0.60
Evergy, Inc.	EVRG	
Eversource	ES	0.55
Entergy Corporation	ETR	0.60
First Energy Corporation	FE	0.65
IDACORP, Inc.	IDA	0.55
NorthWestern Corporation	NWE	0.60
OGE Energy Corporation	OGE	0.80
Pinnacle West Capital Corpor	PNW	0.55
PNM Resources, Inc.	PNM	0.60
Portland General Electric Con	POR	0.60
PPL Corporation	PPL	0.70
Southern Company	SO	0.50
Xcel Energy Inc.	XEL	0.50
Proxy Average		**0.58**

Source: Value Line betas latest as of November 14, 2019

Schedule PKC-10

Pricing Date	10y US T-Note
10/31/2019	1.691
11/1/2019	1.728
11/4/2019	1.786
11/5/2019	1.866
11/6/2019	1.814
11/7/2019	1.926
11/8/2019	1.933
11/11/2019	1.943
11/12/2019	1.909
11/13/2019	1.87
11/14/2019	1.815
11/15/2019	1.834
11/18/2019	1.808
11/19/2019	1.786
11/20/2019	1.738
11/21/2019	1.772
11/22/2019	1.774
11/25/2019	1.764
11/26/2019	1.74
11/27/2019	1.767
11/29/2019	1.776
Average	1.81

Data source for yields: Yahoo Finance

CAPM Cost-of-Equity Estimates

	CAPM1	CAPM2	CAPM3
	Dividend-Paying S&P 500 Stocks EPS growth projection	Dividend-Paying S&P 500 stocks Average EPS, DPS & BVPS growth projections	All S&P 500 Stocks EPS growth projection
DCF Market Return (a)	12.83	11.96	14.41
Risk Free Return (b)	1.81	1.81	1.81
Market Beta (c)	1.003	1.006	1.023
Risk Premium (a)-(b)	11.02	10.15	12.60
Beta adjusted RP (d) = ((a)-(b))/(c)	10.99	10.09	12.32
Proxy group beta (e)	0.58	0.58	0.58
CAPM ROE estimate (b)+(e)* (d)	8.20	7.68	8.98

Growth projections downloaded from Value Line on November 21, 2019.

Schedule PKC-11a

OCA Analysis with updated Value Line information

Value Line Data downloaded on Nov. 21, 2019

All S&P 500 Stocks

Company	MCAP	Beta	Div. Yield	EPS GR	DCF result	Weighted DCF Result	Weighted Beta
Agilent Technologies	24299427360	1.1	0.00835	11	11.88%	0.000113031	0.001047
Amer. Airlines	12366377340	1.3	0.01417	7.5	8.97%	4.34303E-05	0.000629
Advance Auto Parts	11201950660	1	0.00148	14	14.16%	6.20952E-05	0.000439
Apple Inc.	1.16942E+12	1.05	0.0117	12.5	13.74%	0.006292287	0.048074
AbbVie Inc.	1.28953E+11	1.1	0.05413	10.5	16.20%	0.000817755	0.005554
AmerisourceBergen	18028471100	1	0.01828	8	9.90%	6.98867E-05	0.000706
ABIOMED Inc.	8364963750	1.3	0	12.5	12.50%	4.09379E-05	0.000426
Abbott Labs.	1.48356E+11	1.05	0.01526	10	11.60%	0.000673907	0.006099
Accenture Plc	1.32861E+11	1.05	0.01619	9	10.69%	0.000556163	0.005462
Adobe Systems	1.45272E+11	1.1	0	21	21.00%	0.001194409	0.006256
Analog Devices	40110103480	1.2	0.01989	10	12.09%	0.000189835	0.001884
Archer Daniels Midl'd	23659155000	1.05	0.03294	9.5	12.95%	0.00011996	0.000973
Automatic Data Proc.	73809624840	1	0.02134	13.5	15.78%	0.00045595	0.00289
Alliance Data Sys.	4661788320	1.2	0.0249	9	11.60%	2.11757E-05	0.000219
Ameren Corp.	18567884100	0.55	0.02624	6.5	9.21%	6.69483E-05	0.0004
Amer. Elec. Power	45176849920	0.55	0.03061	4	7.12%	0.000125975	0.000973
Aflac Inc.	39732394340	0.95	0.01995	7.5	9.57%	0.000148867	0.001478
Allergan plc	60718113920	1.05	0.016	3.5	5.13%	0.000121904	0.002496
Apartment Investment	8127632150	0.8	0.02858	-3	-0.18%	-5.88277E-07	0.000255
Assurant Inc.	8031844560	0.85	0.01902	6.5	8.46%	2.66154E-05	0.000267
Gallagher (Arthur J.)	17365291300	0.9	0.01847	14.5	16.48%	0.000112051	0.000612
Akamai Technologies	14036662860	1.1	0	18	18.00%	9.89208E-05	0.000605
Albemarle Corp.	6897446650	1.4	0.0226	5.5	7.82%	2.11235E-05	0.000378
Align Techn.	21182570010	1.1	0	17	17.00%	0.000140987	0.000912
Alaska Air Group	8429960120	1.05	0.02046	5.5	7.60%	2.50911E-05	0.000347
Allstate Corp.	35764742400	0.8	0.01812	10.5	12.41%	0.000173731	0.00112
Allegion plc	10917747500	1.1	0.00919	8.5	9.46%	4.04284E-05	0.00047
Alexion Pharmac.	24016712230	1.2	0	42	42.00%	0.000394925	0.001128
Applied Materials	55101926100	1.3	0.01408	8.5	9.97%	0.00021504	0.002805
Advanced Micro Dev.	45636475440	1.8	0	28	28.00%	0.00050029	0.003216
AMETEK Inc.	22514124570	1.15	0.00569	15.5	16.11%	0.000142032	0.001014
Affiliated Managers	4138848000	1.5	0.01524	10	11.60%	1.87973E-05	0.000243
Amgen	1.33994E+11	1.05	0.02572	7	9.66%	0.000506881	0.005508
Ameriprise Fin'l	20066112480	1.4	0.0245	12.5	15.10%	0.000118654	0.0011
Amer. Tower 'A'	96516626000	0.75	0.01744	11.5	13.34%	0.000504253	0.002834
Amazon.com	8.65429E+11	1.2	0	39	39.00%	0.013214394	0.04066
Arista Networks	14824461960	1.15	0	12	12.00%	6.96485E-05	0.000667
ANSYS Inc.	20667803100	1.05	0	12	12.00%	9.71017E-05	0.00085
Anthem Inc.	74218182800	0.95	0.01093	19.5	20.70%	0.000601483	0.00276
Aon plc	47185629610	0.9	0.00873	11	11.92%	0.000220229	0.001663
Smith (A.O.)	7844056080	1.2	0.01996	7.5	9.57%	2.93929E-05	0.000369
Air Products & Chem.	52422454500	1	0.0195	10.5	12.55%	0.000257629	0.002052
Amphenol Corp.	30307412240	1.05	0.00978	9.5	10.52%	0.000124882	0.001246
Aptiv PLC	22848276000	1.3	0.00983	10	11.03%	9.86882E-05	0.001163
Activision Blizzard	41551342100	1.05	0.00684	10	10.72%	0.000174365	0.001708

AvalonBay Communities	30217270320	0.75	0.0281	2.5	5.35%	6.3236E-05	0.000887
Broadcom Inc.	1.2363E+11	1.1	0.03401	33.5	37.47%	0.001813712	0.005324
Avery Dennison	11003190310	1	0.01761	11	12.86%	5.53909E-05	0.000431
Amer. Water Works	21796162320	0.55	0.01659	9.5	11.24%	9.58987E-05	0.000469
Amer. Express	97619730300	1.05	0.01442	10	11.51%	0.000440067	0.004013
AutoZone Inc.	27630980550	0.8	0	13.5	13.50%	0.000146043	0.000865
Boeing	2.08745E+11	1.15	0.02216	15.5	17.89%	0.001461917	0.009399
Bank of America	2.9405E+11	1.3	0.02203	10.5	12.82%	0.001475758	0.014966
Baxter Int'l Inc.	41865592000	0.85	0.01073	10.5	11.63%	0.000190618	0.001393
BB&T Corp.	41694546230	1.1	0.03308	8	11.44%	0.000186754	0.001796
Best Buy Co.	19543937950	1.15	0.02697	8.5	11.31%	8.65543E-05	0.00088
Becton Dickinson	66619248120	0.9	0.01248	9.5	10.81%	0.000281882	0.002347
Franklin Resources	13612253100	1.25	0.03805	7.5	11.45%	6.10097E-05	0.000666
Biogen	51498146800	1.1	0	8	8.00%	0.000161299	0.002218
Bank of New York Mello	45077087120	1.1	0.02537	7	9.63%	0.000169881	0.001941
Booking Holdings	77509777920	1.2	0	12	12.00%	0.000364157	0.003642
BlackRock Inc.	75458088510	1.25	0.027	10.5	13.34%	0.000394158	0.003693
Ball Corp.	22061647200	1	0.0089	25	26.00%	0.000224586	0.000864
Bristol-Myers Squibb	91907966850	0.8	0.02907	9	12.04%	0.000433164	0.002879
Broadridge Fin'l	14037256240	0.9	0.01764	11	12.86%	7.0682E-05	0.000495
Boston Scientific	59390840640	0.9	0	16	16.00%	0.000372041	0.002093
BorgWarner	8676835860	1.4	0.01618	8	9.68%	3.28935E-05	0.000476
Boston Properties	21345567100	0.9	0.02753	5	7.82%	6.53683E-05	0.000752
Citigroup Inc.	1.6136E+11	1.35	0.0276	10	12.90%	0.000814834	0.008529
Conagra Brands	14351426460	0.9	0.02882	4.5	7.45%	4.18426E-05	0.000506
Cardinal Health	16206760080	1.15	0.03473	11	14.66%	9.30466E-05	0.00073
Caterpillar Inc.	78212160160	1.35	0.02911	12	15.09%	0.000461945	0.004134
Chubb Ltd.	69117837020	0.85	0.01967	10	12.07%	0.000326499	0.0023
Cboe Global Markets	13671378520	0.65	0.01168	14.5	15.75%	8.43176E-05	0.000348
CBRE Group	18578736000	1.35	0	11	11.00%	8.00129E-05	0.000982
CBS Corp. 'B'	13728594250	1.05	0.01846	9.5	11.43%	6.14559E-05	0.000564
Crown Castle Int'l	56914481520	0.7	0.03506	12	15.72%	0.000350208	0.00156
Carnival Corp.	23016491850	1.05	0.0458	10	14.81%	0.000133449	0.000946
Cadence Design Sys.	18996146100	1.05	0	12.5	12.50%	9.29666E-05	0.000781
Celanese Corp.	15017385760	1.3	0.01996	8.5	10.58%	6.22108E-05	0.000764
Celgene Corp.	77035923360	1.2	0	9	9.00%	0.000271448	0.003619
Cerner Corp.	21254943990	0.95	0.01064	9	10.11%	8.41479E-05	0.000791
Citizens Fin'l Group	16519322000	1.25	0.03789	12	16.02%	0.000103587	0.000808
Church & Dwight	17099611360	0.65	0.01306	9	10.36%	6.93901E-05	0.000435
C.H. Robinson	10219490000	0.9	0.02647	9	11.77%	4.70775E-05	0.00036
Charter Communic.	1.02897E+11	1.05	0	17.5	17.50%	0.000705004	0.00423
Cigna Corp.	74651391750	1	0.0002	14.5	14.52%	0.000424423	0.002923
Cincinnati Financial	17632955820	0.85	0.02075	8.5	10.66%	7.36145E-05	0.000587
Colgate-Palmolive	57601927240	0.75	0.02559	6	8.64%	0.000194755	0.001691
Clorox Co.	18371129140	0.7	0.02897	5	7.97%	5.73211E-05	0.000503
Comerica Inc.	9988430660	1.3	0.03868	11	15.08%	5.89755E-05	0.000508
CME Group	74051717040	0.65	0.01452	3	4.47%	0.000129706	0.001885
Chipotle Mex. Grill	21567252300	0.95	0	26.5	26.50%	0.000223765	0.000802
Cummins Inc.	27671706480	1.15	0.02903	8	11.02%	0.000119381	0.001246
CMS Energy Corp.	17513051400	0.5	0.0248	7	9.57%	6.55964E-05	0.000343
Centene Corp.	24604310160	1.05	0	15.5	15.50%	0.000149312	0.001011
CenterPoint Energy	12279816900	0.8	0.04703	12.5	17.50%	8.41212E-05	0.000385
Capital One Fin'l	44946733710	1.25	0.01658	5.5	7.20%	0.000126765	0.0022
Cooper Cos.	15093795780	0.9	0.0002	14.5	14.52%	8.58143E-05	0.000532
Costco Wholesale	1.32148E+11	0.85	0.00865	9	9.90%	0.000512411	0.004398
Coty Inc.	9056809400	1.1	0.04184	5	9.29%	3.29365E-05	0.00039
Campbell Soup	14541308360	0.65	0.029	1	3.91%	2.2286E-05	0.00037

Capri Holdings Ltd.	5336035650	1.15	0	10.5	10.50%	2.19361E-05	0.00024
Copart Inc.	19731501680	0.95	0	17.5	17.50%	0.000135192	0.000734
salesforce.com	1.44003E+11	1.1	0	30.5	30.50%	0.001719586	0.006202
Cisco Systems	1.91241E+11	1.15	0.03106	8	11.23%	0.000840857	0.008611
CSX Corp.	54419361720	1.25	0.0138	14.5	15.98%	0.000340473	0.002663
Cintas Corp.	26854110000	1	0.00983	15.5	16.56%	0.000174101	0.001051
CenturyLink Inc.	16211705230	1.1	0.06725	1	7.76%	4.92453E-05	0.000698
Cognizant Technology	34775916660	1.15	0.0126	6	7.30%	9.93624E-05	0.001566
Citrix Sys.	14704442400	1.1	0.0124	7	8.28%	4.76879E-05	0.000633
CVS Health	97468222880	0.95	0.0267	6.5	9.26%	0.000353243	0.003625
Chevron Corp.	2.21875E+11	1.25	0.04057	16.5	20.89%	0.00181482	0.010858
Concho Resources	14480118870	1.7	0.00694	19.5	20.26%	0.000114868	0.000964
Dominion Energy	68234409700	0.55	0.04427	6.5	11.07%	0.000295758	0.001469
Delta Air Lines	36004182810	1.1	0.02892	9.5	12.53%	0.000176617	0.001551
Deere & Co.	54180197110	1.1	0.01767	13.5	15.39%	0.000326381	0.002333
Discover Fin'l Svcs.	25973958480	1.15	0.02124	7.5	9.70%	9.8679E-05	0.001169
Dollar General	41375094600	0.8	0.00795	12	12.84%	0.00020804	0.001296
Quest Diagnostics	14127021360	0.95	0.02021	8.5	10.61%	5.86665E-05	0.000525
Horton D.R.	20105279670	1.05	0.01283	7.5	8.83%	6.95147E-05	0.000827
Danaher Corp.	1.02685E+11	0.85	0.00476	14	14.51%	0.000583321	0.003417
Disney (Walt)	2.64677E+11	0.9	0.01198	6.5	7.74%	0.000801744	0.009326
Dish Network 'A'	17493697840	1.4	0	1	1.00%	6.84909E-06	0.000959
Digital Realty Trust	25326084800	0.8	0.0356	7	10.68%	0.000105944	0.000793
Dollar Tree Inc.	25380397500	0.9	0	12	12.00%	0.000119243	0.000894
Dover Corp.	15771529620	1.3	0.01805	12.5	14.42%	8.90276E-05	0.000803
Duke Realty Corp.	12934823490	0.8	0.02671	4.5	7.23%	3.66198E-05	0.000405
Darden Restaurants	14068579500	0.8	0.03068	11	14.24%	7.84174E-05	0.000441
DTE Energy	24138070500	0.55	0.03263	5.5	8.85%	8.36626E-05	0.00052
Duke Energy	66025632790	0.5	0.04338	6	10.47%	0.000270604	0.001293
DaVita Inc.	9403250000	1.05	0	12	12.00%	4.41785E-05	0.000387
Devon Energy	8430995000	1.9	0.0164	0	1.64%	5.41345E-06	0.000627
DXC Technology	9187768220	1.3	0.0234	10	12.46%	4.481E-05	0.000468
Electronic Arts	28648979480	0.95	0	11	11.00%	0.000123382	0.001066
eBay Inc.	28359481500	1.05	0.01606	10	11.69%	0.000129756	0.001166
Ecolab Inc.	53676797680	1	0.00988	10	11.04%	0.000231956	0.002102
Consol. Edison	29024463300	0.45	0.0339	3	6.44%	7.31912E-05	0.000511
Equifax Inc.	16939511700	1	0.01115	8.5	9.66%	6.40821E-05	0.000663
Lauder (Estee)	70260879780	0.85	0.00983	14	15.05%	0.000414051	0.002338
Eastman Chemical	10452705730	1.3	0.03226	8	11.36%	4.64696E-05	0.000532
Emerson Electric	44315953500	1.2	0.02749	11.5	14.41%	0.00024997	0.002082
EOG Resources	41921913840	1.45	0.01596	33	34.86%	0.000572152	0.00238
Equinix Inc.	48503284040	0.85	0.0173	22	23.92%	0.000454244	0.001614
Eversource Energy	26710282500	0.55	0.02594	5.5	8.17%	8.53894E-05	0.000575
Essex Property Trust	21060994220	0.7	0.02447	-0.5	1.94%	1.6004E-05	0.000577
E*Trade Fin'l	10360507760	1.3	0.01221	17.5	18.83%	7.63718E-05	0.000527
Eaton Corp. plc	37131588000	1.2	0.03162	9	12.30%	0.000178876	0.001745
Entergy Corp.	23306880120	0.6	0.03178	0.5	3.69%	3.36345E-05	0.000548
Edwards Lifesciences	50939051100	0.95	0	16.5	16.50%	0.000329068	0.001895
Exelon Corp.	44094864240	0.65	0.03197	9	12.34%	0.000213052	0.001122
Expeditors Int'l	12854319480	1	0.01325	9	10.38%	5.22626E-05	0.000503
Expedia Group	13664198660	1.1	0.01442	24	25.62%	0.000137035	0.000588
Extra Space Storage	13853791670	0.65	0.03365	4	7.43%	4.03128E-05	0.000353
Ford Motor	34613550810	1.2	0.06873	3	9.98%	0.000135194	0.001626
Diamondback Energy	12079904050	1.4	0.00996	16.5	17.58%	8.31359E-05	0.000662
Fastenal Co.	20222562020	1.1	0.02496	8.5	11.10%	8.79006E-05	0.000871
Facebook Inc.	5.63249E+11	1.1	0	17.5	17.50%	0.003859131	0.024257
Fortune Brands Home	8620404450	1.2	0.01421	11.5	13.00%	4.38847E-05	0.000405

Freep't-McMoRan Inc.	16003581420	2.15	0.01813	22.5	24.52%	0.000153616	0.001347
FedEx Corp.	39728765700	1.3	0.01707	7.5	9.27%	0.000144206	0.002022
FirstEnergy Corp.	25324423440	0.65	0.03328	6.5	9.94%	9.85166E-05	0.000644
F5 Networks	8727586640	1.05	0	12	12.00%	4.10041E-05	0.000359
Fidelity Nat'l Info.	84489062000	0.85	0.01018	7	8.05%	0.000266406	0.002812
Fiserv Inc.	78425888250	0.9	0	10.5	10.50%	0.000322404	0.002763
Fifth Third Bancorp	21119689920	1.2	0.03226	7	10.34%	8.54897E-05	0.000992
Foot Locker	4535242430	0.9	0.03587	10.5	14.28%	2.53477E-05	0.00016
FLIR Systems	7144988780	0.95	0.01277	12	13.35%	3.73553E-05	0.000266
Fluor Corp.	2444634560	1.7	0.02294	17	19.49%	1.86533E-05	0.000163
Flowserve Corp.	6308760600	1.45	0.01576	13.5	15.18%	3.75004E-05	0.000358
FleetCor Technologies	26121081000	1.2	0	12.5	12.50%	0.000127836	0.001227
FMC Corp.	12583024200	1.35	0.01648	15	16.77%	8.26249E-05	0.000665
First Republic Bank	18272273640	1.1	0.007	10.5	11.24%	8.03868E-05	0.000787
Federal Rlty. Inv. Tru	9890492080	0.75	0.03207	3	6.26%	2.42217E-05	0.00029
Fortinet Inc.	17522433300	1.1	0	28	28.00%	0.00019209	0.000755
Fortive Corp.	23539860400	1.15	0.00399	10	10.42%	9.60239E-05	0.00106
Gen'l Dynamics	53327774980	0.95	0.02213	6	8.28%	0.000172863	0.001983
Gen'l Electric	99475123110	1.15	0.00351	2.5	2.86%	0.000111207	0.004479
Gilead Sciences	82082672480	0.95	0.03884	-1.5	2.35%	7.5678E-05	0.003053
Gen'l Mills	32135628980	0.7	0.03686	4	7.76%	9.76302E-05	0.000881
Corning Inc.	22011928200	1.2	0.02795	15	18.00%	0.000155165	0.001034
Gen'l Motors	50407499520	1.25	0.04308	2	6.35%	0.000125341	0.002467
Alphabet Inc. 'A'	4.47664E+11	1.05	0	16.5	16.50%	0.002891929	0.018403
Alphabet Inc.	4.47664E+11	1.05	0	16.5	16.50%	0.002891929	0.018403
Genuine Parts	15010219830	0.95	0.02952	8	11.07%	6.50563E-05	0.000558
Global Payments	54251919480	1.15	0.00432	20	20.48%	0.000434905	0.002443
Gap (The) Inc.	6117828640	1	0.05958	4.5	10.59%	2.53705E-05	0.00024
Garmin Ltd.	18416131250	0.95	0.02354	10.5	12.98%	9.35715E-05	0.000685
Goldman Sachs	77159098170	1.25	0.02295	10	12.41%	0.000374888	0.003776
Goodyear Tire	3665208640	1.4	0.04061	3	7.12%	1.02199E-05	0.000201
Grainger (W.W.)	16825045100	1	0.01844	8.5	10.42%	6.86553E-05	0.000659
Halliburton Co.	18021316120	1.5	0.03507	21.5	25.38%	0.000179101	0.001058
Hasbro Inc.	12986820030	0.9	0.02866	7.5	10.47%	5.32531E-05	0.000458
Huntington Bancshs.	15140188300	1.2	0.04093	11.5	15.83%	9.38249E-05	0.000711
Hanesbrands Inc.	5447156820	1.1	0.03984	3	7.04%	1.50219E-05	0.000235
HCA Healthcare	47403517280	0.95	0.01145	12	13.21%	0.000245237	0.001763
Home Depot	2.41919E+11	1.05	0.02463	9	11.57%	0.001096224	0.009945
HollyFrontier Corp.	8450380400	1.25	0.02674	18	20.91%	6.91956E-05	0.000414
Hartford Fin'l Svcs.	22310059900	0.9	0.01939	13	15.07%	0.00013159	0.000786
Huntington Ingalls	10399234000	1.1	0.0162	7	8.68%	3.5327E-05	0.000448
Harley-Davidson	5480451840	1.15	0.04223	8.5	12.90%	2.76848E-05	0.000247
Hologic Inc.	13148782140	1	0	25	25.00%	0.0001287	0.000515
Honeywell Int'l	1.2663E+11	1.05	0.02031	8.5	10.62%	0.000526382	0.005206
Hewlett Packard Ent.	22351889120	1.5	0.02804	6.5	9.40%	8.22183E-05	0.001313
HP Inc.	29193705800	1.5	0.03578	8	11.72%	0.000133971	0.001714
Block (H&R)	4915632800	0.8	0.04247	7	11.40%	2.19316E-05	0.000154
Hormel Foods	22880614500	0.65	0.0196	9	11.05%	9.89716E-05	0.000582
Schein (Henry)	10029679000	0.95	0	7	7.00%	2.74876E-05	0.000373
Host Hotels & Resorts	12084449300	1.2	0.04748	-1.5	3.21%	1.51987E-05	0.000568
Hershey Co.	31154299520	0.65	0.02073	6.5	8.64%	0.000105391	0.000793
Humana Inc.	44729530020	0.9	0.00651	11.5	12.19%	0.000213449	0.001576
Int'l Business Mach.	1.17967E+11	1.1	0.04865	1.5	6.40%	0.00029566	0.00508
Intercontinental Exch.	52611188000	0.8	0.01164	10.5	11.73%	0.000241516	0.001648
IDEXX Labs.	22346471500	0.9	0	13	13.00%	0.000113738	0.000787
Int'l Flavors & Frag.	14564246400	0.95	0.02199	8.5	10.79%	6.15403E-05	0.000542
Illumina Inc.	46291770000	1	0	14	14.00%	0.000253737	0.001812

IHS Markit	28875145880	1.05	0	18	18.00%	0.000203492	0.001187
Intel Corp.	2.51865E+11	1.1	0.02176	10.5	12.79%	0.001261241	0.010847
Intuit Inc.	71125037520	1.1	0.00775	14.5	15.33%	0.000426923	0.003063
Int'l Paper	17739327840	1.3	0.04531	10.5	15.27%	0.000106046	0.000903
Interpublic Group	8580509160	1.05	0.04248	11	15.48%	5.20094E-05	0.000353
IPG Photonics	7278019800	1.3	0	9.5	9.50%	2.707E-05	0.00037
IQVIA Holdings	27623249680	0.95	0	12.5	12.50%	0.000135187	0.001027
Ingersoll-Rand	31109274480	1.2	0.01633	12.5	14.24%	0.000173381	0.001462
Iron Mountain	9782962010	0.9	0.07262	8.5	16.07%	6.15538E-05	0.000345
Intuitive Surgical	66169582220	1	0	14	14.00%	0.000362692	0.002591
Gartner Inc.	14129101350	1	0	13.5	13.50%	7.46792E-05	0.000553
Illinois Tool Works	55423250640	1.1	0.02482	9	11.59%	0.000251574	0.002387
Invesco Ltd.	7802437860	1.4	0.07213	3.5	10.84%	3.31116E-05	0.000428
Hunt (J.B.)	12298035420	1.05	0.00901	9.5	10.44%	5.02858E-05	0.000506
Johnson Ctrls. Int'l p	33745933870	1.2	0.02452	4.5	7.01%	9.25796E-05	0.001585
Jacobs Engineering	12772041480	1.3	0.00721	14.5	15.27%	7.63737E-05	0.00065
Jefferies Fin'l Group	6090380010	1.25	0.02462	20.5	23.21%	5.53544E-05	0.000298
Henry (Jack) & Assoc.	11567477950	0.85	0.01064	12	13.13%	5.94543E-05	0.000385
Johnson & Johnson	3.57777E+11	0.8	0.02795	12	14.96%	0.002095914	0.011206
Juniper Networks	8555110920	1.1	0.02973	6	9.06%	3.03536E-05	0.000368
JPMorgan Chase	4.06583E+11	1.15	0.02777	6	8.86%	0.001410422	0.018306
Nordstrom Inc.	5270194300	1.05	0.04359	5	9.47%	1.9536E-05	0.000217
Kellogg	22300725720	0.6	0.03487	4	7.56%	6.59789E-05	0.000524
KeyCorp	18792998640	1.25	0.03878	10.5	14.58%	0.000107288	0.00092
Keysight Technologies	20166510780	1.1	0	22	22.00%	0.000173702	0.000869
Kraft Heinz Co.	37965895490	0.9	0.05146	0	5.15%	7.64918E-05	0.001338
Kimco Realty	9052675520	0.85	0.05224	5	10.35%	3.66996E-05	0.000301
KLA-Tencor	27404083980	1.15	0.01958	10	12.06%	0.00012935	0.001234
Kimberly-Clark	46141687600	0.7	0.03061	7	10.17%	0.00018369	0.001265
Kinder Morgan Inc.	45435197900	1.35	0.04985	35.5	41.37%	0.000735915	0.002401
CarMax Inc.	16372295100	1.15	0	10.5	10.50%	6.73055E-05	0.000737
Coca-Cola	2.28021E+11	0.7	0.03006	6.5	9.60%	0.000857361	0.006249
Kroger Co.	21315102390	0.8	0.02407	4	6.46%	5.38697E-05	0.000668
Kohl's Corp.	7513976940	1.05	0.05676	6.5	12.36%	3.63627E-05	0.000309
Kansas City South'n	15066240000	1.1	0.01053	12	13.12%	7.73684E-05	0.000649
Loews Corp.	14976053650	1	0.00497	13.5	14.03%	8.22666E-05	0.000586
L Brands	4391868880	1.05	0.07552	-2.5	4.96%	8.52457E-06	0.000181
Leggett & Platt	6892049110	1.05	0.03055	9	12.19%	3.28997E-05	0.000283
Lennar Corp.	16717292130	1.1	0.00268	8	8.28%	5.41852E-05	0.00072
Laboratory Corp.	16591477000	0.95	0	8	8.00%	5.19669E-05	0.000617
LKQ Corp.	10772139300	1.1	0	10.5	10.50%	4.42836E-05	0.000464
Lilly (Eli)	1.10041E+11	0.7	0.02251	11.5	13.88%	0.000598009	0.003016
Lockheed Martin	1.10769E+11	0.8	0.02445	11.5	14.09%	0.000610866	0.003469
Lincoln Nat'l Corp.	11304867000	1.55	0.02807	9	11.93%	5.28175E-05	0.000686
Alliant Energy	12772305280	0.6	0.02672	6.5	9.26%	4.62996E-05	0.0003
Lowe's Cos.	90941076170	1.1	0.01867	11.5	13.47%	0.000479755	0.003917
Lam Research	39770506270	1.3	0.01678	8.5	10.25%	0.000159591	0.002024
Southwest Airlines	29908265080	1.15	0.01267	10.5	11.83%	0.000138566	0.001347
Lamb Weston Holdings	12194799870	0.75	0.00958	11	12.01%	5.73448E-05	0.000358
LyondellBasell Inds.	30750496530	1.4	0.04554	5.5	10.18%	0.000122552	0.001686
Macy's Inc.	4639903300	1.05	0.10053	2.5	12.68%	2.30321E-05	0.000191
MasterCard Inc.	2.84652E+11	1	0.00463	19	19.51%	0.002173981	0.011145
Mid-America Apartment	15677231040	0.7	0.02794	1	3.81%	2.3373E-05	0.00043
Macerich Comp. (The)	3732221300	0.9	0.11355	3	14.53%	2.12249E-05	0.000132
Marriott Int'l	43387809270	1.15	0.01447	17.5	19.07%	0.000324005	0.001954
Masco Corp.	13090700480	1.2	0.0118	9.5	10.74%	5.50248E-05	0.000615
McDonald's Corp.	1.46198E+11	0.75	0.02576	8.5	11.19%	0.000640247	0.004293

Microchip Technology	21782844700	1.25	0.01608	10.5	12.19%	0.000103981	0.001066
McKesson Corp.	27154331600	1.15	0.01088	10.5	11.65%	0.000123804	0.001223
Moody's Corp.	42274208000	1.1	0.00893	11.5	12.44%	0.000205968	0.001821
Mondelez Int'l	75461175840	0.95	0.02175	8.5	10.77%	0.000318117	0.002807
Medtronic plc	1.49985E+11	0.85	0.01932	8.5	10.51%	0.000617408	0.004991
MetLife Inc.	45006741140	1.3	0.03596	7.5	11.23%	0.000197898	0.002291
MGM Resorts Int'l	16386790880	1.55	0.01634	25	26.84%	0.000172187	0.000994
Mohawk Inds.	10027796220	1.15	0	8.5	8.50%	3.33715E-05	0.000451
McCormick & Co.	20753581500	0.7	0.01358	8	9.41%	7.64788E-05	0.000569
Martin Marietta	16442763080	1.1	0.00836	8	8.87%	5.70982E-05	0.000708
Marsh & McLennan	54080222880	0.9	0.01698	9	10.77%	0.000228131	0.001906
3M Company	96476306270	1	0.03433	6	9.54%	0.000360195	0.003777
Monster Beverage	31602982000	0.8	0	14.5	14.50%	0.00017941	0.00099
Altria Group	90510753150	0.7	0.06935	8.5	15.73%	0.000557408	0.002481
Mosaic Company	6866973190	1.5	0.01103	21	22.22%	5.97362E-05	0.000403
Marathon Petroleum	40128099600	1.5	0.0343	10.5	14.11%	0.000221681	0.002357
Merck & Co.	2.17096E+11	0.9	0.02861	9	11.99%	0.001019092	0.00765
Morgan Stanley	79473161800	1.4	0.02851	10	12.99%	0.000404296	0.004356
MSCI Inc.	21716333590	1	0.01061	18.5	19.66%	0.000167149	0.00085
Microsoft Corp.	1.14142E+12	1.1	0.01363	14	15.46%	0.006908161	0.049158
Motorola Solutions	28503456960	0.9	0.01539	13	14.64%	0.000163366	0.001004
M&T Bank Corp.	21505521200	1.05	0.027	9.5	12.33%	0.000103801	0.000884
Mettler-Toledo Int'l	17478865800	1.1	0	10	10.00%	6.84329E-05	0.000753
Micron Technology	50448314070	1.7	0	12	12.00%	0.000237017	0.003358
Maxim Integrated	15010681230	1.15	0.03461	6	9.56%	5.6212E-05	0.000676
Mylan N.V.	8898132920	1.35	0	3.5	3.50%	1.21932E-05	0.00047
Noble Energy	9604223840	1.7	0.0239	0	2.39%	8.98693E-06	0.000639
Norwegian Cruise Line	11229367240	1.2	0	16	16.00%	7.03439E-05	0.000528
Nasdaq Inc.	17325815500	0.85	0.01779	8	9.85%	6.68172E-05	0.000577
NextEra Energy	1.1497E+11	0.55	0.02126	10.5	12.74%	0.000573355	0.002476
Newmont Mining	31539206330	0.7	0.01456	2.5	3.97%	4.90741E-05	0.000864
Netflix Inc.	1.33737E+11	1.25	0	32	32.00%	0.001675529	0.006545
NiSource Inc.	9734556640	0.55	0.0307	12.5	15.76%	6.00725E-05	0.00021
NIKE Inc. 'B'	1.45256E+11	1	0.01053	17	18.14%	0.001031769	0.005687
Nektar Therapeutics	3506125460	1.3	0	10.5	10.50%	1.44135E-05	0.000178
Nielsen Hldgs. plc	7133990500	1	0.01197	45.5	46.97%	0.000131189	0.000279
Northrop Grumman	59492149000	0.85	0.01496	9.5	11.07%	0.000257777	0.00198
National Oilwell Varco	8241371520	1.35	0.00936	31	32.08%	0.000103514	0.000436
Norfolk Southern	49510640360	1.2	0.0198	15	17.13%	0.000332024	0.002326
NetApp Inc.	14022205440	1.3	0.03125	10	13.28%	7.29133E-05	0.000714
Northern Trust Corp.	22523056600	1.25	0.02634	8.5	11.25%	9.91687E-05	0.001102
Nucor Corp.	16403931500	1.35	0.02957	13	16.15%	0.000103717	0.000867
NVIDIA Corp.	1.29242E+11	1.35	0.00303	11.5	11.82%	0.00059812	0.006831
Newell Brands	8167386000	1.15	0.04769	4	8.86%	2.83454E-05	0.000368
News Corp. 'B'	2623138200	1.2	0.01522	12	13.61%	1.39809E-05	0.000123
Realty Income Corp.	25418422810	0.65	0.03493	4.5	8.07%	8.03266E-05	0.000647
ONEOK Inc.	29242287150	1.5	0.0517	17	22.61%	0.000258853	0.001717
Omnicom Group	16874230000	0.95	0.03355	6.5	9.96%	6.5828E-05	0.000628
Oracle Corp.	1.84609E+11	1.05	0.01707	10	11.79%	0.000852323	0.007589
O'Reilly Automotive	33191603300	0.9	0	12	12.00%	0.000155941	0.00117
Occidental Petroleum	34374838160	1.25	0.08212	33	42.57%	0.000572882	0.001682
Paychex Inc.	30693698000	1	0.02892	10.5	13.54%	0.000162758	0.001202
People's United Fin'l	7238066880	1.05	0.0435	9	13.55%	3.83864E-05	0.000298
PACCAR Inc.	27272164900	1.2	0.01623	7.5	9.18%	9.8061E-05	0.001281
PG&E Corp.	3783994500	0.55	0	7.5	7.50%	1.11113E-05	8.15E-05
Public Serv. Enterpris	30955488460	0.65	0.03071	6	9.16%	0.000111054	0.000788
PepsiCo Inc.	1.86492E+11	0.75	0.02856	6.5	9.45%	0.000689904	0.005476

Pfizer Inc.	2.05039E+11	0.9	0.03887	10	14.08%	0.001130401	0.007225
Principal Fin'l Group	15072036160	1.35	0.04053	5.5	9.66%	5.70297E-05	0.000797
Procter & Gamble	3.04968E+11	0.7	0.0244	9	11.55%	0.001379052	0.008358
Progressive Corp.	41233953900	0.85	0.00567	15.5	16.11%	0.000260092	0.001372
Parker-Hannifin	25049390350	1.35	0.01805	9	10.89%	0.000106764	0.001324
PulteGroup Inc.	10742440000	1.05	0.0111	8	9.15%	3.85021E-05	0.000442
Packaging Corp.	10613054960	1.15	0.02818	6	8.90%	3.69918E-05	0.000478
PerkinElmer Inc.	10056862520	1.15	0.00309	11	11.33%	4.45954E-05	0.000453
Prologis	57836163200	1	0.02316	6.5	8.89%	0.000201333	0.002264
Philip Morris Int'l	1.29884E+11	0.85	0.05606	6	11.77%	0.000598741	0.004322
PNC Financial Serv.	66505442600	1.1	0.03031	8	11.15%	0.000290383	0.002864
Pentair plc	7258255740	1.25	0.01667	6	7.72%	2.19297E-05	0.000355
Pinnacle West Capital	9811232080	0.5	0.03586	5	8.68%	3.33255E-05	0.000192
PPG Inds.	29912569500	1.1	0.01613	6	7.66%	8.97248E-05	0.001288
PPL Corp.	24424054740	0.7	0.04885	1.5	6.42%	6.14066E-05	0.000669
Perrigo Co. plc	6627195900	1.25	0.01725	2	3.74%	9.70988E-06	0.000324
Prudential Fin'l	37434240000	1.35	0.04296	7	11.45%	0.00016776	0.001979
Public Storage	37292433200	0.65	0.03747	4.5	8.33%	0.000121642	0.000949
Phillips 66	51572189480	1.25	0.03102	10	13.26%	0.00026768	0.002524
PVH Corp.	7252024640	1.3	0.00153	9	9.16%	2.60076E-05	0.000369
Quanta Services	6014865800	1.4	0.00379	15.5	15.91%	3.7463E-05	0.00033
PayPal Holdings	1.22222E+11	1.15	0	20	20.00%	0.000957039	0.005503
Qualcomm Inc.	97764768900	1.1	0.02897	10.5	13.55%	0.000518614	0.00421
Qorvo Inc.	11836968860	1.15	0	55.5	55.50%	0.000257208	0.000533
Royal Caribbean	24526827000	1.15	0.02667	12.5	15.33%	0.000147245	0.001104
Everest Re Group Ltd.	10917749220	0.75	0.02092	18.5	20.79%	8.88475E-05	0.000321
Regency Centers Corp.	10792797240	0.8	0.03633	16	19.92%	8.41888E-05	0.000338
Regeneron Pharmac.	37159675280	1.1	0	10	10.00%	0.000145487	0.0016
Regions Financial	15829725990	1.35	0.03778	10.5	14.48%	8.97189E-05	0.000837
Robert Half Int'l	6782386740	1.2	0.02123	9	11.22%	2.979E-05	0.000319
Raymond James Fin'l	12352861710	1.25	0.01529	10	11.61%	5.61282E-05	0.000605
Ralph Lauren	7977196560	1.25	0.02572	8	10.67%	3.33399E-05	0.00039
ResMed Inc.	21516137040	0.85	0.01043	18	19.14%	0.000161208	0.000716
Rockwell Automation	22671476870	1.25	0.02079	9.5	11.68%	0.000103655	0.00111
Rollins Inc.	11977828360	0.9	0.01148	13	14.22%	6.66974E-05	0.000422
Roper Tech.	36740798640	1.05	0.00581	11.5	12.11%	0.000174262	0.00151
Ross Stores	39949461200	1	0.00924	9.5	10.47%	0.000163727	0.001564
Republic Services	27992207950	0.75	0.01847	11.5	13.45%	0.00014744	0.000822
Raytheon Co.	60449436530	0.85	0.01737	10	11.82%	0.000279835	0.002012
SBA Communications	27108690750	0.9	0.00615	27	27.70%	0.000293974	0.000955
Starbucks Corp.	98731600000	0.9	0.01962	13	15.09%	0.000583288	0.003479
Schwab (Charles)	57382388000	1.3	0.0152	12	13.61%	0.000305792	0.002921
Sealed Air	5788169360	0.95	0.01708	22.5	24.40%	5.52949E-05	0.000215
Sherwin-Williams	53171830180	1.05	0.00785	10.5	11.33%	0.000235786	0.002186
SVB Fin'l Group	11777099840	1.6	0	19.5	19.50%	8.99134E-05	0.000738
Smucker (J.M.)	12026361600	0.7	0.03338	5	8.42%	3.96527E-05	0.00033
Schlumberger Ltd.	50031818460	1.35	0.05534	16.5	22.49%	0.000440553	0.002644
SL Green Realty	6683577300	1	0.04075	5.5	9.69%	2.53485E-05	0.000262
Snap-on Inc.	8703511740	1.1	0.02722	6	8.80%	2.99992E-05	0.000375
Synopsys Inc.	21166421080	1.05	0	8	8.00%	6.62962E-05	0.00087
Southern Co.	65839520520	0.5	0.0395	3.5	7.52%	0.000193823	0.001289
Simon Property Group	45487191870	0.85	0.05667	4.5	10.29%	0.000183335	0.001514
S&P Global	65523640000	1.05	0.0085	13	13.91%	0.000356721	0.002694
Sempra Energy	41681142560	0.7	0.02617	11	13.76%	0.000224563	0.001142
SunTrust Banks	31269296800	1.2	0.03181	10	13.34%	0.000163315	0.001469
State Street Corp.	26548115230	1.3	0.02849	5	7.92%	8.23233E-05	0.001351
Seagate Technology	15660202710	1.35	0.04362	4	8.45%	5.18044E-05	0.000828

Constellation Brands	31131178280	0.85	0.01614	8.5	10.18%	0.00012411	0.001036
Stanley Black & Decker	23359684040	1.2	0.01796	9	10.88%	9.94765E-05	0.001097
Skyworks Solutions	16362815000	1.15	0.01833	6	7.89%	5.05331E-05	0.000737
Synchrony Financial	23624816080	1.15	0.02407	9.5	12.02%	0.000111192	0.001064
Stryker Corp.	76483178100	0.9	0.01018	13	14.08%	0.000421744	0.002695
Sysco Corp.	40726319140	0.7	0.02255	10.5	12.87%	0.000205267	0.001116
AT&T Inc.	2.716E+11	0.75	0.05487	5.5	11.14%	0.001184361	0.007975
Molson Coors Brewing	10281485110	0.95	0.04352	5.5	9.97%	4.01398E-05	0.000382
TransDigm Group	30790100000	0.95	0	11	11.00%	0.000132604	0.001145
TE Connectivity	30714839250	1.15	0.02004	7.5	9.58%	0.000115193	0.001383
Target Corp.	64596753470	0.9	0.02088	8.5	10.68%	0.000270023	0.002276
Tiffany & Co.	14898140670	1.15	0.01881	10.5	12.48%	7.2793E-05	0.000671
TJX Companies	71713905560	0.9	0.01551	14	15.66%	0.000439678	0.002527
Thermo Fisher Sci.	1.23237E+11	1.05	0.00247	10	10.26%	0.000495006	0.005066
Tapestry Inc.	7210207680	1.15	0.05166	11	16.45%	4.64375E-05	0.000325
TripAdvisor Inc.	3900188160	1.1	0	19.5	19.50%	2.97764E-05	0.000168
Price (T. Rowe) Group	28258559610	1.15	0.02514	10	12.64%	0.000139842	0.001272
Travelers Cos.	34956243590	0.85	0.02422	9	11.53%	0.000157813	0.001163
Tractor Supply	11466867960	1.05	0.01445	11.5	13.03%	5.84894E-05	0.000471
Tyson Foods 'A'	33093970900	0.75	0.01854	7.5	9.42%	0.000122099	0.000972
Take-Two Interactive	13987019800	0.9	0	25.5	25.50%	0.000139642	0.000493
Texas Instruments	1.08649E+11	1.1	0.03097	6.5	9.70%	0.000412518	0.004679
Textron Inc.	10497815370	1.35	0.00174	13	13.19%	5.41927E-05	0.000555
Under Armour 'A'	3782857480	1.3	0	19	19.00%	2.81401E-05	0.000193
United Cont'l Hldgs.	23204134800	1.2	0	8.5	8.50%	7.72211E-05	0.00109
UDR Inc.	14295125340	0.75	0.02809	5.5	8.39%	4.69361E-05	0.00042
Universal Health `B'	12302742000	0.95	0.00569	11	11.60%	5.58756E-05	0.000458
Ulta Beauty	13787732210	0.95	0	16	16.00%	8.63703E-05	0.000513
UnitedHealth Group	2.6107E+11	1	0.01568	14	15.68%	0.001602477	0.010221
Unum Group	6099344760	1.3	0.03855	9	13.03%	3.1112E-05	0.00031
Union Pacific	1.20853E+11	1.15	0.02229	14.5	16.89%	0.000799199	0.005441
United Parcel Serv.	1.0209E+11	1	0.03227	8.5	11.86%	0.000474208	0.003997
United Rentals	11162169120	1.7	0	14.5	14.50%	6.33677E-05	0.000743
U.S. Bancorp	92321485490	1.05	0.02842	6	8.93%	0.00032268	0.003795
United Technologies	1.26598E+11	1.05	0.02005	9	11.10%	0.000549941	0.005204
Visa Inc.	3.91904E+11	1	0.00661	15	15.71%	0.002410588	0.015344
Varian Medical Sys.	11747779610	1	0	10.5	10.50%	4.82944E-05	0.00046
V.F. Corp.	34146477000	1.15	0.02246	7	9.32%	0.00012466	0.001537
Viacom Inc. 'B'	8244124330	1.15	0.03435	2	5.47%	1.76535E-05	0.000371
Valero Energy	39911365070	1.3	0.03704	11.5	15.42%	0.000240906	0.002031
Vulcan Materials	18628966250	1.15	0.00881	14.5	15.44%	0.000112648	0.000839
Vornado R'lty Trust	12206766000	0.95	0.04128	-1.5	2.60%	1.24117E-05	0.000454
Verisk Analytics	23652995800	0.85	0.00693	9.5	10.23%	9.46978E-05	0.000787
VeriSign Inc.	22601232500	0.95	0	11	11.00%	9.73366E-05	0.000841
Vertex Pharmac.	55305250500	1.2	0	50	50.00%	0.001082649	0.002598
Ventas Inc.	21790146560	0.65	0.05423	4	9.53%	8.13151E-05	0.000555
Verizon Communic.	2.45996E+11	0.75	0.04136	4.5	8.73%	0.000840713	0.007223
Waters Corp.	14027926140	1	0	6	6.00%	3.29531E-05	0.000549
Walgreens Boots	54748464940	0.95	0.02983	9.5	12.62%	0.00027061	0.002036
WellCare Health Plans	16029468000	1.05	0	20	20.00%	0.000125516	0.000659
Western Digital	14424142500	1.45	0.04124	1	5.14%	2.90533E-05	0.000819
WEC Energy Group	27821455200	0.5	0.02676	6	8.76%	9.53786E-05	0.000545
Welltower Inc.	34381155480	0.65	0.04102	10.5	14.82%	0.000199454	0.000875
Wells Fargo	2.2644E+11	1.1	0.0381	5	8.91%	0.000789497	0.009752
Whirlpool Corp.	9016112000	1.2	0.03365	6.5	9.97%	3.52092E-05	0.000424
Waste Management	47756809370	0.75	0.01821	8.5	10.40%	0.000194425	0.001402
Williams Cos.	27125656620	1.9	0.06792	20	27.47%	0.000291749	0.002018

Walmart Inc.	3.3884E+11	0.75	0.0178	7.5	9.35%	0.001239956	0.00995
WestRock Co.	9990852300	1.45	0.04801	10	15.04%	5.88345E-05	0.000567
Western Union	11307334320	0.95	0.02966	6.5	9.56%	4.23329E-05	0.000421
Weyerhaeuser Co.	21989140420	1.2	0.04609	17.5	22.51%	0.000193811	0.001033
Wynn Resorts	12619580250	1.7	0.03403	27	30.86%	0.000152485	0.00084
Cimarex Energy	4681223800	1.5	0.0174	16	17.88%	3.27687E-05	0.000275
Xcel Energy Inc.	33080213770	0.5	0.02626	5.5	8.20%	0.000106179	0.000648
Xilinx Inc.	22886011670	1.15	0.01626	9.5	11.20%	0.000100384	0.00103
Exxon Mobil Corp.	2.87842E+11	1.1	0.05115	14	19.47%	0.002194521	0.012396
Dentsply Sirona	12595304820	0.9	0.00706	4.5	5.22%	2.57506E-05	0.000444
Xerox Corp.	8280000400	1.45	0.02611	9.5	12.24%	3.96631E-05	0.00047
Xylem Inc.	13950720130	1.1	0.01239	14	15.33%	8.37084E-05	0.000601
Yum! Brands	29677571440	0.65	0.01712	12	13.81%	0.000160517	0.000755
Zimmer Biomet Hldgs.	29324367880	0.95	0.00673	4.5	5.19%	5.95651E-05	0.001091
Zions Bancorp.	8333132640	1.25	0.02782	9.5	12.41%	4.0502E-05	0.000408
Zoetis Inc.	56946308440	1	0.00549	13.5	14.09%	0.000314056	0.00223
					13.02%	0.14411559	1.022505

Schedule PKC-11b

OCA Analysis with updated Value Line information

Value Line Data downloaded on Nov. 21, 2019
Dividend Paying S&P 500 Stocks

Company	MCAP	Beta	Div. Yield	EPS GR	DPS GR	BVPS GR	Average GR	DCF result	Weighted DCF Result	Weighted Beta	EPS DCF Result	Weighted EPS DCF Result	Weighted EPS Beta
Agilent Technologies	24299427360	1.1	0.00835	11	11	7.5	9.833333	10.71%	0.000122134	0.001254	0.118809	0.000137581	0.001274
Amer. Airlines	12366377340	1.3	0.01417	7.5	7	-27.5	-4.33333	-2.95%	-1.71042E-05	0.000755	0.089701	5.28632E-05	0.000766
Advance Auto Parts	11201950660	1	0.00148	14	16.5	8.5	13	13.16%	6.91744E-05	0.000526	0.141584	7.5582E-05	0.000534
Apple Inc.	1.16942E+12	1.05	0.0117	12.5	12	12.5	12.33333	13.58%	0.007450772	0.057628	0.137431	0.007658945	0.058516
AbbVie Inc.	1.28953E+11	1.1	0.05413	10.5	9		9.75	15.43%	0.000933651	0.006657	0.161972	0.000995367	0.00676
AmerisourceBergen	18028471100	1	0.01828	8	3.5	8	6.5	8.39%	7.09678E-05	0.000846	0.099011	8.50658E-05	0.000859
Abbott Labs.	1.48356E+11	1.05	0.01526	10	7	6	7.666667	9.25%	0.000644132	0.007311	0.116023	0.000820277	0.007423
Accenture Plc	1.32861E+11	1.05	0.01619	9	9.5	19	12.5	14.22%	0.000886702	0.006547	0.106919	0.00067696	0.006648
Analog Devices	40110103480	1.2	0.01989	10	5.5	10	8.5	10.57%	0.000199044	0.002259	0.120885	0.000231066	0.002294
Archer Daniels Midl'd	23659155000	1.05	0.03294	9.5	5.5	6	7	10.41%	0.000115583	0.001166	0.129505	0.000146015	0.001184
Automatic Data Proc.	73809624840	1	0.02134	13.5	12.5	14	13.33333	15.61%	0.000540728	0.003464	0.15778	0.000554981	0.003517
Alliance Data Sys.	4661788320	1.2	0.0249	9	14	20	14.33333	17.00%	3.71982E-05	0.000263	0.116021	2.5775E-05	0.000267
Ameren Corp.	18567884100	0.55	0.02624	6.5	6	5	5.833333	8.53%	7.43674E-05	0.000479	0.092093	8.14892E-05	0.000487
Amer. Elec. Power	45176849920	0.55	0.03061	4	5.5	4	4.5	7.63%	0.000161774	0.001166	0.071222	0.000153336	0.001184
AES Corp.	12348409800	1.15	0.02935		5.5	0	2.75	5.73%	3.31809E-05	0.000666	0	0	0
Aflac Inc.	39732394340	0.95	0.01995	7.5	7.5	11	8.666667	10.75%	0.000200425	0.001772	0.095698	0.000181201	0.001799
Allergan plc	60718113920	1.05	0.016	3.5	9.5	2	5	6.64%	0.000189217	0.002992	0.05128	0.000148381	0.003038
Amer. Int'l Group	46046559360	1.05	0.02418		6	3	4.5	6.97%	0.000150679	0.002269	0	0	0
Apartment Investment	8127632150	0.8	0.02858	-3	4	0.5	0.5	3.37%	1.28364E-05	0.000305	-0.00185	-7.16048E-07	0.00031
Assurant Inc.	8031844560	0.85	0.01902	6.5	5	10.5	7.333333	9.31%	3.5076E-05	0.00032	0.084638	3.23961E-05	0.000325
Gallagher (Arthur J.)	17365291300	0.9	0.01847	14.5	3	11	9.5	11.43%	9.31928E-05	0.000733	0.164809	0.000136388	0.000745
Albemarle Corp.	6897446650	1.4	0.0226	5.5	5.5	4	5	7.32%	2.36846E-05	0.000453	0.078222	2.57114E-05	0.00046
Alaska Air Group	8429960120	1.05	0.02046	5.5	8	4.5	6	8.11%	3.2076E-05	0.000415	0.076023	3.05408E-05	0.000422
Allstate Corp.	35764742400	0.8	0.01812	10.5	7	9	8.833333	10.73%	0.000180029	0.001343	0.124071	0.000211465	0.001364
Allegion plc	10917747500	1.1	0.00919	8.5	15	35.5	19.66667	20.68%	0.000105944	0.000564	0.094581	4.92093E-05	0.000572
Applied Materials	55101926100	1.3	0.01408	8.5	13	14	11.83333	13.32%	0.000344585	0.003362	0.099678	0.000261746	0.003414
AMETEK Inc.	22514124570	1.15	0.00569	15.5	13	11	13.16667	13.77%	0.000145533	0.001215	0.161131	0.00017288	0.001234
Affiliated Managers	4138848000	1.5	0.01524	10	22	5.5	12.5	14.12%	2.74262E-05	0.000291	0.116002	2.288E-05	0.000296
Amgen	1.33994E+11	1.05	0.02572	7	7	8.5	7.5	10.17%	0.000639464	0.006603	0.09662	0.000616974	0.006705
Ameriprise Fin'l	20066112480	1.4	0.0245	12.5	3.5	18.5	11.5	14.09%	0.000132701	0.001318	0.151031	0.000144425	0.001339
Amer. Tower 'A'	96516626000	0.75	0.01744	11.5	8	8	9.166667	10.99%	0.000497849	0.003397	0.133443	0.000613775	0.00345
Anthem Inc.	74218182800	0.95	0.01093	19.5	13	14	15.5	16.68%	0.000580926	0.003309	0.206996	0.000732122	0.00336
Aon plc	47185629610	0.9	0.00873	11	5	16	10.66667	11.59%	0.000256582	0.001993	0.11921	0.000268062	0.002024
Smith (A.O.)	7844056080	1.2	0.01996	7.5	17.5	9	11.33333	13.44%	4.94872E-05	0.000442	0.095709	3.57769E-05	0.000449
Apache Corp.	8599943320	1.7	0.04373		6	6	6	10.50%	4.23967E-05	0.000686	0	0	0
Air Products & Chem.	52422454500	1	0.0195	10.5	6.5	10.5	9.166667	11.21%	0.000275705	0.00246	0.125524	0.000313585	0.002498
Amphenol Corp.	30307412240	1.05	0.00978	9.5	9	5	7.833333	8.85%	0.000125878	0.001494	0.105245	0.000152006	0.001517
Aptiv PLC	22848276000	1.3	0.00983	10	1	24	11.66667	12.71%	0.000136261	0.001394	0.110322	0.000120123	0.001415
Alexandria Real Estate	18427614530	0.85	0.025		7	7.5	7.25	9.84%	8.51072E-05	0.000735	0	0	0
Activision Blizzard	41551342100	1.05	0.00684	10	9	9.5	9.5	10.22%	0.000199233	0.002048	0.107182	0.000212236	0.002079
AvalonBay Communities	30217270320	0.75	0.0281	2.5	6.5	3	4	6.87%	9.73747E-05	0.001064	0.053451	7.69706E-05	0.00108
Broadcom Inc.	1.2363E+11	1.1	0.03401	33.5	22	6	20.5	24.25%	0.001407034	0.006383	0.374707	0.002207643	0.006481
Avery Dennison	11003190310	1	0.01761	11	8.5	7	8.833333	10.67%	5.51116E-05	0.000516	0.128579	6.74216E-05	0.000524
Amer. Water Works	21796162320	0.55	0.01659	9.5	9	5	7.833333	9.56%	9.77665E-05	0.000563	0.112378	0.000116728	0.000571
Amer. Express	97619730300	1.05	0.01442	10	9	8.5	9.166667	10.67%	0.000489069	0.004811	0.115141	0.000535648	0.004885
Boeing	2.08745E+11	1.15	0.02216	15.5	16.5		16	18.39%	0.001801977	0.011266	0.178877	0.001779439	0.01144
Bank of America	2.9405E+11	1.3	0.02203	10.5	18.5	7	12	14.34%	0.00197833	0.017941	0.128187	0.001796287	0.018217
Baxter Int'l Inc.	41865592000	0.85	0.01073	10.5	11.5	8.5	10.16667	11.29%	0.000221915	0.00167	0.116293	0.000232019	0.001696
BB&T Corp.	41694546230	1.1	0.03308	8	8	6.5	7.5	10.93%	0.000213922	0.002153	0.114403	0.000227316	0.002186
Best Buy Co.	19543937950	1.15	0.02697	8.5	14.5	4	9	11.82%	0.000108404	0.001055	0.113116	0.000105353	0.001071
Becton Dickinson	66619248120	0.9	0.01248	9.5	6	8	7.833333	9.13%	0.000285466	0.002814	0.108073	0.000343106	0.002857
Franklin Resources	13612253100	1.25	0.03805	7.5	11.5	2	7	10.94%	6.98794E-05	0.000799	0.114477	7.42608E-05	0.000811
Bank of New York Mello	45077087120	1.1	0.02537	7	15.5	5	9.166667	11.82%	0.000250061	0.002327	0.096258	0.000206778	0.002363
BlackRock Inc.	75458088510	1.25	0.027	10.5	10	4	8.166667	10.98%	0.000388741	0.004427	0.133418	0.000479767	0.004495
Ball Corp.	22061647200	1	0.0089	25	13	10.5	16.16667	17.13%	0.000177351	0.001035	0.260013	0.000273366	0.001051
Bristol-Myers Squibb	91907966850	0.8	0.02907	9	1.5	7	5.833333	8.83%	0.00038067	0.003451	0.120378	0.000527245	0.003504
Broadridge Fin'l	14037256240	0.9	0.01764	11	12	8.5	10.5	12.36%	8.14059E-05	0.000593	0.12861	8.60339E-05	0.000602
BorgWarner	8676835860	1.4	0.01618	8	10.5	9.5	9.333333	11.03%	4.49042E-05	0.00057	0.096827	4.00378E-05	0.000579
Boston Properties	21345567100	0.9	0.02753	5	7	5.5	5.833333	8.67%	8.68225E-05	0.000902	0.078218	7.9566E-05	0.000916
Citigroup Inc.	1.6136E+11	1.35	0.0276	10	25.5	5	13.5	16.45%	0.001245484	0.010224	0.12898	0.000991813	0.010381
Conagra Brands	14351426460	0.9	0.02882	4.5	2	14.5	7	9.98%	6.72396E-05	0.000606	0.074468	5.09307E-05	0.000616
Cardinal Health	16206760080	1.15	0.03473	11	3	5.5	6.5	10.09%	7.67157E-05	0.000875	0.14664	0.000113256	0.000888
Caterpillar Inc.	78212160160	1.35	0.02911	12	6	11	9.666667	12.72%	0.000466853	0.004955	0.150857	0.000562277	0.005032
Chubb Ltd.	69117837020	0.85	0.01967	10	4	6.5	6.833333	8.87%	0.000287652	0.002757	0.120654	0.000397413	0.0028
Cboe Global Markets	13671378520	0.65	0.01168	14.5	9.5	19.5	14.5	15.75%	0.000101074	0.000417	0.157527	0.000102631	0.000423
CBS Corp. 'B'	13728594250	1.05	0.01846	9.5	6	13.5	9.666667	11.60%	7.47531E-05	0.000677	0.114337	7.48039E-05	0.000687
Crown Castle Int'l	56914481520	0.7	0.03506	12	8.5	12	10.83333	14.53%	0.000388097	0.00187	0.157164	0.000426272	0.001899
Carnival Corp.	23016491850	1.05	0.0458	10	9.5	9.5	9.666667	14.47%	0.000156287	0.001134	0.14809	0.000162434	0.001152
Celanese Corp.	15017385760	1.3	0.01996	8.5	13	10	10.5	12.60%	8.88109E-05	0.000916	0.105808	7.57227E-05	0.00093
Cerner Corp.	21254943990	0.95	0.01064	9	0	7	5.333333	6.43%	6.40996E-05	0.000948	0.101119	0.000102424	0.000962
CF Industries	9806183200	1.35	0.02661		4	7.5	5.75	8.49%	3.9062E-05	0.000621	0	0	0
Citizens Fin'l Group	16519322000	1.25	0.03789	12	18.5	5	11.83333	15.85%	0.000122857	0.000969	0.160163	0.000126086	0.000984
Church & Dwight	17099161360	0.65	0.01306	9	6	10.5	8.5	9.86%	7.91414E-05	0.000522	0.103648	8.44613E-05	0.00053
C.H. Robinson	10219490000	0.9	0.02647	9	7.5	13	9.833333	12.61%	6.04832E-05	0.000432	0.117661	5.73026E-05	0.000438
Cigna Corp.	74651391750	1	0.0002	14.5	4	18.5	12.33333	12.35%	0.000432852	0.003504	0.145215	0.000516606	0.003558
Cincinnati Financial	17632955820	0.85	0.02075	8.5	3	2.5	4.666667	6.79%	5.6192E-05	0.000703	0.106632	8.96033E-05	0.000714
Colgate-Palmolive	57601927240	0.75	0.02559	6	3.5		4.75	7.37%	0.000199235	0.002028	0.086358	0.000237055	0.002059
Clorox Co.	18371129140	0.7	0.02897	5	5	15	8.333333	11.35%	9.78692E-05	0.000604	0.079694	6.9771E-05	0.000613
Comerica Inc.	9988430660	1.3	0.03868	11	15.5	6	10.83333	14.91%	6.98995E-05	0.000609	0.150807	7.17847E-05	0.000619
CME Group	74051717040	0.65	0.01452	3	5.5	6.5	5	6.49%	0.000225497	0.002259	0.044738	0.000157878	0.002294
Cummins Inc.	27671706480	1.15	0.02903	8	5	8.5	7.166667	10.17%	0.000132126	0.001494	0.110191	0.00014531	0.001517
CMS Energy Corp.	17513051400	0.5	0.0248	7	7	7.5	7.166667	9.74%	8.00195E-05	0.000411	0.095668	7.98437E-05	0.000417

CenterPoint Energy	12279816900	0.8	0.04703	12.5	2.5	13.5	9.5	14.43%	8.31427E-05	0.000461	0.174969	0.000102392	0.000468
Capital One Fin'l	44946733710	1.25	0.01658	5.5	1.5	7.5	4.833333	6.53%	0.000137778	0.002637	0.072036	0.000154298	0.002677
Cabot Oil & Gas 'A'	6685890750	1.15	0.02441		25	9	17	19.65%	6.16542E-05	0.000361	0	0	0
Cooper Cos.	15093795780	0.9	0.0002	14.5	0	11	8.5	8.52%	6.03609E-05	0.000638	0.145215	0.000104453	0.000647
ConocoPhillips	65133887840	1.45	0.0283		6.5	3.5	5	7.90%	0.000241518	0.004433	0	0	0
Costco Wholesale	1.32148E+11	0.85	0.00865	9	9.5	9	9.166667	10.07%	0.000624626	0.005272	0.099039	0.000623704	0.005353
Coty Inc.	9056809400	1.1	0.04184	5	4.5	0.5	3.333333	7.59%	3.22495E-05	0.000468	0.092886	4.00901E-05	0.000475
Campbell Soup	14541308360	0.65	0.029	1	2	12.5	5.166667	8.14%	5.55631E-05	0.000444	0.039145	2.71264E-05	0.00045
Cisco Systems	1.91241E+11	1.15	0.03106	8	11.5		9.75	13.01%	0.001167473	0.010322	0.112302	0.001023487	0.010481
CSX Corp.	54419361720	1.25	0.0138	14.5	10	5	9.833333	11.28%	0.000288126	0.003193	0.159801	0.000414423	0.003242
Cintas Corp.	26854110000	1	0.00983	15.5	16	4.5	12	13.04%	0.000164372	0.00126	0.165592	0.000211915	0.00128
CenturyLink Inc.	16211705230	1.1	0.06725	1	-12.5	-2.5	-4.66667	1.90%	1.44671E-05	0.000837	0.077586	5.99412E-05	0.00085
Cognizant Technology	34775916660	1.15	0.0126	6	17.5	11.5	11.66667	13.00%	0.000212179	0.001877	0.072978	0.000120943	0.001906
Citrix Sys.	14704442400	1.1	0.0124	7		10	8.5	9.79%	6.75811E-05	0.000759	0.082834	5.80456E-05	0.000771
CVS Health	97468222880	0.95	0.0267	6.5	8	10	8.166667	10.95%	0.000500703	0.004346	0.092568	0.000429967	0.004413
Chevron Corp.	2.21875E+11	1.25	0.04057	16.5	3.5	3.5	7.833333	12.05%	0.001254706	0.013016	0.208917	0.002208991	0.013217
Concho Resources	14480118870	1.7	0.00694	19.5		11	15.25	16.00%	0.000108713	0.001155	0.202617	0.000139817	0.001173
Dominion Energy	68234409700	0.55	0.04427	6.5	5	7	6.166667	10.73%	0.000343625	0.001761	0.110709	0.000359996	0.001788
Delta Air Lines	36004182810	1.1	0.02892	9.5	19	13	13.83333	16.93%	0.000286	0.001859	0.125294	0.000214978	0.001887
Deere & Co.	54180197110	1.1	0.01767	13.5	7	16	12.16667	14.04%	0.000357041	0.002797	0.153863	0.00039727	0.00284
Discover Fin'l Svcs.	25973958480	1.15	0.02124	7.5	13.5	15	12	14.25%	0.000173729	0.001402	0.097037	0.000120112	0.001423
Dollar General	41375094600	0.8	0.00795	12	8	8.5	9.5	10.33%	0.000200646	0.001553	0.128427	0.000253225	0.001577
Quest Diagnostics	14127021360	0.95	0.02021	8.5	8.5	8.5	8.5	10.61%	7.03255E-05	0.00063	0.106069	7.14086E-05	0.00064
Horton D.R.	20105279670	1.05	0.01283	7.5	11	12.5	10.33333	11.68%	0.000110236	0.000991	0.088311	8.46131E-05	0.001006
Danaher Corp.	1.02685E+11	0.85	0.00476	14	12	7.5	11.16667	11.67%	0.000562375	0.004096	0.145093	0.000710016	0.004159
Disney (Walt)	2.64677E+11	0.9	0.01198	6.5	4.5	22.5	11.16667	12.43%	0.001544242	0.01118	0.077369	0.00097588	0.011352
Digital Realty Trust	25326084800	0.8	0.0356	7	7	5	6.333333	10.01%	0.000118934	0.000951	0.106846	0.000128955	0.000966
Dover Corp.	15771529620	1.3	0.01805	12.5	3.5	11	9	10.89%	8.05797E-05	0.000962	0.144178	0.000108364	0.000977
Duke Realty Corp.	12934823490	0.8	0.02671	4.5	4.5	4.5	4.5	7.23%	4.38974E-05	0.000486	0.072311	4.45735E-05	0.000493
Darden Restaurants	14068579500	0.8	0.03068	11	8	10	9.666667	12.88%	8.50629E-05	0.000528	0.142367	9.54493E-05	0.000536
DTE Energy	24138070500	0.55	0.03263	5.5	6	5.5	5.666667	9.02%	0.000102208	0.000623	0.088527	0.000101834	0.000633
Duke Energy	66025632790	0.5	0.04338	6	2.5	2.5	3.666667	8.08%	0.000250509	0.001549	0.104681	0.000329378	0.001573
Devon Energy	8430995000	1.9	0.0164	0	0	6.5	2.166667	3.82%	1.51328E-05	0.000752	0.0164	6.58923E-06	0.000763
DXC Technology	9187768220	1.3	0.0234	10	13.5	10	11.16667	13.64%	5.88049E-05	0.000561	0.12457	5.45425E-05	0.000569
eBay Inc.	28359481500	1.05	0.01606	10	0	1	3.666667	5.30%	7.05702E-05	0.001398	0.116863	0.000157938	0.001419
Ecolab Inc.	53676797680	1	0.00988	10	9.5	11.5	10.33333	11.37%	0.000286492	0.002519	0.110374	0.000282335	0.002558
Consol. Edison	29024463300	0.45	0.0339	3	3.5	3.5	3.333333	6.78%	9.23544E-05	0.000613	0.064409	8.9088E-05	0.000622
Equifax Inc.	16939511700	1	0.01115	8.5	8	11.5	9.333333	10.50%	8.34795E-05	0.000795	0.096624	7.80005E-05	0.000807
Edison Int'l	25431982920	0.55	0.03455		3.5	5.5	4.5	8.03%	9.58778E-05	0.000656	0	0	0
Lauder (Estee)	70260879780	0.85	0.00983	14	12	4	10	11.03%	0.000363788	0.002803	0.150518	0.000503981	0.002846
Eastman Chemical	10452705730	1.3	0.03226	8	5.5	4.5	6	9.32%	4.5735E-05	0.000638	0.11355	5.65626E-05	0.000648
Emerson Electric	44315953500	1.2	0.02749	11.5	4	8.5	8	10.86%	0.000225851	0.002496	0.144071	0.000304262	0.002534
EOG Resources	41921913840	1.45	0.01596	33	13	15	20.33333	22.09%	0.000434653	0.002853	0.348593	0.000696421	0.002897
Equinix Inc.	48503284040	0.85	0.0173	22	8.5	5.5	12	13.83%	0.00031491	0.001935	0.239203	0.000552904	0.001965
Equity Residential	32181537640	0.75	0.02619		4	3.5	3.75	6.42%	9.69367E-05	0.001133	0	0	0
Eversource Energy	26710282500	0.55	0.02594	5.5	5.5	4.5	5.166667	7.83%	9.81264E-05	0.000689	0.081653	0.000103936	0.0007
Essex Property Trust	21060994220	0.7	0.02447	-0.5	5.5	2.5	2.5	4.98%	4.92008E-05	0.000692	0.019409	1.948E-05	0.000703
E*Trade Fin'l	10360507760	1.3	0.01221	17.5		8.5	13	14.30%	6.95349E-05	0.000632	0.188278	9.29594E-05	0.000642
Eaton Corp. plc	37131588000	1.2	0.03162	9	6.5	4	6.5	9.76%	0.000170169	0.002091	0.123043	0.000217727	0.002123
Entergy Corp.	23306880120	0.6	0.03178	0.5	4	4	2.833333	6.06%	6.62476E-05	0.000656	0.036859	4.09397E-05	0.000666
Exelon Corp.	44094864240	0.65	0.03197	9	5.5	5	6.5	9.80%	0.000202828	0.001345	0.123409	0.000259326	0.001366
Expeditors Int'l	12854319480	1	0.01325	9	8	7	8	9.38%	5.65762E-05	0.000603	0.103846	6.36139E-05	0.000613
Expedia Group	13664198660	1.1	0.01442	24	11.5	9.5	15	16.55%	0.000106135	0.000705	0.25615	0.000166798	0.000716
Extra Space Storage	13853791670	0.65	0.03365	4	5.5	7	5.5	8.96%	5.82414E-05	0.000423	0.074323	4.90686E-05	0.000429
Ford Motor	34613550810	1.2	0.06873	3	4	5	4	11.01%	0.000178865	0.001949	0.099761	0.000164558	0.001979
Diamondback Energy	12079904050	1.4	0.00996	16.5		11	13.75	14.81%	8.39893E-05	0.000794	0.175782	0.000101193	0.000806
Fastenal Co.	20222562020	1.1	0.02496	8.5	7	6.5	7.333333	9.92%	9.41585E-05	0.001044	0.111021	0.000106992	0.00106
Fortune Brands Home	8620404450	1.2	0.01421	11.5	6	9.5	9	10.48%	4.24198E-05	0.000485	0.130027	5.34162E-05	0.000493
Freep't-McMoRan Inc.	16003581420	2.15	0.01813	22.5		9	15.75	17.71%	0.000132986	0.001615	0.24517	0.00018698	0.00164
FedEx Corp.	39728765700	1.3	0.01707	7.5	10	10	9.166667	10.95%	0.000204206	0.002424	0.09271	0.000175527	0.002461
FirstEnergy Corp.	25324423440	0.65	0.03328	6.5	3.5	7	5.666667	9.09%	0.000108026	0.000773	0.099362	0.000119914	0.000784
Fidelity Nat'l Info.	84489062000	0.85	0.01018	7	5.5	5	5.833333	6.88%	0.000272853	0.00337	0.080536	0.000324268	0.003422
Fifth Third Bancorp	21119689920	1.2	0.03226	7	12.5	9	9.5	12.88%	0.000127659	0.001189	0.103389	0.000104058	0.001208
Foot Locker	4535242430	0.9	0.03587	10.5	7	13	10.16667	13.94%	2.96629E-05	0.000192	0.142753	3.08531E-05	0.000195
FLIR Systems	7144988780	0.95	0.01277	12	6.5	7.5	8.666667	10.00%	3.35299E-05	0.000319	0.133536	4.54687E-05	0.000323
Fluor Corp.	2444634560	1.7	0.02294	17	2.5	10	9.833333	12.24%	1.40435E-05	0.000195	0.19489	2.27047E-05	0.000198
Flowserve Corp.	6308760600	1.45	0.01576	13.5	3	9.5	8.666667	10.31%	3.05293E-05	0.000429	0.151824	4.56453E-05	0.000436
FMC Corp.	12583024200	1.35	0.01648	15	25	12	17.33333	19.12%	0.000112938	0.000797	0.167716	0.000100571	0.00081
First Republic Bank	18272273640	1.1	0.007	10.5	6	12	9.5	10.23%	8.77568E-05	0.000943	0.112368	9.78465E-05	0.000958
Federal Rlty. Inv. Tru	9890492080	0.75	0.03207	3	2	3	2.666667	5.92%	2.74632E-05	0.000348	0.062551	2.94825E-05	0.000354
Fortive Corp.	23539860400	1.15	0.00399	10	9.5	9	9.5	9.92%	0.000109572	0.001271	0.10419	0.00011688	0.00129
Gen'l Dynamics	53327774980	0.95	0.02213	6	6	3	5	7.27%	0.000181912	0.002378	0.082794	0.000210409	0.002414
Gen'l Electric	99475123110	1.15	0.00351	2.5	-9	1	-1.83333	-1.49%	-6.93548E-05	0.005369	0.028554	0.00013536	0.005452
Gilead Sciences	82082672480	0.95	0.03884	-1.5	6	6.5	3.666667	7.62%	0.000293621	0.00366	0.023549	9.2115E-05	0.003716
Gen'l Mills	32135628980	0.7	0.03686	4	3	12	6.333333	10.14%	0.000152873	0.001056	0.077597	0.000118835	0.001072
Corning Inc.	22011928200	1.2	0.02795	15	11.5	5.5	10.66667	13.61%	0.000140609	0.00124	0.180046	0.000188866	0.001259
Gen'l Motors	50407499520	1.25	0.04308	2	3	9	4.666667	9.08%	0.000214697	0.002957	0.063511	0.000152565	0.003003
Genuine Parts	15010219830	0.95	0.02952	8	5.5	7	6.833333	9.89%	6.96451E-05	0.000669	0.110701	7.91862E-05	0.00068
Global Payments	54251919480	1.15	0.00432	20	71	28	39.66667	40.18%	0.001023167	0.002928	0.204752	0.000529365	0.002973
Gap (The) Inc.	6117828640	1	0.05958	4.5	0.5	7	4	10.08%	2.89341E-05	0.000287	0.105921	3.08809E-05	0.000292
Garmin Ltd.	18416131250	0.95	0.02354	10.5	2.5	3	5.333333	7.75%	6.69854E-05	0.000821	0.129776	0.000113895	0.000834
Goldman Sachs	77159098170	1.25	0.02295	10	18.5	11.5	13.33333	15.78%	0.000571485	0.004527	0.124098	0.000456312	0.004596
Goodyear Tire	3665208640	1.4	0.04061	3	13	4.5	6.833333	11.03%	1.89789E-05	0.000241	0.071219	1.24396E-05	0.000245
Grainger (W.W.)	16825045100	1	0.01844	8.5	10	15	11.16667	13.11%	0.000103551	0.00079	0.104224	8.3567E-05	0.000802
Halliburton Co.	18021316120	1.5	0.03507	21.5	0	8.5	10	13.68%	0.000115724	0.001269	0.25384	0.000218001	0.001288
Hasbro Inc.	12986820030	0.9	0.02866	7.5	6	2	5.166667	8.11%	4.94108E-05	0.000549	0.104735	6.48195E-05	0.000557
Huntington Bancshs.	15140188300	1.2	0.04093	11.5	13	7	10.5	14.81%	0.00010522	0.000853	0.158283	0.000114203	0.000866
Hanesbrands Inc.	5447156820	1.1	0.03984	3	4	9	5.333333	9.42%	2.40913E-05	0.000281	0.070438	1.82846E-05	0.000286
HCA Healthcare	47403517280	0.95	0.01145	12	31.5		21.75	23.02%	0.000512131	0.002114	0.132137	0.000298502	0.002146
Home Depot	2.41919E+11	1.05	0.02463	9	14.5		11.75	14.36%	0.001630158	0.011922	0.115738	0.001334319	0.012105
Hess Corp.	20454913780	1.8	0.0149		0	1.5	0.75	2.25%	2.15577E-05	0.001728	0	0	0
HollyFrontier Corp.	8450380400	1.25	0.02674	18	3.5	12	11.16667	13.99%	5.54839E-05	0.000496	0.209147	8.42246E-05	0.000503
Hartford Fin'l Svcs.	22310059900	0.9	0.01939	13	5.5	6	8.166667	10.18%	0.000106642	0.000942	0.15065	0.000160171	0.000957
Huntington Ingalls	10399234000	1.1	0.0162	7	12	11.5	10.16667	11.87%	5.79283E-05	0.000537	0.086767	4.29999E-05	0.000545

Hilton Worldwide Hldgs	28007499380	1.15	0.00604		0		0	0.60%	7.93936E-06	0.001512	0	0	0
Harley-Davidson	5480451840	1.15	0.04223	8.5	2.5	12	7.666667	12.05%	3.0998E-05	0.000296	0.129025	3.36978E-05	0.0003
Honeywell Int'l	1.2663E+11	1.05	0.02031	8.5	9	8	8.5	10.62%	0.000630992	0.00624	0.106173	0.00064071	0.006336
Helmerich & Payne	4163280330	1.65	0.07398		0.5	4	2.25	9.73%	1.90142E-05	0.000322	0	0	0
Hewlett Packard Ent.	22351889120	1.5	0.02804	6.5	14.5	3	8	10.92%	0.000114514	0.001574	0.093951	0.000100076	0.001598
HP Inc.	29193705800	1.5	0.03578	8	7		7.5	11.21%	0.000153622	0.002055	0.117211	0.000163069	0.002087
Block (H&R)	4915632800	0.8	0.04247	7	6	22	11.66667	16.16%	3.72849E-05	0.000185	0.113956	2.6695E-05	0.000187
Hormel Foods	22880614500	0.65	0.0196	9	9	8	8.666667	10.71%	0.000115026	0.000698	0.110482	0.000120468	0.000709
Host Hotels & Resorts	12084449300	1.2	0.04748	-1.5	3	0.5	0.666667	5.43%	3.07993E-05	0.000681	0.032124	1.84998E-05	0.000691
Hershey Co.	31154299520	0.65	0.02073	6.5	6.5	23	12	14.20%	0.000207587	0.00095	0.086404	0.000128281	0.000965
Humana Inc.	44729530020	0.9	0.00651	11.5	11	13.5	12	12.69%	0.000266399	0.001889	0.121884	0.000259809	0.001918
Int'l Business Mach.	1.17967E+11	1.1	0.04865	1.5	3.5	19	8	13.06%	0.000723043	0.00609	0.064015	0.000359876	0.006184
Intercontinental Exch.	52611188000	0.8	0.01164	10.5	9.5	8.5	9.5	10.72%	0.000264678	0.001975	0.117251	0.000293973	0.002006
Int'l Flavors & Frag.	14564246400	0.95	0.02199	8.5	9	15.5	11	13.32%	9.10468E-05	0.000649	0.107925	7.49066E-05	0.000659
Intel Corp.	2.51865E+11	1.1	0.02176	10.5	5	7	7.5	9.76%	0.001153414	0.013003	0.127902	0.001535177	0.013203
Intuit Inc.	71125037520	1.1	0.00775	14.5	14	33	20.5	21.35%	0.000712828	0.003672	0.153312	0.000519649	0.003728
Int'l Paper	17739327840	1.3	0.04531	10.5	5.5	10.5	8.833333	13.56%	0.000112931	0.001082	0.152689	0.000129079	0.001099
Interpublic Group	8580509160	1.05	0.04248	11	9.5	8.5	9.666667	14.12%	5.68619E-05	0.000423	0.154816	6.33056E-05	0.000429
Ingersoll-Rand	31109274480	1.2	0.01633	12.5	10	13	11.83333	13.56%	0.000198024	0.001752	0.142351	0.000211038	0.001779
Iron Mountain	9782962010	0.9	0.07262	8.5	5	-7.5	2	9.33%	4.28589E-05	0.000413	0.160706	7.4923E-05	0.00042
Illinois Tool Works	55423250640	1.1	0.02482	9	12	2	7.666667	10.24%	0.000266457	0.002861	0.115937	0.000306214	0.002905
Invesco Ltd.	7802437860	1.4	0.07213	3.5	4.5	12.5	6.833333	14.29%	5.23385E-05	0.000513	0.108392	4.03033E-05	0.000521
Hunt (J.B.)	12298035420	1.05	0.00901	9.5	7	15.5	10.66667	11.62%	6.70434E-05	0.000606	0.104438	6.12077E-05	0.000615
Johnson Ctrls. Int'l p	33745933870	1.2	0.02452	4.5	3	4.5	4	6.50%	0.000102962	0.001901	0.070072	0.000112688	0.00193
Jacobs Engineering	12772041480	1.3	0.00721	14.5	15	10.5	13.33333	14.10%	8.45333E-05	0.000779	0.152733	9.29617E-05	0.000791
Jefferies Fin'l Group	6090380010	1.25	0.02462	20.5	19.5	6.5	15.5	18.15%	5.18875E-05	0.000357	0.232144	6.73772E-05	0.000363
Henry (Jack) & Assoc.	11567477950	0.85	0.01064	12	9.5	9	10.16667	11.28%	6.1264E-05	0.000461	0.131278	7.23675E-05	0.000469
Johnson & Johnson	3.57777E+11	0.8	0.02795	12	7	10	9.666667	12.60%	0.00211517	0.013433	0.149627	0.002551137	0.01364
Juniper Networks	8555110920	1.1	0.02973	6	11	-2.5	4.833333	7.88%	3.16319E-05	0.000442	0.090622	3.69463E-05	0.000448
JPMorgan Chase	4.06583E+11	1.15	0.02777	6	11.5	7.5	8.333333	11.23%	0.002142149	0.021944	0.088603	0.00171676	0.022282
Nordstrom Inc.	5270194300	1.05	0.04359	5	6	2.5	4.5	8.96%	2.21548E-05	0.00026	0.09468	2.37791E-05	0.000264
Kellogg	22300725720	0.6	0.03487	4	3.5	14	7.166667	10.78%	0.000112812	0.000628	0.075567	8.03092E-05	0.000638
KeyCorp	18792998640	1.25	0.03878	10.5	13	7	10.16667	14.24%	0.000125613	0.001103	0.145816	0.000130591	0.001119
Kraft Heinz Co.	37965895490	0.9	0.05146	0	-4.5	-1	-1.83333	3.27%	5.81858E-05	0.001604	0.05146	9.31055E-05	0.001628
Kimco Realty	9052675520	0.85	0.05224	5	5	5	5	10.35%	4.39931E-05	0.000361	0.103546	4.46706E-05	0.000367
KLA-Tencor	27404083980	1.15	0.01958	10	9.5	22	13.83333	15.93%	0.000204841	0.001479	0.120559	0.000157444	0.001502
Kimberly-Clark	46141687600	0.7	0.03061	7	3.5		5.25	8.39%	0.000181719	0.001516	0.101681	0.000223587	0.001539
Kinder Morgan Inc.	45435197900	1.35	0.04985	35.5	17.5	4	19	24.46%	0.000521552	0.002879	0.413698	0.000895753	0.002923
Coca-Cola	2.28021E+11	0.7	0.03006	6.5	5	2.5	4.666667	7.74%	0.000828604	0.007491	0.096037	0.001043577	0.007606
Kroger Co.	21315102390	0.8	0.02407	4	12	12	9.333333	11.85%	0.000118571	0.0008	0.064551	6.557E-05	0.000813
Kohl's Corp.	7513976940	1.05	0.05676	6.5	9.5	4	6.666667	12.53%	4.41937E-05	0.00037	0.123605	4.42605E-05	0.000376
Kansas City South'n	15066240000	1.1	0.01053	12	8	8	9.333333	10.44%	7.3789E-05	0.000778	0.131162	9.41725E-05	0.00079
Loews Corp.	14976053650	1	0.00497	13.5	0	5.5	6.333333	6.85%	4.81186E-05	0.000703	0.140305	0.000100135	0.000714
L Brands	4391868880	1.05	0.07552	-2.5	-11		-6.75	0.55%	1.12773E-06	0.000216	0.049576	1.03761E-05	0.00022
Leggett & Platt	6892049110	1.05	0.03055	9	7	5.5	7.166667	10.33%	3.34173E-05	0.00034	0.121925	4.00454E-05	0.000345
Lennar Corp.	16717292130	1.1	0.00268	8	11	13	10.66667	10.95%	8.5904E-05	0.000863	0.082787	6.5954E-05	0.000876
Lilly (Eli)	1.10041E+11	0.7	0.02251	11.5	7	6.5	8.333333	10.68%	0.000551471	0.003615	0.138804	0.000727894	0.003671
Lockheed Martin	1.10769E+11	0.8	0.02445	11.5	10.5		11	13.58%	0.000705954	0.004159	0.140856	0.000743543	0.004223
Lincoln Nat'l Corp.	11304867000	1.55	0.02807	9	11	8.5	9.5	12.44%	6.60042E-05	0.000822	0.119333	6.42893E-05	0.000835
Alliant Energy	12772305280	0.6	0.02672	6.5	5.5	7.5	6.5	9.26%	5.55009E-05	0.00036	0.092588	5.63557E-05	0.000365
Lowe's Cos.	90941076170	1.1	0.01867	11.5	10.5		11	12.97%	0.000553559	0.004695	0.134744	0.000583956	0.004767
Lam Research	39770506270	1.3	0.01678	8.5	12.5	10.5	10.5	12.27%	0.000228951	0.002426	0.102493	0.000194253	0.002464
Southwest Airlines	29908265080	1.15	0.01267	10.5	16.5	9	12	13.34%	0.000187292	0.001614	0.118335	0.000168662	0.001639
Lamb Weston Holdings	12194799870	0.75	0.00958	11	15.5		13.25	14.27%	8.16804E-05	0.000429	0.120107	6.97999E-05	0.000436
LyondellBasell Inds.	30750496530	1.4	0.04554	5.5	5	10	6.833333	11.54%	0.000166588	0.00202	0.101792	0.000149169	0.002052
Macy's Inc.	4639903300	1.05	0.10053	2.5	2.5	6	3.666667	13.90%	3.02777E-05	0.000229	0.126787	2.80346E-05	0.000232
MasterCard Inc.	2.84652E+11	1	0.00463	19	12.5	35	22.16667	22.68%	0.003030055	0.013359	0.19507	0.002646161	0.013565
Mid-America Apartment	15677231040	0.7	0.02794	1	3	8	4	6.85%	5.03996E-05	0.000515	0.03808	2.84495E-05	0.000523
Macerich Comp. (The)	3732221300	0.9	0.11355	3	4	1.5	2.833333	14.35%	2.51344E-05	0.000158	0.145253	2.58348E-05	0.00016
Marriott Int'l	43387809270	1.15	0.01447	17.5	10		13.75	15.30%	0.000311482	0.002342	0.190736	0.000394378	0.002378
Masco Corp.	13090700480	1.2	0.0118	9.5	9		9.25	10.48%	6.44152E-05	0.000737	0.107361	6.6976E-05	0.000749
McDonald's Corp.	1.46198E+11	0.75	0.02576	8.5	8.5		8.5	11.19%	0.000767486	0.005146	0.111855	0.000779306	0.005225
Microchip Technology	21782844700	1.25	0.01608	10.5	5.5	20	12	13.70%	0.000140104	0.001278	0.121924	0.000126566	0.001298
McKesson Corp.	27154331600	1.15	0.01088	10.5	8.5	8.5	9.166667	10.30%	0.000131323	0.001466	0.116451	0.000150694	0.001488
Moody's Corp.	42274208000	1.1	0.00893	11.5	11		11.25	12.19%	0.000241918	0.002182	0.124443	0.000250703	0.002216
Mondelez Int'l	75461175840	0.95	0.02175	8.5	10	5	7.833333	10.09%	0.000357471	0.003365	0.107674	0.000387211	0.003416
Medtronic plc	1.49985E+11	0.85	0.01932	8.5	6.5	3.5	6.166667	8.16%	0.000574274	0.005983	0.105141	0.000751506	0.006075
MetLife Inc.	45006741140	1.3	0.03596	7.5	5.5	2	5	8.69%	0.000183471	0.002746	0.112309	0.000240881	0.002788
MGM Resorts Int'l	16386790880	1.55	0.01634	25	0	12.5	12.5	14.24%	0.000109486	0.001192	0.268383	0.000209585	0.00121
McCormick & Co.	20753581500	0.7	0.01358	8	6.5	13.5	9.333333	10.75%	0.000104753	0.000682	0.094123	9.30897E-05	0.000692
Martin Marietta	16442763080	1.1	0.00836	8	6.5	8.5	7.666667	8.53%	6.58625E-05	0.000849	0.088694	6.94997E-05	0.000862
Marsh & McLennan	54080222880	0.9	0.01698	9	7.5	6.5	7.666667	9.43%	0.000239339	0.002284	0.107744	0.00027768	0.002319
3M Company	96476306270	1	0.03433	6	6.5	6	6.166667	9.71%	0.000439454	0.004528	0.09536	0.000438428	0.004598
Altria Group	90510753150	0.7	0.06935	8.5	9	5.5	7.666667	14.87%	0.000631557	0.002974	0.157297	0.000678474	0.003019
Mosaic Company	6866973190	1.5	0.01103	21		5	13	14.17%	4.56829E-05	0.000483	0.222188	7.27107E-05	0.000491
Marathon Petroleum	40128099600	1.5	0.0343	10.5	11.5	12.5	11.5	15.13%	0.000284893	0.002825	0.141101	0.00026983	0.002868
Merck & Co.	2.17096E+11	0.9	0.02861	9	6.5	2.5	6	8.95%	0.000911581	0.00917	0.119897	0.001240434	0.009311
Marathon Oil Corp.	9351170010	2	0.01711		12	2.5	7.25	9.02%	3.95997E-05	0.000878	0	0	0
Morgan Stanley	79473161800	1.4	0.02851	10	9.5	10.5	10	12.99%	0.000484644	0.005222	0.129936	0.000492108	0.005302
MSCI Inc.	21716333590	1	0.01061	18.5	16	31	21.83333	23.01%	0.00023452	0.001019	0.196591	0.000203452	0.001035
Microsoft Corp.	1.14142E+12	1.1	0.01363	14	11.5	12.5	12.66667	14.12%	0.007561917	0.058927	0.154584	0.008408585	0.059834
Motorola Solutions	28503456960	0.9	0.01539	13	13		13	14.64%	0.000195832	0.001204	0.14639	0.000198848	0.001223
M&T Bank Corp.	21505521200	1.05	0.027	9.5	10.5	7	9	11.82%	0.000119316	0.00106	0.123283	0.000126347	0.001076
Maxim Integrated	15010681230	1.15	0.03461	6	9.5	1.5	5.666667	9.23%	6.49943E-05	0.00081	0.095648	6.8421E-05	0.000823
Noble Energy	9604223840	1.7	0.0239	0	5.5	-0.5	1.666667	4.08%	1.83752E-05	0.000766	0.0239	1.09389E-05	0.000778
Nasdaq Inc.	17325815500	0.85	0.01779	8	5.5	10	7.833333	9.68%	7.87288E-05	0.000691	0.098502	8.13296E-05	0.000702
NextEra Energy	1.1497E+11	0.55	0.02126	10.5	10	7.5	9.333333	11.56%	0.00062368	0.002968	0.127376	0.000697885	0.003013
Newmont Mining	31539206330	0.7	0.01456	2.5	12.5	6	7	8.51%	0.000125921	0.001036	0.039742	5.97327E-05	0.001052
NiSource Inc.	9734556640	0.55	0.0307	12.5	9	7.5	9.666667	12.89%	5.88676E-05	0.000251	0.157619	7.312E-05	0.000255
NIKE Inc. 'B'	1.45256E+11	1	0.01053	17	12	5.5	11.5	12.61%	0.000859895	0.006817	0.181425	0.001255865	0.006922
Nielsen Hldgs. plc	7133990500	1	0.01197	45.5	-16.5	-1	9.333333	10.59%	3.54443E-05	0.000335	0.469693	0.000159683	0.00034
Northrop Grumman	59492149000	0.85	0.01496	9.5	8	6	7.833333	9.39%	0.000262122	0.002373	0.110671	0.000313764	0.00241
National Oilwell Varco	8241371520	1.35	0.00936	31	-10.5	1	7.166667	8.14%	3.14699E-05	0.000522	0.320811	0.000125997	0.00053
NRG Energy	9973186160	1.25	0.00303		4	5.5	4.75	5.06%	2.36851E-05	0.000585	0	0	0

Norfolk Southern	49510640360	1.2	0.0198	15	10.5	2	9.166667	11.24%	0.00026112	0.002788	0.171285	0.000404138	0.002831
NetApp Inc.	14022205440	1.3	0.03125	10	16.5	1	9.166667	12.43%	8.18338E-05	0.000856	0.132813	8.87498E-05	0.000869
Northern Trust Corp.	22523056600	1.25	0.02634	8.5	10.5	6	8.333333	11.08%	0.000117092	0.001321	0.112459	0.000120708	0.001342
Nucor Corp.	16403931500	1.35	0.02957	13	6.5	7.5	9	12.09%	9.30788E-05	0.001039	0.161492	0.000126244	0.001055
NVIDIA Corp.	1.29242E+11	1.35	0.00303	11.5	6.5	26.5	14.83333	15.16%	0.000919483	0.008189	0.118204	0.00072803	0.008315
Newell Brands	8167386000	1.15	0.04769	4	8.5	-1.5	3.666667	8.52%	3.26704E-05	0.000441	0.088644	3.45019E-05	0.000448
News Corp. 'B'	2623138200	1.2	0.01522	12	15	6.5	11.16667	12.77%	1.57257E-05	0.000148	0.136133	1.70176E-05	0.00015
News Corp. 'A'	4946330610	1.25	0.01571		16.5	3.5	10	11.65%	2.70437E-05	0.00029	0	0	0
Realty Income Corp.	25418422810	0.65	0.03493	4.5	5.5	2.5	4.166667	7.73%	9.22443E-05	0.000775	0.080716	9.77732E-05	0.000787
ONEOK Inc.	29242287150	1.5	0.0517	17	10	10	12.33333	17.82%	0.000244594	0.002059	0.226095	0.000315074	0.00209
Omnicom Group	16874230000	0.95	0.03355	6.5	7	10	7.833333	11.32%	8.96468E-05	0.000752	0.09964	8.01256E-05	0.000764
Oracle Corp.	1.84609E+11	1.05	0.01707	10	11	-4	5.666667	7.42%	0.000643057	0.009097	0.117924	0.001037444	0.009237
Occidental Petroleum	34374838160	1.25	0.08212	33	3	7	14.33333	23.13%	0.000373218	0.002017	0.42567	0.000697309	0.002048
Paychex Inc.	30693698000	1	0.02892	10.5	10	7.5	9.333333	12.36%	0.000178054	0.001441	0.135438	0.000198108	0.001463
People's United Fin'l	7238066880	1.05	0.0435	9	1.5	4	4.833333	9.29%	3.1553E-05	0.000357	0.135458	4.67237E-05	0.000362
PACCAR Inc.	27272164900	1.2	0.01623	7.5	6.5	11	8.333333	10.02%	0.000128302	0.001536	0.091839	0.000119359	0.00156
Public Serv. Enterpris	30955488460	0.65	0.03071	6	5	5	5.333333	8.49%	0.00012329	0.000944	0.091631	0.000135174	0.000959
PepsiCo Inc.	1.86492E+11	0.75	0.02856	6.5	5.5	9.5	7.166667	10.13%	0.000886195	0.006564	0.094488	0.000839748	0.006665
Pfizer Inc.	2.05039E+11	0.9	0.03887	10	5.5	2.5	6	10.00%	0.000962649	0.008661	0.140814	0.00137592	0.008794
Principal Fin'l Group	15072036160	1.35	0.04053	5.5	5.5	8	6.333333	10.51%	7.43776E-05	0.000955	0.096645	6.94163E-05	0.00097
Procter & Gamble	3.04968E+11	0.7	0.0244	9	4.5	8	7.166667	9.69%	0.001387511	0.010019	0.115498	0.001678576	0.010173
Progressive Corp.	41233953900	0.85	0.00567	15.5	-6.5	13	7.333333	7.92%	0.000153291	0.001645	0.161109	0.000316583	0.00167
Parker-Hannifin	25049390350	1.35	0.01805	9	10.5	13.5	11	12.90%	0.000151707	0.001587	0.108862	0.000129953	0.001612
PulteGroup Inc.	10742440000	1.05	0.0111	8	9.5	13	10.16667	11.33%	5.71381E-05	0.000529	0.091544	4.68646E-05	0.000538
Packaging Corp.	10613054960	1.15	0.02818	6	7.5	12.5	8.666667	11.61%	5.78131E-05	0.000573	0.089025	4.50263E-05	0.000582
PerkinElmer Inc.	10056862520	1.15	0.00309	11	2.5	7.5	7	7.32%	3.45491E-05	0.000543	0.11326	5.42814E-05	0.000551
Prologis	57836163200	1	0.02316	6.5	8	5	6.5	8.89%	0.000241345	0.002714	0.088913	0.000245062	0.002756
Philip Morris Int'l	1.29884E+11	0.85	0.05606	6	4.5		5.25	11.00%	0.000670732	0.005181	0.117742	0.000728785	0.005261
PNC Financial Serv.	66505442600	1.1	0.03031	8	11.5	6	8.5	11.66%	0.000363935	0.003433	0.111522	0.000353453	0.003486
Pentair plc	7258255740	1.25	0.01667	6	-3.5	-1.5	0.333333	2.00%	6.82357E-06	0.000426	0.07717	2.66927E-05	0.000432
Pinnacle West Capital	9811232080	0.5	0.03586	5	6	3.5	4.833333	8.51%	3.91672E-05	0.00023	0.086757	4.05637E-05	0.000234
PPG Inds.	29912569500	1.1	0.01613	6	6	3.5	5.166667	6.82%	9.57629E-05	0.001544	0.076614	0.000109213	0.001568
PPL Corp.	24424054740	0.7	0.04885	1.5	2	5.5	3	7.96%	9.12244E-05	0.000802	0.064216	7.47438E-05	0.000815
Perrigo Co. plc	6627195900	1.25	0.01725	2	10	5	5.666667	7.44%	2.31424E-05	0.000389	0.037423	1.18188E-05	0.000395
Prudential Fin'l	37434240000	1.35	0.04296	7	9	3.5	6.5	10.94%	0.000192126	0.002372	0.114464	0.000204196	0.002408
Public Storage	37292433200	0.65	0.03747	4.5	4	6.5	5	8.84%	0.000154732	0.001138	0.083313	0.000148063	0.001155
Phillips 66	51572189480	1.25	0.03102	10	11	5	8.666667	11.90%	0.000288104	0.003026	0.132571	0.000325819	0.003072
PVH Corp.	7252024640	1.3	0.00153	9	0	8	5.666667	5.82%	1.98223E-05	0.000442	0.091599	3.16564E-05	0.000449
Quanta Services	6014865800	1.4	0.00379	15.5	0	8	7.833333	8.23%	2.32248E-05	0.000395	0.159084	4.55999E-05	0.000401
Pioneer Natural Res.	21611964090	1.45	0.01349			8	8	9.40%	9.53747E-05	0.001471	0	0	0
Qualcomm Inc.	97764768900	1.1	0.02897	10.5	8	13	10.5	13.55%	0.00062168	0.005047	0.135491	0.000631254	0.005125
Royal Caribbean	24526827000	1.15	0.02667	12.5	11	8	10.5	13.31%	0.000153178	0.001324	0.153337	0.000179226	0.001344
Everest Re Group Ltd.	10917749220	0.75	0.02092	18.5	6.5	6.5	10.5	12.70%	6.50839E-05	0.000384	0.207855	0.000108145	0.00039
Regency Centers Corp.	10792797240	0.8	0.03633	16	6	4	8.666667	12.46%	6.30994E-05	0.000405	0.199236	0.000102474	0.000411
Regions Financial	15829725990	1.35	0.03778	10.5	13.5	7	10.33333	14.31%	0.000106287	0.001003	0.144763	0.000109205	0.001018
Robert Half Int'l	6782386740	1.2	0.02123	9	7	17	11	13.24%	4.21441E-05	0.000382	0.112185	3.62602E-05	0.000388
Raymond James Fin'l	12352861710	1.25	0.01529	10	13.5	11	11.5	13.12%	7.60455E-05	0.000725	0.116055	6.8319E-05	0.000736
Ralph Lauren	7977196560	1.25	0.02572	8	5.5	0.5	4.666667	7.30%	2.73256E-05	0.000468	0.106749	4.05812E-05	0.000475
ResMed Inc.	21516137040	0.85	0.01043	18	6	16	13.33333	14.45%	0.000145875	0.000858	0.191369	0.000196222	0.000872
Rockwell Automation	22671476870	1.25	0.02079	9.5	6	6.5	7.333333	9.49%	0.000100961	0.00133	0.116778	0.000126169	0.001351
Rollins Inc.	11977828360	0.9	0.01148	13	11	9.5	11.16667	12.38%	6.95873E-05	0.000506	0.142226	8.11838E-05	0.000514
Roper Tech.	36740798640	1.05	0.00581	11.5	10	12.5	11.33333	11.95%	0.000206011	0.001811	0.121144	0.000212111	0.001838
Ross Stores	39949461200	1	0.00924	9.5	12.5	11.5	11.16667	12.14%	0.000227659	0.001875	0.104679	0.000199288	0.001904
Republic Services	27992207950	0.75	0.01847	11.5	10	6	9.166667	11.10%	0.000145804	0.000985	0.134532	0.000179463	0.001
Raytheon Co.	60449436530	0.85	0.01737	10	6	3	6.333333	8.13%	0.00023052	0.002411	0.118239	0.000340614	0.002449
SBA Communications	27108690750	0.9	0.00615	27			27	27.70%	0.000352397	0.001145	0.27698	0.000357824	0.001163
Starbucks Corp.	98731600000	0.9	0.01962	13	13.5		13.25	15.34%	0.000710906	0.00417	0.150895	0.000709976	0.004235
Schwab (Charles)	57382388000	1.3	0.0152	12	18	10	13.33333	14.95%	0.000402745	0.003501	0.136112	0.000372209	0.003555
Sealed Air	5788169360	0.95	0.01708	22.5	4		13.25	15.07%	4.09413E-05	0.000258	0.244002	6.73047E-05	0.000262
Sherwin-Williams	53171830180	1.05	0.00785	10.5	10.5	14	11.66667	12.50%	0.000311873	0.00262	0.113262	0.000286998	0.002661
Smucker (J.M.)	12026361600	0.7	0.03338	5	4.5	5	4.833333	8.25%	4.65766E-05	0.000395	0.084215	4.82651E-05	0.000401
Schlumberger Ltd.	50031818460	1.35	0.05534	16.5	0		8.25	14.01%	0.000329025	0.00317	0.224906	0.000536239	0.003219
SL Green Realty	6683577300	1	0.04075	5.5	4.5	3.5	4.5	8.67%	2.71854E-05	0.000314	0.096871	3.08541E-05	0.000319
Snap-on Inc.	8703511740	1.1	0.02722	6	6.5	3.5	5.333333	8.13%	3.32008E-05	0.000449	0.088037	3.65149E-05	0.000456
Southern Co.	65839520520	0.5	0.0395	3.5	3	3.5	3.333333	7.35%	0.000227091	0.001545	0.075191	0.000235921	0.001569
Simon Property Group	45487191870	0.85	0.05667	4.5	6.5	3.5	4.833333	10.64%	0.000227088	0.001815	0.102945	0.000223155	0.001843
S&P Global	65523640000	1.05	0.0085	13	13	31	19	19.93%	0.000612909	0.003229	0.139053	0.000434199	0.003279
Sempra Energy	41681142560	0.7	0.02617	11	8	6.5	8.5	11.23%	0.000219647	0.001369	0.137609	0.000273338	0.00139
SunTrust Banks	31269296800	1.2	0.03181	10	12.5	5	9.166667	12.49%	0.000183348	0.001761	0.133401	0.000198787	0.001788
State Street Corp.	26548115230	1.3	0.02849	5	8.5	7.5	7	9.95%	0.000123958	0.00162	0.079202	0.000100204	0.001645
Seagate Technology	15660202710	1.35	0.04362	4	1	24	9.666667	14.24%	0.000104657	0.000992	0.084492	6.30561E-05	0.001007
Constellation Brands	31131178280	0.85	0.01614	8.5	10.5	8	9	10.69%	0.000156139	0.001242	0.101826	0.000151066	0.001261
Stanley Black & Decker	23359684040	1.2	0.01796	9	6	4	6.333333	8.19%	8.97478E-05	0.001316	0.108768	0.000121082	0.001336
Skyworks Solutions	16362815000	1.15	0.01833	6	11	15.5	10.83333	12.77%	9.80335E-05	0.000883	0.07888	6.15087E-05	0.000897
Synchrony Financial	23624816080	1.15	0.02407	9.5	17	10.5	12.33333	14.89%	0.000165083	0.001275	0.120213	0.000135342	0.001295
Stryker Corp.	76483178100	0.9	0.01018	13	9	15	12.33333	13.41%	0.000481506	0.003231	0.140842	0.000513345	0.00328
Sysco Corp.	40726319140	0.7	0.02255	10.5	7	-17.5	0	2.26%	4.31019E-05	0.001338	0.128734	0.00024985	0.001359
AT&T Inc.	2.716E+11	0.75	0.05487	5.5	4.5	5.5	5.166667	10.80%	0.001376079	0.00956	0.111379	0.001441599	0.009707
Molson Coors Brewing	10281485110	0.95	0.04352	5.5	9	4.5	6.333333	10.82%	5.22256E-05	0.000458	0.099717	4.8858E-05	0.000465
TE Connectivity	30714839250	1.15	0.02004	7.5	8	5.5	7	9.07%	0.000130806	0.001658	0.095792	0.000140213	0.001683
Target Corp.	64596753470	0.9	0.02088	8.5	5	9	7.5	9.67%	0.000293052	0.002729	0.106767	0.000328671	0.002771
Tiffany & Co.	14898140670	1.15	0.01881	10.5	7.5	6	8	9.96%	6.96148E-05	0.000804	0.124798	8.86033E-05	0.000816
TJX Companies	71713905560	0.9	0.01551	14	14	9	12.33333	13.98%	0.000470527	0.003029	0.156596	0.000535174	0.003076
Thermo Fisher Sci.	1.23237E+11	1.05	0.00247	10	11.5	6.5	9.333333	9.59%	0.000554775	0.006073	0.102594	0.00060252	0.006167
Tapestry Inc.	7210207680	1.15	0.05166	11	5.5	10.5	9	14.40%	4.87235E-05	0.000389	0.164501	5.65235E-05	0.000395
Price (T. Rowe) Group	28258559610	1.15	0.02514	10	9	10	9.666667	12.30%	0.000163157	0.001525	0.126397	0.000170215	0.001549
Travelers Cos.	34956243590	0.85	0.02422	9	2.5	7	6.166667	8.66%	0.00014213	0.001394	0.11531	0.000192089	0.001416
Tractor Supply	11466867960	1.05	0.01445	11.5	10.5	4	8.666667	10.17%	5.47549E-05	0.000565	0.130281	7.1193E-05	0.000574
Tyson Foods 'A'	33093970900	0.75	0.01854	7.5	14	11	10.83333	12.79%	0.000198618	0.001165	0.094235	0.000148619	0.001183
Texas Instruments	1.08649E+11	1.1	0.03097	6.5	10	12.5	9.666667	12.91%	0.000658474	0.005609	0.096977	0.000502116	0.005695
Textron Inc.	10497815370	1.35	0.00174	13	12	4	9.666667	9.85%	4.85254E-05	0.000665	0.131853	6.59631E-05	0.000675
UDR Inc.	14295125340	0.75	0.02809	5.5	5	13	7.833333	10.75%	7.21383E-05	0.000503	0.083862	5.71304E-05	0.000511
Universal Health `B'	12302742000	0.95	0.00569	11	23	11	15	15.61%	9.01417E-05	0.000549	0.116003	6.80116E-05	0.000557
UnitedHealth Group	2.6107E+11	1	0.01568	14	14	11	13	14.67%	0.001797457	0.012253	0.156778	0.001950529	0.012441

Unum Group	6099344760	1.3	0.03855	9	11.5	5	8.5	12.52%	3.58362E-05	0.000372	0.130285	3.78694E-05	0.000378
Union Pacific	1.20853E+11	1.15	0.02229	14.5	10	3	9.166667	11.50%	0.000652152	0.006523	0.168906	0.000972782	0.006623
United Parcel Serv.	1.0209E+11	1	0.03227	8.5	7.5	35.5	17.16667	20.67%	0.000990398	0.004791	0.118641	0.000577204	0.004865
U.S. Bancorp	92321485490	1.05	0.02842	6	9	8	7.666667	10.62%	0.000460049	0.00455	0.089273	0.000392765	0.00462
United Technologies	1.26598E+11	1.05	0.02005	9	6.5	12	9.166667	11.26%	0.000669235	0.006239	0.110952	0.000669385	0.006335
Visa Inc.	3.91904E+11	1	0.00661	15	15	10.5	13.5	14.21%	0.002612847	0.018393	0.157106	0.002934158	0.018676
V.F. Corp.	34146477000	1.15	0.02246	7	4	4.5	5.166667	7.47%	0.000119724	0.001843	0.093246	0.000151736	0.001871
Viacom Inc. 'B'	8244124330	1.15	0.03435	2	-2	14.5	4.833333	8.35%	3.23129E-05	0.000445	0.054694	2.14878E-05	0.000452
Valero Energy	39911365070	1.3	0.03704	11.5	8	5.5	8.333333	12.19%	0.000228367	0.002435	0.15417	0.00029323	0.002473
Vulcan Materials	18628966250	1.15	0.00881	14.5	10.5	3.5	9.5	10.42%	9.11275E-05	0.001005	0.154449	0.000137115	0.001021
Vornado R'lty Trust	12206766000	0.95	0.04128	-1.5	2	3	1.166667	5.32%	3.04708E-05	0.000544	0.02597	1.51074E-05	0.000553
Verisk Analytics	23652995800	0.85	0.00693	9.5	0	13.5	7.666667	8.39%	9.30952E-05	0.000944	0.102259	0.000115266	0.000958
Ventas Inc.	21790146560	0.65	0.05423	4	4.5	1	3.166667	8.68%	8.87218E-05	0.000665	0.095315	9.89764E-05	0.000675
Verizon Communic.	2.45996E+11	0.75	0.04136	4.5	2	5.5	4	8.22%	0.000948871	0.008659	0.087291	0.001023312	0.008792
Walgreens Boots	54748464940	0.95	0.02983	9.5	7.5	9.5	8.833333	11.95%	0.000307004	0.002441	0.126247	0.000329386	0.002479
Western Digital	14424142500	1.45	0.04124	1	3	4.5	2.833333	7.02%	4.7494E-05	0.000982	0.051446	3.53635E-05	0.000997
WEC Energy Group	27821455200	0.5	0.02676	6	6	3.5	5.166667	7.91%	0.000103307	0.000653	0.087563	0.000116094	0.000663
Welltower Inc.	34381155480	0.65	0.04102	10.5	5	0.5	5.333333	9.54%	0.000154013	0.001049	0.148174	0.000242774	0.001065
Wells Fargo	2.2644E+11	1.1	0.0381	5	6	5	5.333333	9.24%	0.000982497	0.01169	0.089053	0.000960972	0.01187
Whirlpool Corp.	9016112000	1.2	0.03365	6.5	2.5	17	8.666667	12.18%	5.15289E-05	0.000508	0.099744	4.28565E-05	0.000516
Waste Management	47756809370	0.75	0.01821	8.5	8	7.5	8	9.89%	0.000221756	0.001681	0.103984	0.000236654	0.001707
Williams Cos.	27125656620	1.9	0.06792	20	6	8.5	11.5	18.68%	0.000237843	0.002419	0.274712	0.000355116	0.002456
Walmart Inc.	3.3884E+11	0.75	0.0178	7.5	4	3.5	5	6.82%	0.001085274	0.011927	0.093468	0.001509269	0.012111
WestRock Co.	9990852300	1.45	0.04801	10	4	5.5	6.5	11.46%	5.37216E-05	0.00068	0.150411	7.16131E-05	0.00069
Western Union	11307334320	0.95	0.02966	6.5	13.5	39.5	19.83333	23.09%	0.000122553	0.000504	0.095624	5.15275E-05	0.000512
Weyerhaeuser Co.	21989140420	1.2	0.04609	17.5	6	0	7.833333	12.62%	0.000130269	0.001238	0.225123	0.000235906	0.001257
Wynn Resorts	12619580250	1.7	0.03403	27	9.5	46	27.5	31.37%	0.0001858	0.001007	0.308624	0.000185604	0.001022
Cimarex Energy	4681223800	1.5	0.0174	16	15	15.5	15.5	17.37%	3.81729E-05	0.00033	0.178792	3.98859E-05	0.000335
Xcel Energy Inc.	33080213770	0.5	0.02626	5.5	6	5	5.5	8.20%	0.000127281	0.000776	0.081982	0.000129241	0.000788
Xilinx Inc.	22886011670	1.15	0.01626	9.5	5.5	8	7.666667	9.35%	0.000100482	0.001235	0.112032	0.000122187	0.001254
Exxon Mobil Corp.	2.87842E+11	1.1	0.05115	14	4	3.5	7.166667	12.46%	0.001683912	0.01486	0.194731	0.002671162	0.015089
Dentsply Sirona	12595304820	0.9	0.00706	4.5	10	0.5	5	5.72%	3.38342E-05	0.000532	0.052219	3.13435E-05	0.00054
Xerox Corp.	8280000400	1.45	0.02611	9.5	0.5	13	7.666667	10.38%	4.03281E-05	0.000563	0.12235	4.82777E-05	0.000572
Xylem Inc.	13950720130	1.1	0.01239	14	8.5	11.5	11.33333	12.64%	8.27762E-05	0.00072	0.153257	0.00010189	0.000731
Yum! Brands	29677571440	0.65	0.01712	12	9		10.5	12.30%	0.000171346	0.000905	0.138147	0.000195381	0.000919
Zimmer Biomet Hldgs.	29324367880	0.95	0.00673	4.5	4	9	5.833333	6.53%	8.98147E-05	0.001307	0.051881	7.25024E-05	0.001328
Zions Bancorp.	8333132640	1.25	0.02782	9.5		6.5	8	10.89%	4.26031E-05	0.000489	0.124141	4.92989E-05	0.000496
Zoetis Inc.	56946308440	1	0.00549	13.5	13	25	17.16667	17.76%	0.000474735	0.002673	0.140861	0.000382267	0.002714
EPS TOTAL MCAP	2.0984E+13						8.726368	0.113343	0.119605734	1.005953		0.128280936	1.002816