# Faculty Working Papers

A MULTIOBJECTIVE MODEL FOR ELECTRIC UTILITY RATE REGULATION

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Summary

The interests of the three parties to the regulatory process--the utility investors, the consumers, and the regulators--are often in conflict. Investors are concerned with shareholder wealth maximization while consumers desire dependable service at low rates. If the desired end product of regulation is to establish rates that balance the interests of consumers and investors, then a planning model is needed which accurately reflects the multiobjective nature of the regulatory decision process. This paper develops such a multiobjective programming model for examining the efficient trade-offs available to utility regulators in setting rates of return.

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# A MULTIOBJECTIVE MODEL FOR ELECTRIC UTILITY RATE REGULATION

Much of the electric utility regulatory process revolves around the presentation and rebuttal of expert testimony regarding "just and reasonable" rates of return that provide "a balancing of the investor and consumer interests" [2, 603]. More often than not the discrepancy between the rate of return a utility requests and what the regulatory commission staff and consumer intervenors recommend is substantial. Such conflicting views are to be expected because the interests of investors and consumers are often in conflict. Investors are concerned with shareholders wealth maximization while consumers desire dependable service at low rates. Because of the "natural monopoly" status of electric utilities, it is the job of regulatory commissions to resolve this inherent conflict between investors and customers by setting "fair and reasonable" rates.

If the desired end product of regulation is to establish rates that balance the interests of consumers and investors, then a planning model is needed which accurately reflects the multiobjective nature of the regulatory decision process. The purpose of this paper is to develop such a multiobjective programming model for examining the efficient trade-offs available to utility regulators in setting rates of return. The planning model will focus upon the objectives of the three parties to the regulatory process: the utility investors, the consumers, and the regulators. The model will incorporate inflation, anticipated growth rates in user demand, the resulting need for capital expenditures and financing, as well as targets specifying an "appropriate" capital structure, and dividend policy. By simultaneously considering these factors in conjunction with the utility's need for revenues and customers' desire for low cost but dependable service, the programming model will identify the efficient, nondominated alternatives which "best satisfy" all parties to the regulatory process.

Following a brief overview of the rate regulatory process and the differences between traditional and multiobjective programming models, a multiple criteria utility rate regulation model is developed. An evaluation of the model's efficient solutions are explored next. This analysis describes an evaluation process that regulatory commissions might use in examining the trade-offs between investors and consumers. Concluding comments appear in the last section.

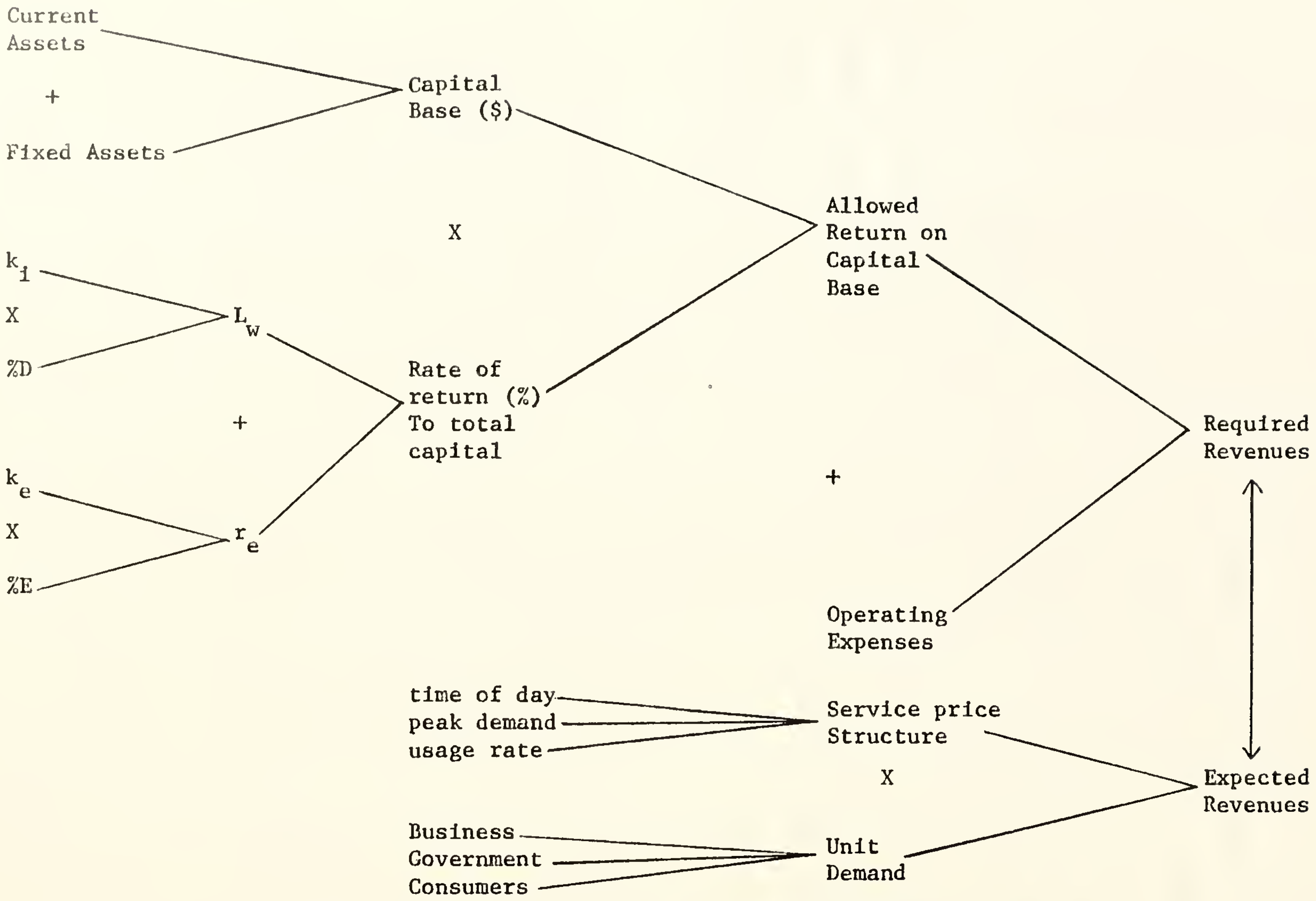
## AN ELECTRIC UTILITY RATE REGULATION MODEL

The rate making process acts as a substitute for competitive market mechanisms by determining how prices and services are to be provided at reasonable levels by profit oriented monopolies. Under a market system firms determine their operating and financial risk-return profiles via complex, interdependent decisions. These decisions are based upon the potential market(s) to be served, the alternative product generating function(s) available, and a variety of possible capital structures. Under regulation firms are constrained in the pursuit of risk-return objectives. Commissions regulate electric utilities by approving service price structures that are expected to generate sufficient revenues to allow recovery of operating costs, depreciation, interest and taxes, plus a fair return on equity investment. As such, rate regulation affects the calculation of required revenues, the prices customers pay, and the stream of cash flows to equity investors.

Exhibit 1 presents a simplified overview of a process designed to establish "just and reasonable" rates of return. To recommend a "rate of return," a commission must first accept an appropriate capital structure for an approved capital base. Then returns on debt and equity capital are established. Finally, a weighted average of these rates is applied to the capital (rate) base. This required return to capital suppliers plus an acceptable level of operating expenses (including depreciation and taxes) determine the required revenues that must be generated. The last step in the regulatory process is to approve a service price structure that will interact with expected demand and generate the needed revenues that allow recovery of operating costs, depreciation, interest and taxes, plus a fair return to equity.

Almost all of the variables shown in Exhibit 1 are subjects of controversy in regulatory proceedings. Perhaps the greatest source of controversy is the "just and reasonable" rate of return to equity holders. Expert witnesses in a rate case often recommend widely differing rates. Other areas of regulatory controversy include the appropriate proportions of debt and equity in the capital structure, the appropriate level of the capital base, the reasonableness of the level of operating expenses, and the service price structure. There is a tendency in current regulatory practice to isolate decision areas. For example, consider the return on rate base issue which is dependent upon a given capital structure. A utility's (current or anticipated) financing policies are taken as given or as independent of the costs of debt and

Exhibit 1: An Overview Of The Rate Regulation Process




$k_i$ = average interest rate on debt

$k_e$ = before tax cost of equity

D = debt

E = equity

$L_w$ = weighted cost of debt

$r_e$ = weighted cost of equity

equity, even though neither theoretical nor practical considerations support such an artificial separation.

Given the interdependencies among many of these areas of controversy, rate regulation requires simultaneous consideration of the decision options facing a utility. Although a static analysis may generate reasonable regulatory decisions, it is difficult to detect if a series of regulatory decisions derived through static or partial equilibrium analysis are suboptimal. Because regulation must reflect the dynamic interdependencies of all policy variables, a simultaneous equations planning model is essential in utility regulation. A successful model should collapse a multi-stage process into a single stage decision which provides simultaneous consideration of the inherent interdependencies encountered in rate regulation.

In a recent article [4] Alexander A. Robichek offered an alternative approach to the conventional regulatory process of determining "just and reasonable" rates which recognized the need for simultaneous consideration of decision options facing a utility. Robichek's proposal followed capital asset pricing model (CAPM) logic and required the following conditions exist:

1. The utility's operating expenses are judged to be reasonable;
2. The utility's expansion policy is appropriate to the needs of the consumers;
3. The utility's financial structure is appropriate;
4. The utility's specific financing choices (e.g., of debt or equity issues) are justified; and
5. The regulation of the utility's rate of return was judged "just and reasonable" as of a previous point of time. This point of time would then serve as the starting point from which to judge the fairness of realized rates.

If these conditions are met, Robichek's regulatory approach would provide a basis for resolving some of the current conflicts in rate making.

The application of this CAPM approach would require a significant change in the current regulation process. More specifically, the approach would require. . .

. . . the utility and the regulators to agree on the specific parameters and time period along which to measure the "just and reasonable" rate of return to equity investors;

. . . the regulators to approve the planned major items of operating expenses, such as salaries, labor contracts, etc., and major capital commitments; and

. . . an agreement as to the appropriate capital structure for the utility and the major financing decisions in the planning period.

Robichek argued his approach to rate-making would eliminate some of the current problems facing regulators while causing a few new ones. Some problems would remain, such as how to compensate efficiency and penalize inefficiency, how to set fair user rate schedules, and how to resolve differences of judgment between the utility and the commission staff. The programming model presented in this paper is a first step toward implementing the Robichek regulatory approach.

## A Multiple Objective Approach to Rate Regulation

The two phase multiple objective programming algorithm and computer codes utilized in this study were developed by Ralph E. Steuer [10, 11, 12]. Unlike traditional single objective function linear programming approaches to financial planning [1, 3], phase one of Steuer's multiobjective algorithm attempts to solve the following vector maximization problem:

$$\mathrm{eff}_x\{Cx = Z_c | X \in S,\ C \in R^k \times R^n\}.$$

In this problem, S is a feasible region $\{X \in R^n | Ax \lesseqgtr b,\ b \in R^m\}$, C is a criteria matrix that linearly relates a vector of decision variables, x, to a vector of criteria values, $Z_c$. A is a matrix of technological coefficients that relate the decision variables to a vector of constraint values, b, and eff denotes that <u>all</u> efficient extreme points of S with respect to C are to be found. A point, $\bar{x} \in S$, is defined as efficient if and only if no other feasible point, $\hat{x} \in S$, exists, such that $C\hat{x} \geq C\bar{x}$, $C\hat{x} \neq C\bar{x}$.

Although somewhat tedious, this maximization problem is relatively straightforward. It stipulates that the solution algorithm should generate all possible feasible solutions that simultaneously optimize the specified criteria. However, given the inherent trade-offs of public utility regulation, it is virtually impossible to find a single solution that will optimize all objectives simultaneously. Instead the output of the first phase of Steuer's algorithm provides a set of efficient solutions.

Phase two of the Steuer algorithm utilizes a filtering process on the phase one efficient extreme points' criteria values. Although several filtering options are available in Steuer's computer codes, this study employs the "nondominated" alternative. In this "nondominated mode" a pairwise comparison of all efficient solutions is made. All dominated or inferior points are eliminated until only nondominated solutions remain. Unfortunately an in-depth presentation of the Steuer algorithms is beyond the scope of this study; however, see [10, 11] for an enlightening review.

It is worth emphasizing an important aspect of multiobjective linear programming. These algorithms are capable of dealing only with <u>linear</u> constraints and objective functions. As such, typical multiplicative relationships such as earnings, price, and dividends per share cannot be incorporated into the model unless one is willing to specify a selling price(s) per share. Because these selling prices do not consider the simultaneous nature of a given solution, their use is suspect. However, given solution values for aggregate book and market value, it is possible to derive per share figures after all nondominated solutions have been determined. Accordingly, it is necessary to filter the nondominated solutions through a second filter, which can incorporate these critical non-linear relationships and determine financially feasible and viable alternatives from the set of efficient, nondominated solutions. A detailed description of this second filtering process is given in the discussion of the model's results.

## Formulation of the Model

As in all mathematical models, underlying assumptions are crucial. The majority of our assumptions and the variable definitions are given respectively in Exhibits 2 and 3. In this formulation, Robichek's five criteria mentioned earlier are assumed to hold.

Several aspects of Exhibit 2 are worth noting. The model will span a three year planning horizon. Initially, the utility has a capital base of $2.5 billion, with a debt/equity ratio of 1. During the planning periods, the firm is expected to operate in an environment in which equity investors in electric utilities have a required return of 15 percent, and electric utility stocks sell at a dividend valuation multiple of 10.667. A dividend valuation multiple of 10.667 is consistent with a dividend payout of .75 and the current Standard & Poor utility index price-earnings ratio of 8.

Exhibit 2

Operating and Financial Assumptions and Characteristics of the Model

Beginning Corporate Characteristics:

Debt = \$1,250  Equity = \$1,250  Tax Rate = 48%  Cost of Equity Capital = 15%  $\frac{\text{Stock Value}}{\text{Dividends}} = 10.667$

Projected Values, Flows, and Expenses During Planning Horizon

| Period | Capital $Base_{t-1}$ | + | Net $Investment_t$ | = | Capital $Base_t$ | After-Tax $Investment_t$ | - | $Depreciation_t$ | = | Net $Investment_t$ | Maintenance $Adjustment_t$ | Output/ Capital $Base_t$ | Power $Demand_t$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2,500 | + | 150 | = | 2,650 | 500 | - | 350 | = | 150 | 0.0 | 10.5 | 26,750 |
| 2 | 2,650 | + | 250 | = | 2,900 | 600 | - | 400 | = | 250 | .015 | 10.5 | 28,075 |
| 3 | 2,900 | + | 350 | = | 3,250 | 800 | - | 450 | = | 250 | .016 | 10.5 | 30,450 |

Old Debt @ 7.5%: \$ Values

| Period t | Book $Value_{t-1}$ | - | Sinking $Fund_t$ | = | Book $Value_t$ | Interest Expense Pre-Tax | Interest Expense After-Tax | Total After-Tax Costs | Total Pre-Tax Costs |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1,250 | | 25 | | 1,225 | 93.75 | 48.75 | 73.75 | 141.827 |
| 2 | 1,225 | | 25 | | 1,200 | 91.875 | 47.775 | 72.775 | 139.952 |
| 3 | 1,200 | | 25 | | 1,175 | 90.0 | 46.8 | 71.8 | 138.077 |
| | | | 75.0 | | | 275.625 | | | 419.856 |

New Debt @ 12%: Coefficient Values per \$ of Debt Issued in Period t

| Period After Issuance | Pretax Rate | After-Tax Rate | Sinking Fund After-Tax | Sinking Fund Pre-Tax | Total After-Tax Costs | Total Pre-Tax Costs | Sum Pre-tax Costs | #yrs |
|---|---|---|---|---|---|---|---|---|
| 0 | .12 | .0624 | .02 | .03846 | .0824 | .15846 | .15846 | 1 |
| 1 | (1-.02).12 = .1176 | .06115 | .02 | .03846 | .08115 | .15606 | .31452 | 2 |
| 2 | (1-.04).12 = .1152 | .0599 | .02 | .03846 | .0799 | .15336 | .46818 | 3 |

Exhibit 3

Variable Definitions of the Model

| Variable | Definition | Algebraic Formulation | Equation |
|---|---|---|---|
| $\$AR_t$: | After-tax \$ return on beginning rate base in period t | $= CB_{t-1} \times RRB_t \quad \forall_t$ | (1) |
| $BVD_3$: | Ending book value of all debt outstanding in period 3 | $= 1,175 + .94\Delta D_1 + .96\Delta D_2 + .98\Delta D_3$ | (2) |
| $BVE_3$: | Ending book value of "old" and "new" equity outstanding in period 3 | $= NW_3 + \Delta E_1 + \Delta E_2 + \Delta E_3$ | (3) |
| $CB_t$: | Rate Base or Capital Base at end of period t: | $CB_0 = 2,500$ | (4.1) |
| | | $CB_1 = 2,650$ | (4.2) |
| | | $CB_3 = 2,900$ | (4.3) |
| | | $CB_4 = 3,250$ | (4.4) |
| $CF_t$: | Internal Cash Flow before Investment and dividends occuring in period t: | $CF_t = \$AR_t + \text{Depreciation}_t - \text{After-tax Debt Charges} - \text{Maintenance Adjustment}$ | |
| | | $CF_1 = \$AR_1 + 350 - 73.75 - .0824\Delta D_1$ | (5.1) |
| | | $CF_2 = \$AR_2 + 400 - 72.775 - .08115\Delta D_1 - .0824\Delta D_2 - .015UD_1$ | (5.2) |
| | | $CF_3 = \$AR_3 + 450 - 71.8 - .0799\Delta D_1 - .08115\Delta D_2 - .0824\Delta D_3 - .016UD_2$ | (5.3) |
| $\Delta D_t$: | Sale of debt in period t: | $\Delta D_t \quad \forall_t$ | |
| $DIV_t$: | Total dividends paid in period t: | $DIV_t \quad \forall_t$ | |
| $EBIT_t$: | Earnings before interest and taxes in period t | $= NI_{t/(1-\tau)}$ + total pretax interest expenses in period t | |
| | | $EBIT_1 = NI_{1/.52} + 93.75 + .12\Delta D_1$ | (6.1) |
| | | $EBIT_2 = NI_{2/.52} + .91.875 + .1176\Delta D_1 + .12\Delta D_2$ | (6.2) |
| | | $EBIT_3 = NI_{3/.52} + 90.0 + .1152\Delta D_1 + .1176\Delta D_2 + .12\Delta D_3$ | (6.3) |
| $\Delta E_t$: | Net \$ of equity sold in period t or "new equity": | $\Delta E_t \quad \forall_t$ | |
| $MVE_3$: | Market value of equity at the end of period 3 | $= 10.667DIV_3$ | (7) |
| $NI_t$: | Total net income earned in period t | $= CF_t + \text{Sinking Fund Payments}_t - \text{Depreciation}_t$ | |
| | | $NI_1 = CF_1 + .02\Delta D_1 + 25 - 350$ | (8.1) |
| | | $NI_2 = CF_2 + .02[\Delta D_1 + \Delta D_2] + 25 - 400$ | (8.2) |
| | | $NI_3 = CF_3 + .02[\Delta D_1 + \Delta D_2 + \Delta D_3] + 25 - 450$ | (8.3) |
| $NW_t$: | Net worth of value of "old equity at the end of period t | $= NW_{t-1} + NI_t - DIV_t$ | |
| | | $NW_1 = 1,250 + NI_1 - DIV_1$ | (9.1) |
| | | $NW_2 = NW_1 + NI_2 - DIV_2$ | (9.2) |
| | | $NW_3 = NW_2 + NI_3 - DIV_3$ | (9.3) |

Exhibit 3
(CONTINUED)
Variable Definitions of the Model

| Variable | Definition | Algebraic Formulation | Equation |
|---|---|---|---|
| PVBE: | Present value at period 0 of initial and new equity outstanding at the end of period 3 | $= 1{,}250 + \Delta E_1 + \Delta E_{2/(1.15)} + \Delta E_{3/(1.15)^2}$ | (10) |
| $RRB_t$: | Return on rate base or capital base in period t: | $RRB_t \quad Y_t$ | |
| $ROP: | Value in $ of regulatory overpricing at the end of period 3 | $= \$ROP - \$RUP = MVE_3 - BVE_3$ | (11) |
| $RUP: | Value in $ of regulatory underpricing at the end of period 3: | | |
| TDIV: | Total dividends paid during the planning periods | $= DIV_1 + DIV_2 + DIV_3$ | (12) |
| TEBIT: | Total earnings before interest and taxes during the planning periods | $= EBIT_1 + EBIT_2 + EBIT_3$ | (13) |
| TFC: | Total debt related fixed charges incurred during the planning periods | $= .46818\Delta D_1 + .31452\Delta D_2 + .15846\Delta D_3 + 419.856$ | (14) |
| TNI: | Total net income earned during the planning periods | $= NI_1 + NI_2 + NI_3$ | (15) |
| $\tau$: | Corporate tax rate | $= .48$ | |
| $UD_t$: | Unfulfilled consumer demand occuring in period t: | $UD_t$ = anticipated $demand_t$ - generating $capacity_t$ | |
| | | $UD_1 = 26{,}750 - 10.5CB_0$ | (16.1) |
| | | $UD_2 = 28{,}075 - 10.5CB_1$ | (16.2) |
| | | $UD_3 = 30{,}450 - 10.5CB_2$ | (16.3) |

Significant growth in power demand is anticipated during the planning horizon. To accomodate this growth, major additions to the capital base are needed. Although somewhat artificial, all investments are assumed to occur at the beginning of each planning period; however as seen in equation (1) in Exhibit 3, the after-tax allowed dollar return in a given period is calculated on the basis of the previous period's ending capital base.

Equations (2) and (3) define the ending book values of debt and equity in period three. Equations (4.1) through (5.3) provide the values for end of period capital base and internal cash flow, respectively, for each period. Similarly, (6.1) through (8.3) define respective period values for earnings before interest and taxes calculated at a 48 percent rate, ending equity market value, and total dollar net income. Equations (9.1) through (9.3) define end of period net worth. In order to facilitate analysis of phase two filtering results, it was necessary to distinguish betwen "internal" and "external" equity funds for valuation purposes.

In equation (10) the period 0 present value of equity book value is defined. Equation (11) introduces two regulatory variables that proxy the efficiency of regulation via the discrepancy between book and market values. Equations (12) through (15) define total cumulative dividends, earnings before interest and taxes, debt related fixed charges, and net income, respectively, during the three year planning horizon. Equations (16.1) through (16.3) define per period unfulfilled consumer demand. From a technical viewpoint, this unfulfilled demand will be met by foregoing normal maintenance (downtime) procedures. However, the additional operating expenses associated with poor maintenance will cause "unfulfilled" demand to drain cash flows in subsequent periods (see equations (5.2) and (5.3)). Four final variables require definition: $\Delta D_t$, $DIV_t$, $\Delta E_t$, and $RRB_t$. Respectively these are defined in period t to be sale of debt in dollars, total dollar dividends paid, net dollar value (after floatation costs) of equity sold, and return on beginning rate base.

## Objective Function Formulation

For operational purposes, the utility regulation model has five goals that are attributable to three constituencies. These constituencies, goal descriptions, and algebraic formulations are given in Exhibit 4. Equation (17) specifies a consumer oriented goal that attempts to minimize total allowed dollar returns during each of the planning periods.

Shareholder or corporate goals are specified in equations (18) through (20). The first corporate goal states that the algorithm should maximize the discounted present value of all future cash flows that accrue to shareholders as dividends. The last term in this equation represents an ending market value of aggregate equity determined by the 10.667 dividend multiple given earlier in Exhibit 2. The second shareholder goal is given in equation (10). This goal attempts to minimize possible dilution of existing equity by minimizing the sale of common stock. The final corporate goal is seen in (20); this criterion maximizes future internal corporate cash flow during the planning horizon.

Equation (21) specifies the remaining goal or criterion of the model. It attempts to supress regulatory excess or perniciousness by equating aggregate equity book and market values.

Exhibit 4

Objective Function Formulations of the Model

| Constituency | Criterion | Algebraic Formulation | |
|---|---|---|---|
| Consumers: | Minimize total allowed return in dollars | Min: $Z_1 = \$AR_1 + \$AR_2 + \$AR_3$ | (17) |
| Shareholders: | Maximize Present Value of Total Corporate Dividends | Max: $Z_2 = \frac{DIV_1}{(1.15)} + \frac{DIV_2}{(1.15)^2} + \frac{DIV_3 + 10.667DIV_3}{(1.15)^3}$ | (18) |
| Shareholders: | Minimize possible dilution of existing equity by avoiding sale of common stock | Min: $Z_3 = \Delta E_1 + \Delta E_2 + \Delta E_3$ | (19) |
| Shareholders: | Maximize corporate cash flow | Max: $Z_4 = CF_1 + CF_2 + CF_3$ | (20) |
| Regulatory Agency: | Equate book value into market value of equity | Min: $Z_5 = \$ROP + \$RUP$ | (21) |

Given the conflicting nature of these five goals, it is apparent that the ability to compromise and incorporate trade-offs in the regulatory process is essential. In order to accommodate this flexibility requirement, the model has four sets of operational and financial constraints designed to specify reasonable ranges for corporate and regulatory policies. These constraint sets are given in Exhibit 5.

Equations (22) - (24.2) specify the five sets of regulatory constraints. In (22) upper and lower limits on the annual returns on beginning capital bases are given. In addition (23.1) and (23.2) provide maximum limits of 25 basis points on annual changes in returns on appropriate capital bases. The final two regulatory constraints place upper and lower limits on the ratio of equity market to book value. Equation (24.1) limits the aggregate period zero market value, less the aggregate present value of "new" stock, to be less than or equal to 110% of beginning equity book value. In similar fashion (24.2) states that these present values should be at least 90% of beginning equity book value.

The next two sets of the model's constraints are related to corporate dividend as well as financial leverage and coverage policies. Equation (25) limits the annual maximum dividend payout to be no greater than 75%, while (26) specifies a minimum dividend yield on all equity sources to be 10%. Maximum and minimum debt/equity ratios of 1.105 and .905 respectively are outlined in equations (27.1) through (28.3). Finally, minimum annual fixed coverage charges of 1.5 are given in (29.1) through (29.3).

The last two sets of constraints are given in (30.1) through (31.3). These require that each period's ending assets equal total liabilities and that all sources of cash equate to all uses in each planning period.

Exhibit 5

Constraints of Multiple Criterion Model

REGULATORY

| | | |
|---|---|---|
| Minimum and Maximum allowable returns on the rate base: | $.09 \leq RRB_t \leq .11 \quad \forall_t$ | (22) |
| Maximum year to year change in return on rate base | $RRB_t - RRB_{t-1} \leq .0025 \quad (t = 2,3)$ | (23.1) |
| | $RRB_t - RRB_{t+1} \leq .0025 \quad (t = 1,2)$ | (23.2) |
| Period market value - present value of "new" stock should not exceed 110% of period 0 equity book value | $\frac{DIV_1}{(1.15)} + \frac{DIV_2}{(1.15)^2} + \frac{DIV_3 + 10.667DIV_3}{(1.15)^3} - \Delta E_1 - \frac{\Delta E_2}{(1.15)} - \frac{\Delta E_3}{(1.15)^2} \leq 1,375$ | (24.1) |
| Period 0 market value - present value of "new stock" must be at least 90% of period 0 equity book value | $\frac{DIV_1}{(1.15)} + \frac{DIV_2}{(1.15)^2} + \frac{DIV_3 + 10.667DIV_3}{(1.15)^3} - \Delta E_1 - \frac{\Delta E_2}{(1.15)} - \frac{\Delta E_3}{(1.15)^2} \geq 1,125$ | (24.2) |

DIVIDEND POLICY

| | | |
|---|---|---|
| Maximum Dividend Payout of 75% | $DIV_t \leq .75NI_t \quad \forall_t$ | (25) |
| Minimum Dividend Yield of 10% | $DIV_t \geq .1NW_t + .1 \sum_{T=1}^{t} \Delta E_T \quad \forall_t$ | (26) |

FINANCIAL LEVERAGE COVERAGE

| | | |
|---|---|---|
| Maximum debt ceiling: do not allow debt/equity ratio to exceed 1.105 in any year | $t = 1 \quad 1.105[NW_1 + \Delta E_1] \geq 1,225 + .98\Delta D_1$ | (27.1) |
| | $t = 2 \quad 1.105[NW_2 + \Delta E_1 + \Delta E_2] \geq 1,200 + .96\Delta D_1 + .98\Delta D_2$ | (27.2) |
| | $t = 3 \quad 1.105[NW_3 + \Delta E_1 + \Delta E_2 + \Delta E_3] \geq 1,175 + .94\Delta D_1 + .96\Delta D_2 + .98\Delta D_3$ | (27.3) |
| Minimum debt limits: do not allow debt/equity ratio to fall below .905 in any year | $t = 1 \quad .905[NW_1 + \Delta E_1] \leq 1,225 + .98\Delta D_1$ | (28.1) |
| | $t = 2 \quad .905[NW_2 + \Delta E_1 + \Delta E_2] \leq 1,200 + .96\Delta D_1 + .96\Delta D_2$ | (28.2) |
| | $t = 3 \quad .905[NW_3 + \Delta E_1 + \Delta E_2 + \Delta E_3] \leq 1,175 + .94\Delta D_1 + .96\Delta D_2 + .98\Delta D_3$ | (28.3) |
| Fixed charge coverage should be at least 1.5 in each year | $t = 1 \quad .667EBIT_1 \geq .15846\Delta D_1 + 141.827$ | (29.1) |
| | $t = 2 \quad .667EBIT_2 \geq .15606\Delta D_1 + .15846\Delta D_2 + 139.952$ | (29.2) |
| | $t = 3 \quad .667EBIT_3 \geq .15366\Delta D_1 + .15606\Delta D_2 + .15846\Delta D_3 + 138.007$ | (29.3) |

SOURCES OF FUNDS EQUAL USES

| | | |
|---|---|---|
| Assets equal liabilities for each period | $t = 1 \quad CB_1 = NW_1 + \Delta E_1 + 1,225 + .98\Delta D_1$ | (30.1) |
| | $t = 2 \quad CB_2 = NW_2 + \Delta E_1 + \Delta E_2 + 1,200 + .96\Delta D_1 + .98\Delta D_2$ | (30.2) |
| | $t = 3 \quad CB_3 = NW_3 + \Delta E_1 + \Delta E_2 + \Delta E_3 + 1,175 + .94\Delta D_1 + .96\Delta D_2 + .98\Delta D_3$ | (30.3) |
| Sources of cash equal uses of cash for each period | $t = 1 \quad \Delta E_1 + \Delta D_1 - DIV_1 + CF_1 = 500$ | (31.1) |
| | $t = 2 \quad \Delta E_2 + \Delta D_2 - DIV_2 + CF_2 = 650$ | (31.2) |
| | $t = 3 \quad \Delta E_3 + \Delta D_3 - DIV_3 + CF_3 = 800$ | (31.3) |

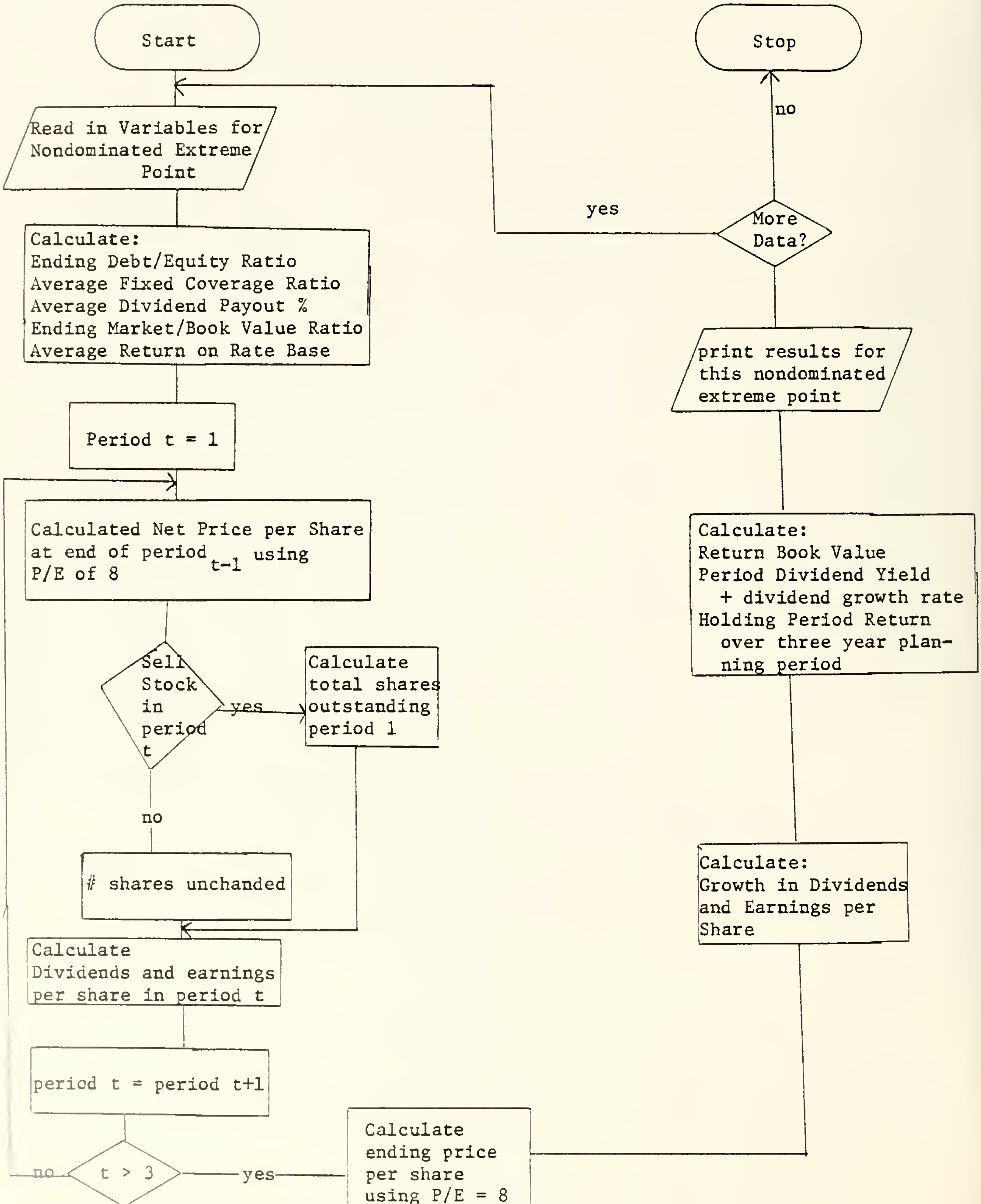
## THE RESULTS

The initial filtering phase generated 224 nondominated extreme points from over 352 efficient solutions. The linear requirements of the Steuer algorithm did not allow calculation of per share data [such as earnings per share (EPS), dividends per share (DPS), book value per share (BVPS)] or profitability and leverage ratios to aid in the evaluation of the relative attractiveness of the 224 nondominated extreme points. This was done outside the Steuer algorithm using assumptions consistent with the original model and financial theory. A flow chart of the second filtering phase is contained in Exhibit 6. Values generated by the Steuer algorithm permitted calculation of the ending debt/ equity ratio, return on book value, average fixed coverage ratio, average dividend payout percentage, ending market/book value ratio, and the average return on rate base. Share data were derived after first estimating the number of equity shares issued to raise the amount of common stock financing in each time period for each Steuer algorithm solution. A stock market price at time period zero ($P_0$) was estimated by multiplying time period zero BVPS ($BVPS_0$) by the ending (aggregate) market/book value ratio from the Steuer algorithm. This price determination procedure assumes investors will correctly anticipate the performance of the firm in the three year planning horizon. The selling price of a common share at the beginning of time period one ($SP_1$) is .95 $P_0$ to allow for market pressure and selling costs.

The number of common shares outstanding in time period one is calculated by adding the number of shares at the beginning of the period and the number issued at $SP_1$ to raise the amount of common

Exhibit 6

Flow Chart of the Second Filtering Phase



stock financing in period one. $EPS_1$ and $DPS_1$ can then be derived and provide the inputs for estimating $P_1$ and $SP_2$ as follows:

$$P_1 = 8.0\ EPS_1;\ \text{and}$$

$$SP_2 = (.95)(P_1) = (.95)(8.0\ EPS_1).$$

The 8.0 P/E valuation multiple is admittedly a somewhat arbitrary choice. However, a valuation procedure outside the Steuer algorithm is a necessity if share data are to be considered in evaluating the 224 nondominated extreme points.

$EPS_t$, $DPS_t$, $P_t$, and $SP_t$ values are estimated in similar fashion for periods two and three. These share data allow estimation of investor related variables such as the growth in EPS ($G_{eps}$) and DPS ($G_{dps}$), and the holding period return realized by investors over the three period planning horizon. Share data also permit estimation of equity investors' required rate of return ($k_e$) using the Gordon infinite horizon DCF model.

The 224 nondominated extreme points were based on linear constraints and objective functions. The introduction of the multiplicative relationships of EPS, DPS, and price per share had a dramatic impact on the financial viability of the nondominated solution points. In evaluating the 224 nondominated solutions, two realistic financial constraints were introduced to assure feasibility:

(1) $DPS_1 \leq DPS_2 \leq DPS_3$; and

(2) $[(1+g_{EPS}) - g_{DPS}]^{10} \left[\begin{matrix}\text{Average}\\ \text{Payout Ratio}\end{matrix}\right] \leq .75.$

The dividend constraint precludes any reduction in DPS over the planning period while the second constraint assures that any disparity between $G_{eps}$ and $G_{dps}$ will be sustainable over a decade without causing the dividend payout ratio to exceed the .75 limit contained in the original model. Only seven of the 224 nondominated extreme point solutions met these two financial feasibility constraints.

Financial data for these seven feasible solutions are organized in Exhibit 8 to reflect the particular interests of the various parties to the rate regulatory process. Similar data for all 224 nondominated efficient solutions are presented in Appendices 1 and 2. Spearman rank order correlation coefficients measuring the correspondence between the (low to high) rankings of each financial variable in Exhibit 7 plus a variable for the volume of common stock issued are shown in Exhibit 8. As might be anticipated with a simultaneous equation model, the systematic associations between the variable have the expected signs and are often significant even when tested with a nonparametric measure.

The data contain few surprises. Return on book value is systematically related to the allowed return on rate base and the debt/equity ratio. Coverage ratios track well with debt/equity ratios. EPS and DPS growth rates as well as the payout and coverage ratios are consistent with the utility industry.

However, only three of the nondominated extreme point solutions, numbers 57, 124, and 204, appear to provide plausible planning guides. Even for these three solutions, the relationships between some of the variables may not appear consistent with traditional rate base regulatory procedures. For example, the utility represented by extreme point 57 would

Exhibit 7

Selected Variables Associated With Nondominated Efficient Solutions

| NONDOMINATED | UTILITY | | | | | CONSUMERS | INVESTORS | | | REGULATORY COMMISSION |
|---|---|---|---|---|---|---|---|---|---|---|
| EXTREME POINT | Return on Book Value | Debt to Equity | Fixed Coverage | Payout Ratio | $k_e$ | Return on Rate Base | HPR | Growth in EPS | Growth in DPS | Market to Book |
| 57 | .1568 | 1.105 | 3.023 | .657 | .1429 | 10.876 | .102 | .0415 | .0535 | 1.067 |
| 124 | .1551 | 1.105 | 2.987 | .666 | .1416 | 10.762 | .098 | .0510 | .0520 | 1.067 |
| 204 | .1444 | 1.105 | 2.816 | .727 | .1363 | 10.083 | .085 | .0353 | .0385 | 1.067 |
| 286 | .1406 | 1.105 | 2.728 | .750 | .1221 | 9.899 | .047 | .0179 | .0179 | 1.067 |
| 338 | .1407 | 1.004 | 2.810 | .750 | .1223 | 9.659 | .048 | .0182 | .0182 | 1.067 |
| 339 | .1371 | 1.105 | 2.606 | .750 | .1216 | 9.796 | .046 | .0171 | .0171 | 1.067 |
| 352 | .1371 | 1.091 | 2.616 | .750 | .1216 | 9.805 | .046 | .0172 | .0172 | 1.067 |

Exhibit 8

Rank Correlations Between Selected Variables of Financially
Feasible Nondominated Efficient Solution

| | Return on Rate Base | Return on Book Value | Debt Equity Ratio | Fixed Coverage Ratio | Payout Ratio | HPR | Growth Rate EPS | Growth Rate DPS | Increase in Common Stock | $k_e$ |
|---|---|---|---|---|---|---|---|---|---|---|
| Return on Rate Base | 1.00 | | | | | | | | | |
| Return on Book Value | .95* | 1.00 | | | | | | | | |
| Debt/Equity Ratio | .52 | .27 | 1.00 | | | | | | | |
| Fixed Coverage Ratio | .95** | 1.00** | .27 | 1.00 | | | | | | |
| Payout Ratio | -.91* | -.91* | -.52 | -.91* | 1.00 | | | | | |
| HPR | .96** | .99** | .34 | .99** | .91* | 1.00 | | | | |
| EPS Growth Rate | .92* | .96** | .27 | .96** | -.87* | .95 | 1.00 | | | |
| DPS Growth Rate | .95** | 1.00 | .27 | 1.00** | -.91* | .99** | .96** | 1.00 | | |
| Increase in Common Stock | -.88* | -.75 | -.80* | -.75 | .91* | -.77 | -.71 | -.75 | 1.00 | |
| $ke_0 = D_1/P_0 + g_{dps}$ | .96** | .99** | 1.00** | .99** | -.91* | 1.00 | .95** | .99 | -.77 | 1.00 |

have to have a pre-tax debt cost that exceeded stockholders' required return ($k_e$) of 14.29 percent in order to have a weighted average cost of capital equal to the average 10.876 percent return on rate base. Of course an allowed return on rate base in excess of the firm's cost of capital would certainly explain a market/book ratio greater than unity.

A partial explanation of this apparent disparity revolves around the existence of a sinking fund in the model which increases the required return on the rate base by nearly 2.0 percent. In addition, traditional analyses focuses on end of period values while the return on rate base percentage is an average of beginning of period rates.

Solution points 57, 124, and 204 have stockholder required rates of return ($k_e = D_1/P_0 + G_{dps}$) that exceed projected holding period returns (HPR). This relationship is consistent with what has occurred with electric utility stocks in the past decade, but it is not descriptive of a well functioning rate regulatory process.

## CONCLUDING OBSERVATIONS

The interests of the three parties to the regulatory process--the utility investors, the consumers, and the regulators--are often in conflict. Investors are concerned with shareholder wealth maximization while consumers desire dependable service at low rates. If the desired end product of regulation is to establish rates that balance the interests of consumers and investors, then a planning model is needed which accurately reflects the multiobjective nature of the regulatory decision process. This paper develops such a multiobjective programming model for examining the efficient trade-offs available to utility regulators in setting rates of return.

Generally the initial runs of the model are promising and supportive of a simultaneous decision approach to rate regulation. There are several possible explanations for some of the abberations in the data. The dynamics of the evaluation procedures need further study. Ultimately a nonlinear programming model may be required in order for multiplicative share data manipulations and valuation to become an integral part of the primary model. Another area for study is the impact rapid growth in the capital budget may have upon economic rates of return and reported accounting returns. Study of this phenomena which has been explored elsewhere [5, 9] may provide a partial explanation of some of the low HPR-high return on book value combinations in Exhibit 8. This phenomena may also give insight into the impact of inflation on utility regulation and operation.

M/E/225

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# APPENDIX 1

| NONDOMINATED EXTREME POINT NUMBER | UTILITY | | | | INVESTORS | | | REGULATORY COMMISSION | CONSUMERS |
|---|---|---|---|---|---|---|---|---|---|
| | DEBT TO EQUITY | FIXED COVERAGE | PAYOUT RATIO | RETURN ON BV | HPR | GROWTH OF EPS | GROWTH OF DPS | MARKET TO BOOK VALUE | RETURN ON RATE BASE |
| 2 | 1.0309 | 3.1649 | .6570 | .1582 | .114 | .0132 | .0546 | 1.0666700 | 11.0000 |
| 5 | 1.1050 | 3.0561 | .6471 | .1584 | .104 | .0230 | .0542 | 1.0666700 | 11.0000 |
| 6 | 1.1050 | 3.0531 | .6492 | .1581 | .104 | .0187 | .0535 | 1.0666700 | 10.9772 |
| 7 | 1.1050 | 3.0595 | .6501 | .1585 | .127 | .0227 | .0598 | 1.0793669 | 11.0000 |
| 8 | .9050 | 3.2702 | .6659 | .1559 | .131 | -.0040 | .0555 | 1.0666700 | 11.0000 |
| 10 | 1.0309 | 3.1649 | .6992 | .1603 | -.069 | .0132 | -.0406 | 1.0666700 | 11.0000 |
| 13 | 1.0399 | 3.1320 | .6635 | .1567 | .116 | -.0033 | .0523 | 1.0666700 | 10.9099 |
| 14 | 1.0342 | 3.1624 | .6607 | .1582 | .147 | .0129 | .0624 | 1.0843923 | 11.0000 |
| 16 | 1.1050 | 3.0561 | .6898 | .1606 | -.078 | .0230 | -.0413 | 1.0666700 | 11.0000 |
| 17 | 1.1050 | 3.0531 | .6919 | .1602 | -.076 | .0187 | -.0415 | 1.0666700 | 10.9772 |
| 18 | 1.1050 | 3.0595 | .6927 | .1607 | -.068 | .0227 | -.0359 | 1.0793669 | 11.0000 |
| 19 | 1.1050 | 2.9659 | .6381 | .1567 | .119 | .0153 | .0586 | 1.0666700 | 11.0000 |
| 22 | 1.1050 | 3.0341 | .6544 | .1568 | .106 | .0051 | .0518 | 1.0666700 | 10.9099 |
| 23 | 1.1050 | 3.0312 | .6552 | .1571 | .105 | .0332 | .0535 | 1.0666700 | 10.8995 |
| 26 | 1.1050 | 3.0376 | .6561 | .1575 | .127 | .0372 | .0598 | 1.0793669 | 10.9224 |
| 27 | .9050 | 3.2702 | .6730 | .1559 | .191 | -.0053 | .0691 | 1.0972558 | 11.0000 |
| 28 | .9050 | 3.2468 | .6729 | .1550 | .129 | .0097 | .0550 | 1.0666700 | 10.9224 |
| 29 | .9050 | 3.2702 | .7077 | .1580 | -.057 | -.0040 | -.0397 | 1.0666700 | 11.0000 |
| 32 | .9050 | 3.2431 | .6730 | .1543 | .134 | -.0208 | .0535 | 1.0666700 | 10.9099 |
| 33 | 1.0353 | 3.1390 | .6680 | .1573 | .156 | .0267 | .0646 | 1.0904258 | 10.9224 |
| 35 | 1.0309 | 3.0956 | .6759 | .1549 | .104 | .0396 | .0515 | 1.0666700 | 10.7624 |
| 36 | 1.0399 | 3.1094 | .6696 | .1557 | .114 | .0104 | .0519 | 1.0666700 | 10.8323 |
| 37 | 1.0309 | 3.1649 | .7232 | .1609 | -.072 | .0085 | -.0450 | 1.0666700 | 11.0000 |
| 38 | 1.0349 | 3.1619 | .7036 | .1604 | -.054 | .0128 | -.0319 | 1.0880371 | 11.0000 |
| 39 | 1.0309 | 3.1409 | .7060 | .1590 | -.071 | .0113 | -.0424 | 1.0666700 | 10.9177 |
| 41 | 1.0399 | 3.1320 | .7061 | .1588 | -.064 | -.0033 | -.0427 | 1.0666700 | 10.9099 |
| 46 | 1.0489 | 3.0753 | .5767 | .1538 | .112 | -.0219 | .0480 | 1.0666700 | 10.7376 |
| 47 | 1.0441 | 3.1288 | .6682 | .1567 | .157 | -.0038 | .0624 | 1.0896733 | 10.9099 |
| 48 | 1.1050 | 3.0578 | .7185 | .1614 | -.081 | .0174 | -.0465 | 1.0666700 | 11.0000 |
| 49 | 1.1050 | 3.0390 | .6979 | .1591 | -.071 | .0051 | -.0431 | 1.0666700 | 10.9099 |
| 51 | 1.1050 | 2.9347 | .6430 | .1555 | .121 | .0291 | .0592 | 1.0666700 | 10.9224 |
| 52 | 1.1050 | 2.9659 | .6407 | .1567 | .141 | .0148 | .0640 | 1.0784938 | 11.0000 |
| 57 | 1.1050 | 3.0230 | .6569 | .1568 | .102 | .0415 | .0535 | 1.0666700 | 10.8764 |
| 58 | 1.1050 | 3.0306 | .6532 | .1571 | .097 | .0212 | .0520 | 1.0666700 | 10.9177 |
| 61 | 1.1050 | 3.0171 | .6610 | .1559 | .106 | .0194 | .0517 | 1.0666700 | 10.8323 |
| 62 | 1.1050 | 3.0416 | .6593 | .1569 | .141 | .0042 | .0605 | 1.0862547 | 10.9099 |
| 63 | 1.1050 | 2.9799 | .6676 | .1537 | .103 | -.0152 | .0474 | 1.0666700 | 10.7376 |
| 64 | 1.1050 | 3.0122 | .6605 | .1558 | .106 | .0194 | .0518 | 1.0666700 | 10.8323 |
| 65 | 1.1050 | 3.0341 | .6587 | .1568 | .142 | .0043 | .0607 | 1.0866747 | 10.9099 |
| 68 | 1.1050 | 3.0386 | .6578 | .1575 | .140 | .0369 | .0629 | 1.0865222 | 10.9224 |
| 69 | 1.1050 | 3.0306 | .6575 | .1571 | .132 | .0204 | .0608 | 1.0864035 | 10.9177 |
| 73 | .9050 | 3.2454 | .6807 | .1547 | .189 | -.0084 | .0684 | 1.1025565 | 10.9177 |
| 75 | .9050 | 3.2702 | .7155 | .1580 | -.031 | -.0055 | -.0259 | 1.1007303 | 11.0000 |
| 76 | .9050 | 3.2468 | .6804 | .1550 | .201 | .0081 | .0712 | 1.1030063 | 10.9224 |
| 77 | .9050 | 3.2431 | .6814 | .1543 | .205 | -.0224 | .0696 | 1.1030966 | 10.9099 |
| 78 | .9050 | 3.1987 | .6848 | .1527 | .116 | .0210 | .0515 | 1.0666700 | 10.7624 |
| 79 | .9050 | 3.2468 | .7073 | .1567 | -.041 | .0097 | -.0265 | 1.0666700 | 10.9224 |
| 80 | .9050 | 3.2197 | .6791 | .1533 | .132 | -.0073 | .0530 | 1.0666700 | 10.8323 |
| 83 | .9050 | 3.2702 | .7314 | .1586 | -.060 | -.0086 | -.0441 | 1.0666700 | 11.0000 |
| 84 | .9050 | 3.2431 | .7151 | .1563 | -.051 | -.0208 | -.0416 | 1.0666700 | 10.9099 |
| 87 | .9050 | 3.1912 | .6868 | .1514 | .127 | -.0406 | .0483 | 1.0666700 | 10.7376 |
| 88 | 1.0374 | 3.0968 | .6834 | .1550 | .169 | .0399 | .0670 | 1.1020393 | 10.7624 |
| 92 | 1.0399 | 3.1094 | .7057 | .1574 | -.049 | .0104 | -.0295 | 1.0666700 | 10.8323 |
| 93 | 1.0517 | 2.9129 | .7250 | .1459 | .089 | .0295 | .0396 | 1.0666700 | 10.1847 |
| 94 | 1.0638 | 2.9014 | .7253 | .1454 | .098 | -.0033 | .0385 | 1.0666700 | 10.1732 |
| 95 | 1.0352 | 3.1617 | .7279 | .1610 | -.056 | .0081 | -.0357 | 1.0898400 | 11.0003 |
| 96 | 1.0399 | 3.1320 | .7303 | .1594 | -.067 | -.0079 | -.0471 | 1.0666700 | 10.9099 |
| 99 | 1.0448 | 3.1283 | .7116 | .1589 | -.045 | -.0038 | -.0319 | 1.0933376 | 10.9099 |
| 100 | 1.0359 | 3.1372 | .7116 | .1591 | -.052 | .0108 | -.0315 | 1.0936020 | 10.9177 |
| 104 | 1.0489 | 3.0753 | .7203 | .1559 | -.061 | -.0219 | -.0466 | 1.0666700 | 10.7376 |
| 107 | 1.0517 | 2.9579 | .7107 | .1480 | .094 | -.0001 | .0411 | 1.0666700 | 10.3400 |
| 108 | 1.0551 | 3.0708 | .6839 | .1539 | .171 | -.0226 | .0629 | 1.1006272 | 10.7376 |
| 109 | 1.0638 | 2.9463 | .7110 | .1475 | .103 | -.0315 | .0399 | 1.0666700 | 10.3285 |
| 110 | 1.1050 | 3.0604 | .7227 | .1614 | -.067 | .0166 | -.0385 | 1.0862422 | 11.0000 |
| 111 | 1.1050 | 3.0390 | .7263 | .1598 | -.075 | -.0005 | -.0434 | 1.0666700 | 10.9099 |
| 112 | 1.1050 | 3.0420 | .7032 | .1591 | -.054 | .0041 | -.0337 | 1.0900660 | 10.9099 |
| 113 | 1.1050 | 2.9968 | .7132 | .1561 | -.067 | -.0152 | -.0470 | 1.0666700 | 10.7376 |
| 115 | 1.1050 | 2.9347 | .6470 | .1555 | .156 | .0284 | .0673 | 1.0846557 | 10.9224 |
| 116 | 1.1050 | 2.8761 | .6541 | .1529 | .113 | .0410 | .0571 | 1.0666700 | 10.7624 |
| 124 | 1.1050 | 2.9869 | .6656 | .1551 | .098 | .0510 | .0520 | 1.0666700 | 10.7624 |
| 127 | 1.1050 | 2.8721 | .7124 | .1464 | .098 | -.0287 | .0385 | 1.0666700 | 10.2544 |
| 128 | 1.1050 | 3.0008 | .6766 | .1541 | .159 | -.0165 | .0613 | 1.0981094 | 10.7276 |
| 129 | 1.1050 | 2.8280 | .7271 | .1443 | .095 | .0004 | .0375 | 1.0666700 | 10.0991 |
| 130 | 1.1050 | 3.0204 | .6669 | .1560 | .153 | .0182 | .0632 | 1.0925625 | 10.8323 |
| 131 | 1.1050 | 2.9799 | .6748 | .1537 | .160 | -.0166 | .0618 | 1.0993116 | 10.7376 |
| 132 | 1.1050 | 2.8337 | .7084 | .1457 | .096 | -.0290 | .0382 | 1.0666700 | 10.2545 |
| 133 | 1.1050 | 3.0122 | .6662 | .1558 | .154 | .0183 | .0635 | 1.0930290 | 10.8323 |
| 134 | 1.1050 | 2.7992 | .7230 | .1436 | .096 | .0010 | .0382 | 1.0666700 | 10.0992 |
| 137 | 1.1050 | 2.9950 | .6734 | .1552 | .156 | .0494 | .0660 | 1.0986443 | 10.7624 |
| 140 | 1.1050 | 2.9869 | .6727 | .1551 | .157 | .0495 | .0664 | 1.0991120 | 10.7624 |
| 141 | .9050 | 3.2128 | .7117 | .1571 | -.028 | -.0047 | -.0240 | 1.1033347 | 11.0000 |
| 142 | 1.1050 | 3.0376 | .6944 | .1593 | -.042 | .0368 | -.0178 | 1.0897928 | 10.9224 |
| 144 | .9050 | 3.2454 | .7237 | .1567 | -.031 | -.0085 | -.0266 | 1.1060310 | 10.9177 |
| 146 | .9050 | 3.2149 | .6904 | .1523 | .204 | -.0276 | .0688 | 1.1091359 | 10.8163 |
| 149 | .9050 | 3.1987 | .6960 | .1527 | .208 | .0189 | .0723 | 1.1140575 | 10.7624 |
| 150 | .9050 | 3.2702 | .7396 | .1586 | -.034 | -.0102 | -.0298 | 1.1024482 | 11.0000 |
| 151 | .9050 | 3.2431 | .7244 | .1563 | -.021 | -.0225 | -.0255 | 1.1065712 | 10.9099 |
| 152 | .9050 | 3.2468 | .7164 | .1567 | -.008 | .0080 | -.0104 | 1.1059185 | 10.9224 |
| 153 | .9050 | 3.2197 | .6891 | .1533 | .215 | -.0092 | .0716 | 1.1088471 | 10.8323 |
| 155 | .9050 | 3.1987 | .7138 | .1541 | -.026 | .0210 | -.0156 | 1.0666700 | 10.7624 |
| 156 | .9050 | 3.2197 | .7148 | .1550 | -.035 | -.0073 | -.0284 | 1.0666700 | 10.8323 |
| 157 | .9050 | 3.1161 | .7079 | .1480 | .118 | -.0162 | .0449 | 1.0666700 | 10.4884 |
| 159 | .9050 | 3.2454 | .7312 | .1571 | -.063 | -.0100 | -.0455 | 1.0666700 | 10.9177 |
| 161 | .9050 | 3.1912 | .7299 | .1534 | -.049 | -.0406 | -.0463 | 1.0666700 | 10.7376 |
| 163 | .9050 | 3.2431 | .7391 | .1569 | -.054 | -.0254 | -.0460 | 1.0666700 | 10.9099 |
| 164 | .9050 | 3.0714 | .7211 | .1457 | .099 | -.0219 | .0388 | 1.0666700 | 10.3400 |
| 165 | .9050 | 3.1912 | .6899 | .1514 | .148 | -.0411 | .0540 | 1.0794379 | 10.7376 |
| 166 | .9050 | 3.1629 | .6946 | .1500 | .123 | -.0432 | .0461 | 1.0666700 | 10.6437 |
| 168 | 1.0593 | 2.9446 | .7283 | .1481 | .209 | .0305 | .0709 | 1.1329376 | 10.3122 |
| 170 | 1.0458 | 3.1050 | .7124 | .1575 | -.023 | .0098 | -.0164 | 1.0988135 | 10.8323 |
| 171 | 1.0604 | 3.0045 | .7056 | .1510 | .196 | .0032 | .0676 | 1.1170211 | 10.5217 |
| 172 | 1.0517 | 2.9129 | .7392 | .1465 | .019 | .0295 | .0083 | 1.0666700 | 10.1847 |
| 173 | 1.0638 | 2.9014 | .7446 | .1463 | .010 | -.0033 | -.0033 | 1.0666700 | 10.1732 |
| 174 | 1.0638 | 2.8702 | .7357 | .1438 | .092 | .0054 | .0365 | 1.0666700 | 10.0653 |
| 175 | 1.0606 | 2.9069 | .7359 | .1461 | .166 | .0285 | .0603 | 1.1145599 | 10.1847 |
| 176 | 1.0451 | 3.1281 | .7362 | .1595 | -.048 | -.0085 | -.0357 | 1.0951502 | 10.9099 |
| 179 | 1.0489 | 3.0753 | .7375 | .1564 | -.063 | -.0251 | -.0497 | 1.0666700 | 10.7376 |
| 181 | 1.0558 | 3.0703 | .7282 | .1560 | -.034 | -.0227 | -.0315 | 1.1043149 | 10.7376 |
| 185 | 1.0638 | 2.9463 | .7447 | .1490 | -.030 | -.0315 | -.0315 | 1.0666700 | 10.3285 |
| 186 | 1.0599 | 2.9726 | .7173 | .1492 | .197 | .0001 | .0677 | 1.1246575 | 10.4100 |

| NONDOMINATED EXTREME POINT NUMBER | UTILITY | | | | INVESTORS | | | REGULATORY COMMISSION | CONSUMERS |
|---|---|---|---|---|---|---|---|---|---|
| | DEBT TO EQUITY | FIXED COVERAGE | PAYOUT RATIO | RETURN ON BV | HPR | GROWTH OF EPS | GROWTH OF DPS | MARKET TO BOOK VALUE | RETURN ON RATE BASE |
| 187 | 1.0638 | 2.9151 | .7209 | .1459 | .098 | -.0236 | .0381 | 1.0666700 | 10.2206 |
| 188 | 1.0606 | 2.9518 | .7213 | .1481 | .174 | -.0011 | .0620 | 1.1145589 | 10.3400 |
| 189 | 1.0609 | 3.0325 | .6952 | .1522 | .182 | -.0255 | .0641 | 1.1087324 | 10.6195 |
| 191 | 1.1050 | 3.0423 | .7318 | .1598 | -.057 | -.0015 | -.0381 | 1.0922340 | 10.9099 |
| 192 | 1.1050 | 3.0393 | .7237 | .1601 | -.046 | .0307 | -.0227 | 1.0919282 | 10.9224 |
| 193 | 1.1050 | 2.9968 | .7341 | .1566 | -.070 | -.0191 | -.0508 | 1.0666700 | 10.7376 |
| 194 | 1.1050 | 3.0209 | .7041 | .1578 | -.032 | .0180 | -.0177 | 1.0957568 | 10.8323 |
| 195 | 1.1050 | 3.0013 | .7213 | .1562 | -.042 | -.0167 | -.0329 | 1.1019206 | 10.7376 |
| 196 | 1.1050 | 2.3721 | .7445 | .1478 | -.028 | -.0287 | -.0287 | 1.0666700 | 10.2544 |
| 197 | 1.1050 | 2.9954 | .7036 | .1567 | -.013 | .0492 | -.0009 | 1.1012217 | 10.7624 |
| 198 | 1.1050 | 2.8761 | .6608 | .1529 | .173 | .0397 | .0706 | 1.0970003 | 10.7624 |
| 199 | 1.1050 | 2.7561 | .6826 | .1465 | .105 | .0315 | .0501 | 1.0666700 | 10.3967 |
| 202 | 1.1050 | 2.7387 | .6906 | .1448 | .098 | -.0051 | .0442 | 1.0666700 | 10.3137 |
| 203 | 1.1050 | 2.8600 | .7131 | .1465 | .088 | .0044 | .0394 | 1.0666700 | 10.2384 |
| 204 | 1.1050 | 2.8160 | .7278 | .1444 | .085 | .0353 | .0385 | 1.0666700 | 10.0832 |
| 205 | 1.1050 | 2.7463 | .7354 | .1417 | .083 | .0330 | .0366 | 1.0666700 | 9.9659 |
| 206 | 1.1050 | 2.7898 | .7202 | .1438 | .084 | .0009 | .0366 | 1.0666700 | 10.1211 |
| 207 | 1.1050 | 2.9550 | .6958 | .1512 | .180 | -.0221 | .0637 | 1.1115249 | 10.5529 |
| 208 | 1.1050 | 2.8406 | .7228 | .1448 | .093 | -.0203 | .0367 | 1.0666700 | 10.1438 |
| 209 | 1.1050 | 2.9266 | .7064 | .1501 | .195 | .0074 | .0670 | 1.1200289 | 10.4542 |
| 210 | 1.1050 | 2.8280 | .7444 | .1451 | .015 | .0004 | .0004 | 1.0666700 | 10.0991 |
| 211 | 1.1050 | 2.7965 | .7379 | .1427 | .089 | .0095 | .0356 | 1.0666700 | 9.9885 |
| 212 | 1.1050 | 2.9263 | .6923 | .1508 | .181 | -.0221 | .0643 | 1.1127254 | 10.5610 |
| 213 | 1.1050 | 2.7710 | .7267 | .1426 | .086 | -.0139 | .0347 | 1.0666700 | 10.0540 |
| 214 | 1.1050 | 2.8997 | .7030 | .1497 | .200 | .0080 | .0690 | 1.1211668 | 10.4619 |
| 215 | 1.1050 | 2.7276 | .7421 | .1404 | .086 | .0179 | .0347 | 1.0666700 | 9.8987 |
| 216 | 1.1050 | 2.8943 | .7183 | .1483 | .196 | .0043 | .0679 | 1.1278677 | 10.3418 |
| 217 | 1.1050 | 2.8660 | .7295 | .1471 | .212 | .0357 | .0717 | 1.1363716 | 10.2431 |
| 218 | 1.1050 | 2.6592 | .7139 | .1477 | .197 | .0042 | .0684 | 1.1293787 | 10.3520 |
| 219 | 1.1050 | 2.8327 | .7252 | .1466 | .218 | .0364 | .0731 | 1.1378201 | 10.2529 |
| 220 | 1.1050 | 2.9869 | .7029 | .1565 | -.012 | .0494 | -.0005 | 1.1017084 | 10.7624 |
| 222 | .9050 | 3.1898 | .7125 | .1558 | -.004 | .0093 | -.0080 | 1.1085229 | 10.9224 |
| 225 | .9050 | 3.2172 | .7331 | .1550 | -.021 | -.0262 | -.0262 | 1.1121011 | 10.8241 |
| 226 | .9050 | 3.2454 | .7406 | .1571 | -.033 | -.0118 | -.0293 | 1.1072300 | 10.9177 |
| 228 | .9050 | 3.1790 | .7023 | .1513 | .207 | -.0147 | .0696 | 1.1174524 | 10.6972 |
| 229 | .9050 | 3.2312 | .6852 | .1536 | .207 | -.0270 | .0695 | 1.1056484 | 10.8705 |
| 230 | .9050 | 3.1987 | .7256 | .1541 | .020 | .0187 | .0049 | 1.1164073 | 10.7624 |
| 232 | .9050 | 3.1493 | .7126 | .1502 | .220 | .0145 | .0730 | 1.1251358 | 10.5985 |
| 234 | .9050 | 3.2431 | .7488 | .1569 | -.024 | -.0271 | -.0294 | 1.1082891 | 10.9099 |
| 235 | .9050 | 3.2352 | .7271 | .1559 | -.019 | -.0256 | -.0256 | 1.1082654 | 10.8837 |
| 236 | .9050 | 3.2197 | .7254 | .1550 | .003 | -.0093 | -.0100 | 1.1117593 | 10.8323 |
| 237 | .9050 | 3.2129 | .6913 | .1530 | .217 | -.0098 | .0717 | 1.1103700 | 10.8098 |
| 239 | .9050 | 3.0247 | .7361 | .1436 | .096 | .0069 | .0381 | 1.0688736 | 10.1847 |
| 240 | .9050 | 3.0229 | .7361 | .1435 | .093 | .0059 | .0370 | 1.0666700 | 10.1789 |
| 241 | .9050 | 3.1161 | .7353 | .1492 | -.008 | -.0162 | -.0162 | 1.0666700 | 10.4884 |
| 242 | .9050 | 3.0714 | .7494 | .1469 | -.020 | -.0219 | -.0229 | 1.0666700 | 10.3400 |
| 244 | .9050 | 3.1912 | .7470 | .1538 | -.051 | -.0437 | -.0493 | 1.0666700 | 10.7376 |
| 245 | .9050 | 3.1912 | .7329 | .1534 | -.040 | -.0411 | -.0411 | 1.0794379 | 10.7376 |
| 246 | .9050 | 3.1629 | .7355 | .1518 | -.043 | -.0432 | -.0432 | 1.0666700 | 10.6437 |
| 248 | .9050 | 3.0714 | .7217 | .1457 | .102 | -.0220 | .0397 | 1.0688736 | 10.3400 |
| 249 | 1.0593 | 2.9466 | .7458 | .1490 | .079 | .0306 | .0306 | 1.1339108 | 10.3190 |
| 251 | 1.0461 | 3.1049 | .7373 | .1582 | -.027 | .0049 | -.0204 | 1.1006278 | 10.8323 |
| 252 | 1.0603 | 3.0078 | .7338 | .1525 | .023 | .0034 | .0034 | 1.1186339 | 10.5329 |
| 253 | 1.0606 | 2.9069 | .7500 | .1467 | .073 | .0235 | .0285 | 1.1145589 | 10.1847 |
| 254 | 1.0638 | 2.8702 | .7500 | .1444 | .024 | .0054 | .0054 | 1.0666700 | 10.0653 |
| 255 | 1.1050 | 2.8253 | .7382 | .1448 | .163 | .0333 | .0596 | 1.1148971 | 10.1002 |
| 256 | 1.0561 | 3.0701 | .7458 | .1565 | -.036 | -.0259 | -.0342 | 1.1055880 | 10.7376 |
| 258 | 1.0638 | 2.9463 | .7500 | .1491 | -.031 | -.0325 | -.0325 | 1.0666700 | 10.3285 |
| 259 | 1.0036 | 3.1090 | .7328 | .1552 | -.026 | -.0296 | -.0296 | 1.1089518 | 10.7376 |
| 260 | 1.0608 | 3.0373 | .7356 | .1543 | -.021 | -.0251 | -.0251 | 1.1110718 | 10.6357 |
| 261 | 1.0598 | 2.9760 | .7475 | .1508 | .018 | .0003 | .0003 | 1.1263562 | 10.4218 |
| 262 | 1.0538 | 2.9151 | .7500 | .1472 | -.020 | -.0236 | -.0236 | 1.0666700 | 10.2206 |
| 263 | 1.0606 | 2.9518 | .7500 | .1494 | .015 | -.0011 | -.0011 | 1.1145589 | 10.3400 |
| 264 | 1.1050 | 2.8704 | .7234 | .1469 | .167 | .0026 | .0606 | 1.1148971 | 10.2555 |
| 266 | 1.1050 | 3.0211 | .7329 | .1585 | -.036 | .0122 | -.0223 | 1.0979199 | 10.8323 |
| 269 | 1.1050 | 2.9294 | .7330 | .1515 | .029 | .0076 | .0076 | 1.1215704 | 10.4645 |
| 270 | 1.1050 | 2.9592 | .7349 | .1533 | -.018 | -.0218 | -.0218 | 1.1138122 | 10.5681 |
| 273 | 1.1050 | 2.7561 | .6961 | .1465 | .218 | .0288 | .0754 | 1.1245025 | 10.3967 |
| 275 | 1.1050 | 2.7077 | .6989 | .1431 | .113 | -.0070 | .0454 | 1.0666700 | 10.2166 |
| 276 | 1.1050 | 2.5865 | .7380 | .1365 | .089 | .0136 | .0359 | 1.0666700 | 9.8048 |
| 277 | 1.1050 | 2.7481 | .7026 | .1453 | .210 | -.0070 | .0714 | 1.1279321 | 10.3425 |
| 279 | 1.1050 | 2.7019 | .7032 | .1422 | .104 | -.0340 | .0406 | 1.0666700 | 10.1772 |
| 280 | 1.1050 | 2.7387 | .7040 | .1443 | .199 | -.0077 | .0689 | 1.1236078 | 10.3137 |
| 281 | 1.1050 | 2.6371 | .7234 | .1388 | .090 | -.0168 | .0361 | 1.0666700 | 9.9600 |
| 282 | 1.1050 | 2.7463 | .7422 | .1417 | .125 | .0316 | .0487 | 1.0946901 | 9.9659 |
| 283 | 1.1050 | 2.7898 | .7269 | .1438 | .126 | -.0005 | .0487 | 1.0946901 | 10.1211 |
| 285 | 1.1050 | 2.6481 | .7259 | .1390 | .087 | -.0158 | .0350 | 1.0666700 | 9.9509 |
| 286 | 1.1050 | 2.7276 | .7500 | .1407 | .047 | .0179 | .0179 | 1.0666700 | 9.8987 |
| 288 | 1.0042 | 2.8100 | .7422 | .1403 | .087 | .0182 | .0350 | 1.0666700 | 9.9659 |
| 289 | 1.1050 | 2.8974 | .7469 | .1498 | .024 | .0045 | .0045 | 1.1294969 | 10.3526 |
| 292 | 1.1050 | 2.9737 | .7258 | .1569 | -.016 | .0444 | -.0041 | 1.1042673 | 10.7624 |
| 293 | .9050 | 3.1363 | .7213 | .1531 | .025 | .0202 | .0076 | 1.1193063 | 10.7624 |
| 294 | .9050 | 3.1667 | .7497 | .1559 | -.021 | -.0273 | -.0278 | 1.1122181 | 10.9099 |
| 297 | .9050 | 3.1835 | .7390 | .1532 | -.005 | -.0144 | -.0144 | 1.1194645 | 10.7120 |
| 298 | .9050 | 3.2131 | .7500 | .1555 | -.023 | -.0289 | -.0289 | 1.1131243 | 10.8268 |
| 299 | .9050 | 3.1522 | .7373 | .1515 | .045 | .0147 | .0147 | 1.1264740 | 10.6083 |
| 300 | .9050 | 3.1987 | .7429 | .1545 | .016 | .0152 | .0019 | 1.1176063 | 10.7624 |
| 303 | .9050 | 3.2371 | .7500 | .1566 | -.023 | -.0293 | -.0293 | 1.1095142 | 10.8901 |
| 304 | .9050 | 3.2172 | .7263 | .1549 | .004 | -.0095 | -.0095 | 1.1123030 | 10.8240 |
| 306 | .9050 | 3.0247 | .7500 | .1442 | .027 | .0069 | .0069 | 1.0688736 | 10.1847 |
| 307 | .9050 | 3.0229 | .7500 | .1441 | .025 | .0059 | .0059 | 1.0666700 | 10.1789 |
| 312 | .9050 | 3.1629 | .7500 | .1521 | -.045 | -.0458 | -.0458 | 1.0666700 | 10.6437 |
| 313 | 1.0593 | 2.9470 | .7500 | .1491 | .077 | .0297 | .0297 | 1.1341157 | 10.3204 |
| 314 | 1.0602 | 3.0095 | .7500 | .1530 | .018 | .0003 | .0003 | 1.1194412 | 10.5385 |
| 316 | 1.1050 | 2.8263 | .7500 | .1453 | .084 | .0333 | .0333 | 1.1148971 | 10.1002 |
| 317 | 1.0607 | 3.0387 | .7500 | .1548 | -.024 | -.0277 | -.0277 | 1.1117993 | 10.6408 |
| 318 | 1.0069 | 3.1065 | .7500 | .1556 | -.029 | -.0324 | -.0324 | 1.1099258 | 10.7376 |
| 320 | 1.1050 | 2.8704 | .7500 | .1480 | .020 | .0026 | .0026 | 1.1148971 | 10.2555 |
| 321 | 1.1050 | 2.9606 | .7500 | .1538 | -.021 | -.0245 | -.0245 | 1.1145849 | 10.5733 |
| 322 | 1.1050 | 2.9310 | .7500 | .1520 | .024 | .0043 | .0043 | 1.1224255 | 10.4702 |
| 323 | 1.1050 | 2.8681 | .7500 | .1481 | .089 | .0348 | .0348 | 1.1374929 | 10.2506 |
| 326 | 1.1050 | 2.7111 | .7129 | .1439 | .234 | .0237 | .0766 | 1.1358863 | 10.2401 |
| 329 | 1.1050 | 2.6785 | .7103 | .1412 | .109 | -.0098 | .0425 | 1.0666700 | 10.0994 |
| 330 | 1.1050 | 2.7077 | .7031 | .1431 | .142 | -.0077 | .0531 | 1.0842803 | 10.2166 |
| 333 | 1.1050 | 2.5865 | .7390 | .1365 | .094 | .0134 | .0376 | 1.0704742 | 9.8049 |
| 334 | 1.1050 | 2.6505 | .7260 | .1391 | .092 | -.0140 | .0369 | 1.0704575 | 9.9600 |
| 338 | 1.0042 | 2.8100 | .7500 | .1406 | .048 | .0182 | .0182 | 1.0666700 | 9.9659 |
| 339 | 1.1050 | 2.6051 | .7500 | .1371 | .046 | .0171 | .0171 | 1.0666700 | 9.7956 |
| 340 | 1.1050 | 2.8976 | .7500 | .1498 | .023 | .0039 | .0039 | 1.1296522 | 10.3537 |
| 341 | .9050 | 3.0919 | .7315 | .1507 | .049 | .0166 | .0166 | 1.1285353 | 10.6236 |
| 343 | .9050 | 3.1217 | .7438 | .1534 | .021 | .0156 | .0042 | 1.1216221 | 10.7624 |
| 347 | .9050 | 3.1846 | .7500 | .1535 | -.007 | -.0164 | -.0164 | 1.1179916 | 10.7159 |
| 349 | .9050 | 3.1536 | .7500 | .1518 | .041 | .0121 | .0121 | 1.1270740 | 10.6127 |
| 352 | 1.0908 | 2.6163 | .7500 | .1371 | .046 | .0172 | .0172 | 1.0666700 | 9.8047 |

# APPENDIX 2

| PTR | DIV/P | GOPS | KE | P0 | P1 | P2 | P3 | EPS1 | EPS2 | EPS3 | OPS1 | OPS2 | OPS3 | RSH 1 | RSH 2 | RSH 3 | S I 1 | S I 2 | S I 3 | RR01 | RR02 | RR03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | .09 | .055 | .1457 | 14.67 | 14.67 | 17.23 | 16.72 | 2.15 | 2.09 | 2.21 | 1.34 | 1.41 | 1.49 | 104.0 | 107.6 | 107.6 | 56.1 | 58.6 | 0.0 | .110 | .110 | .110 |
| 5 | .09 | .054 | .1434 | 15.01 | 15.01 | 17.26 | 17.05 | 2.16 | 2.13 | 2.26 | 1.34 | 1.41 | 1.49 | 103.8 | 103.8 | 103.8 | 54.1 | 0.0 | 0.0 | .110 | .110 | .110 |
| 6 | .09 | .054 | .1433 | 14.90 | 14.90 | 17.24 | 17.03 | 2.16 | 2.13 | 2.24 | 1.34 | 1.41 | 1.49 | 104.0 | 104.0 | 104.0 | 56.1 | 0.0 | 0.0 | .110 | .110 | .109 |
| 7 | .09 | .060 | .1490 | 15.00 | 15.00 | 17.25 | 17.03 | 2.16 | 2.13 | 2.25 | 1.34 | 1.41 | 1.50 | 103.9 | 103.9 | 103.9 | 56.1 | 0.0 | 0.0 | .110 | .110 | .110 |
| 9 | .09 | .056 | .1496 | 14.20 | 14.20 | 17.21 | 16.70 | 2.15 | 2.09 | 2.13 | 1.34 | 1.41 | 1.49 | 104.2 | 107.7 | 114.7 | 56.1 | 58.6 | 109.6 | .110 | .110 | .110 |
| 10 | .11 | -.041 | .0679 | 14.59 | 14.59 | 16.89 | 16.39 | 2.11 | 2.05 | 2.17 | 1.58 | 1.39 | 1.46 | 106.1 | 109.8 | 109.8 | 85.1 | 58.6 | 0.0 | .110 | .110 | .110 |
| 13 | .09 | .052 | .1457 | 14.30 | 14.30 | 17.22 | 16.70 | 2.15 | 2.09 | 2.14 | 1.34 | 1.41 | 1.48 | 104.1 | 107.7 | 107.7 | 56.1 | 58.6 | 0.0 | .110 | .110 | .108 |
| 14 | .09 | .062 | .1535 | 14.68 | 14.68 | 17.23 | 16.72 | 2.15 | 2.09 | 2.21 | 1.34 | 1.41 | 1.51 | 104.0 | 107.6 | 107.6 | 56.1 | 58.6 | 0.0 | .110 | .110 | .110 |
| 16 | .11 | -.041 | .0651 | 14.92 | 14.92 | 16.92 | 16.71 | 2.12 | 2.09 | 2.21 | 1.59 | 1.38 | 1.46 | 105.9 | 105.9 | 105.9 | 83.2 | 0.0 | 0.0 | .110 | .110 | .110 |
| 17 | .11 | -.042 | .0655 | 14.81 | 14.81 | 16.91 | 16.70 | 2.11 | 2.09 | 2.19 | 1.58 | 1.38 | 1.46 | 106.0 | 106.0 | 106.0 | 85.1 | 0.0 | 0.0 | .110 | .110 | .109 |
| 18 | .11 | -.036 | .0705 | 14.91 | 14.91 | 16.91 | 16.70 | 2.11 | 2.09 | 2.21 | 1.59 | 1.38 | 1.47 | 106.0 | 104.0 | 106.0 | 85.1 | 0.0 | 0.0 | .110 | .110 | .110 |
| 19 | .09 | .059 | .1471 | 15.11 | 15.11 | 17.65 | 17.44 | 2.21 | 2.18 | 2.27 | 1.34 | 1.41 | 1.50 | 100.0 | 100.0 | 103.0 | 0.0 | 0.0 | 50.4 | .110 | .110 | .110 |
| 22 | .09 | .052 | .1435 | 14.58 | 14.58 | 17.23 | 17.02 | 2.15 | 2.13 | 2.18 | 1.34 | 1.41 | 1.48 | 104.1 | 104.1 | 104.4 | 56.1 | 0.0 | 5.4 | .110 | .110 | .108 |
| 23 | .09 | .054 | .1434 | 14.83 | 14.83 | 16.69 | 16.35 | 2.09 | 2.12 | 2.23 | 1.33 | 1.40 | 1.48 | 104.4 | 104.4 | 104.4 | 62.3 | 0.0 | 0.0 | .108 | .110 | .109 |
| 26 | .09 | .060 | .1490 | 14.93 | 14.93 | 16.69 | 16.96 | 2.09 | 2.12 | 2.25 | 1.33 | 1.40 | 1.50 | 104.4 | 104.4 | 104.4 | 62.3 | 0.0 | 0.0 | .108 | .110 | .110 |
| 27 | .09 | .069 | .1633 | 14.19 | 14.19 | 17.21 | 16.70 | 2.15 | 2.09 | 2.13 | 1.34 | 1.41 | 1.53 | 104.2 | 107.7 | 115.0 | 56.1 | 58.6 | 114.5 | .110 | .110 | .110 |
| 28 | .09 | .055 | .1491 | 14.14 | 14.14 | 16.65 | 16.61 | 2.08 | 2.08 | 2.12 | 1.33 | 1.41 | 1.48 | 104.6 | 108.3 | 115.3 | 62.3 | 58.6 | 109.6 | .108 | .110 | .110 |
| 29 | .11 | -.046 | .0722 | 14.13 | 14.13 | 16.86 | 16.36 | 2.11 | 2.04 | 2.09 | 1.58 | 1.38 | 1.46 | 106.3 | 110.0 | 117.0 | 85.1 | 58.6 | 109.6 | .110 | .110 | .110 |
| 32 | .10 | .053 | .1500 | 13.81 | 13.81 | 17.19 | 16.68 | 2.15 | 2.09 | 2.06 | 1.33 | 1.41 | 1.48 | 104.3 | 107.9 | 115.2 | 56.1 | 58.6 | 116.9 | .110 | .110 | .108 |
| 33 | .09 | .055 | .1557 | 14.62 | 14.62 | 16.68 | 16.63 | 2.08 | 2.08 | 2.20 | 1.33 | 1.41 | 1.51 | 104.5 | 109.2 | 108.2 | 62.3 | 58.6 | 0.0 | .108 | .110 | .110 |
| 35 | .09 | .051 | .1430 | 14.48 | 14.48 | 16.12 | 15.39 | 2.02 | 2.00 | 2.18 | 1.32 | 1.39 | 1.46 | 105.0 | 109.2 | 109.2 | 68.6 | 65.2 | 0.0 | .105 | .108 | .110 |
| 36 | .09 | .052 | .1452 | 14.23 | 14.23 | 16.66 | 16.61 | 2.08 | 2.08 | 2.13 | 1.33 | 1.41 | 1.47 | 104.6 | 108.3 | 108.3 | 62.3 | 58.6 | 0.0 | .108 | .110 | .108 |
| 37 | .11 | -.045 | .0637 | 14.56 | 14.56 | 16.89 | 16.24 | 2.11 | 2.03 | 2.15 | 1.59 | 1.52 | 1.44 | 106.2 | 110.8 | 110.8 | 85.1 | 75.0 | 0.0 | .110 | .110 | .110 |
| 38 | .11 | -.032 | .0765 | 14.60 | 14.60 | 16.89 | 16.39 | 2.11 | 2.05 | 2.17 | 1.58 | 1.39 | 1.48 | 106.1 | 109.8 | 109.8 | 85.1 | 58.6 | 0.0 | .110 | .110 | .110 |
| 39 | .11 | -.042 | .0666 | 14.53 | 14.53 | 16.89 | 15.84 | 2.11 | 1.98 | 2.16 | 1.58 | 1.38 | 1.45 | 106.2 | 110.2 | 110.2 | 85.1 | 65.2 | 0.0 | .110 | .108 | .110 |
| 41 | .11 | -.043 | .0585 | 14.22 | 14.22 | 16.37 | 16.36 | 2.11 | 2.05 | 2.09 | 1.58 | 1.38 | 1.45 | 106.3 | 109.9 | 109.9 | 85.1 | 58.6 | 0.0 | .110 | .110 | .108 |
| 46 | .10 | .048 | .1442 | 13.86 | 13.86 | 17.19 | 16.13 | 2.15 | 2.02 | 2.06 | 1.33 | 1.41 | 1.47 | 104.3 | 108.3 | 108.3 | 56.1 | 65.2 | 0.0 | .110 | .108 | .105 |
| 47 | .09 | .062 | .1558 | 14.30 | 14.30 | 17.22 | 16.71 | 2.15 | 2.09 | 2.14 | 1.34 | 1.41 | 1.51 | 104.1 | 107.7 | 107.7 | 56.1 | 58.6 | 0.0 | .110 | .110 | .108 |
| 48 | .11 | -.046 | .0602 | 14.37 | 14.87 | 16.91 | 16.52 | 2.11 | 2.06 | 2.19 | 1.59 | 1.55 | 1.44 | 106.0 | 107.1 | 107.1 | 85.1 | 17.4 | 0.0 | .110 | .110 | .110 |
| 49 | .11 | -.043 | .0561 | 14.49 | 14.49 | 16.98 | 16.65 | 2.11 | 2.08 | 2.13 | 1.58 | 1.38 | 1.45 | 106.2 | 106.5 | 106.5 | 85.1 | 5.6 | 0.0 | .110 | .110 | .108 |
| 51 | .09 | .059 | .1476 | 15.05 | 15.05 | 17.12 | 17.41 | 2.14 | 2.18 | 2.27 | 1.33 | 1.41 | 1.49 | 100.0 | 100.0 | 103.4 | 0.0 | 0.0 | 56.2 | .108 | .110 | .110 |
| 52 | .09 | .064 | .1524 | 15.11 | 15.11 | 17.65 | 17.44 | 2.21 | 2.18 | 2.27 | 1.34 | 1.41 | 1.51 | 100.0 | 100.0 | 103.1 | 0.0 | 0.0 | 52.1 | .110 | .110 | .110 |
| 57 | .09 | .054 | .1429 | 14.90 | 14.93 | 16.53 | 16.78 | 2.07 | 2.10 | 2.24 | 1.33 | 1.40 | 1.48 | 104.5 | 104.5 | 104.5 | 64.1 | 0.0 | 0.0 | .107 | .109 | .110 |
| 58 | .09 | .052 | .1416 | 14.94 | 14.94 | 17.25 | 16.49 | 2.16 | 2.06 | 2.25 | 1.34 | 1.40 | 1.48 | 104.0 | 104.0 | 104.2 | 56.1 | 0.0 | 4.6 | .110 | .108 | .110 |
| 61 | .09 | .052 | .1435 | 14.50 | 14.50 | 16.67 | 16.91 | 2.08 | 2.11 | 2.17 | 1.33 | 1.40 | 1.47 | 104.5 | 104.9 | 104.3 | 62.3 | 5.6 | 0.0 | .108 | .110 | .108 |
| 62 | .09 | .060 | .1523 | 14.56 | 14.56 | 17.23 | 16.97 | 2.15 | 2.12 | 2.17 | 1.34 | 1.41 | 1.50 | 104.1 | 104.6 | 104.6 | 56.1 | 8.5 | 0.0 | .110 | .110 | .108 |
| 63 | .09 | .047 | .1421 | 14.10 | 14.10 | 17.21 | 16.45 | 2.15 | 2.06 | 2.09 | 1.34 | 1.40 | 1.46 | 104.2 | 104.2 | 105.4 | 56.1 | 0.0 | 19.1 | .110 | .108 | .105 |
| 64 | .09 | .052 | .1436 | 14.51 | 14.51 | 16.67 | 16.94 | 2.08 | 2.12 | 2.17 | 1.33 | 1.40 | 1.47 | 104.5 | 104.5 | 104.9 | 62.3 | 0.0 | 5.4 | .108 | .110 | .108 |
| 65 | .09 | .061 | .1525 | 14.57 | 14.57 | 17.23 | 17.62 | 2.15 | 2.13 | 2.17 | 1.34 | 1.41 | 1.50 | 104.1 | 104.1 | 104.6 | 56.1 | 0.0 | 8.3 | .110 | .110 | .108 |
| 68 | .09 | .063 | .1522 | 14.93 | 14.93 | 16.69 | 16.95 | 2.09 | 2.12 | 2.24 | 1.33 | 1.40 | 1.51 | 104.4 | 104.5 | 104.5 | 62.3 | 1.1 | 0.0 | .107 | .110 | .110 |
| 69 | .09 | .061 | .1504 | 14.94 | 14.94 | 17.25 | 16.49 | 2.16 | 2.06 | 2.24 | 1.34 | 1.40 | 1.51 | 104.0 | 104.0 | 104.4 | 56.1 | 0.0 | 7.4 | .110 | .108 | .110 |
| 73 | .09 | .068 | .1629 | 14.13 | 14.13 | 17.21 | 16.14 | 2.15 | 2.02 | 2.12 | 1.34 | 1.41 | 1.52 | 104.2 | 108.2 | 115.7 | 56.1 | 65.2 | 115.4 | .110 | .108 | .110 |
| 75 | .11 | -.026 | .0860 | 14.12 | 14.12 | 16.86 | 16.36 | 2.11 | 2.04 | 2.08 | 1.58 | 1.38 | 1.50 | 106.3 | 110.0 | 117.4 | 85.1 | 58.6 | 115.1 | .110 | .110 | .110 |
| 76 | .09 | .071 | .1653 | 14.13 | 14.13 | 16.65 | 16.61 | 2.08 | 2.08 | 2.12 | 1.33 | 1.41 | 1.53 | 104.6 | 108.3 | 115.7 | 62.3 | 58.6 | 115.4 | .107 | .110 | .110 |
| 77 | .10 | .070 | .1662 | 13.80 | 13.80 | 17.19 | 16.68 | 2.15 | 2.09 | 2.05 | 1.33 | 1.41 | 1.53 | 104.3 | 107.9 | 115.6 | 56.1 | 58.6 | 122.7 | .110 | .110 | .108 |
| 78 | .09 | .051 | .1498 | 14.02 | 14.02 | 16.10 | 15.96 | 2.01 | 2.00 | 2.10 | 1.32 | 1.39 | 1.46 | 105.2 | 109.4 | 116.6 | 68.6 | 65.2 | 109.6 | .105 | .107 | .110 |
| 79 | .11 | -.026 | .0825 | 14.38 | 14.38 | 16.37 | 16.32 | 2.05 | 2.04 | 2.09 | 1.53 | 1.38 | 1.45 | 106.5 | 110.2 | 117.3 | 86.6 | 58.6 | 109.6 | .107 | .110 | .110 |
| 80 | .10 | .053 | .1495 | 13.75 | 13.75 | 16.63 | 16.59 | 2.08 | 2.07 | 2.05 | 1.33 | 1.40 | 1.47 | 104.8 | 108.5 | 115.9 | 62.3 | 58.6 | 116.9 | .107 | .110 | .108 |
| 83 | .11 | -.044 | .0679 | 14.10 | 14.10 | 16.86 | 16.20 | 2.11 | 2.03 | 2.07 | 1.58 | 1.52 | 1.44 | 106.3 | 111.0 | 118.2 | 85.1 | 75.0 | 109.6 | .110 | .110 | .110 |
| 84 | .11 | -.042 | .0731 | 13.76 | 13.76 | 15.33 | 16.33 | 2.10 | 2.04 | 2.02 | 1.58 | 1.38 | 1.45 | 106.5 | 110.2 | 117.7 | 95.1 | 58.6 | 116.9 | .110 | .110 | .108 |
| 87 | .10 | .048 | .1479 | 13.39 | 13.38 | 17.17 | 16.11 | 2.15 | 2.01 | 1.98 | 1.33 | 1.40 | 1.46 | 104.4 | 108.4 | 116.5 | 56.1 | 55.2 | 124.1 | .110 | .107 | .105 |
| 88 | .09 | .067 | .1585 | 14.49 | 14.49 | 16.12 | 15.99 | 2.02 | 2.00 | 2.18 | 1.33 | 1.39 | 1.51 | 105.0 | 109.2 | 109.2 | 68.6 | 65.2 | 0.0 | .105 | .107 | .110 |
| 92 | .11 | -.030 | .0788 | 14.17 | 14.17 | 16.37 | 16.33 | 2.05 | 2.04 | 2.09 | 1.54 | 1.38 | 1.45 | 106.4 | 110.2 | 110.2 | 86.6 | 58.6 | 0.0 | .107 | .110 | .108 |
| 93 | .10 | .040 | .1374 | 13.35 | 13.35 | 14.80 | 14.46 | 1.85 | 1.81 | 1.96 | 1.31 | 1.36 | 1.41 | 106.5 | 112.3 | 112.3 | 83.0 | 80.5 | 0.0 | .099 | .102 | .104 |
| 94 | .10 | .039 | .1395 | 12.94 | 12.94 | 15.14 | 14.30 | 1.89 | 1.86 | 1.88 | 1.31 | 1.36 | 1.41 | 106.4 | 111.7 | 111.7 | 78.8 | 76.0 | 0.0 | .101 | .103 | .101 |
| 95 | .11 | -.036 | .0730 | 14.56 | 14.56 | 16.89 | 16.24 | 2.11 | 2.03 | 2.15 | 1.58 | 1.52 | 1.47 | 106.1 | 110.8 | 110.8 | 85.1 | 75.0 | 0.0 | .110 | .110 | .110 |
| 96 | .11 | -.047 | .0643 | 14.19 | 14.19 | 16.86 | 16.21 | 2.11 | 2.03 | 2.07 | 1.58 | 1.52 | 1.44 | 106.3 | 111.0 | 111.0 | 85.1 | 75.0 | 0.0 | .110 | .110 | .108 |
| 99 | .11 | -.032 | .0791 | 14.23 | 14.23 | 16.87 | 16.37 | 2.11 | 2.05 | 2.09 | 1.58 | 1.38 | 1.48 | 106.3 | 109.9 | 109.9 | 85.1 | 58.6 | 0.0 | .110 | .110 | .108 |
| 100 | .11 | -.032 | .0773 | 14.54 | 14.54 | 16.89 | 15.84 | 2.11 | 1.98 | 2.16 | 1.58 | 1.38 | 1.48 | 106.2 | 110.2 | 110.2 | 85.1 | 65.2 | 0.0 | .110 | .107 | .110 |
| 104 | .11 | -.047 | .0678 | 13.30 | 13.80 | 16.83 | 15.79 | 2.10 | 1.97 | 2.01 | 1.58 | 1.38 | 1.43 | 106.5 | 110.6 | 110.6 | 85.1 | 65.2 | 0.0 | .110 | .107 | .105 |
| 107 | .10 | .041 | .1390 | 13.47 | 13.47 | 15.90 | 14.65 | 1.99 | 1.83 | 1.99 | 1.32 | 1.37 | 1.43 | 105.5 | 110.8 | 110.8 | 70.5 | 80.5 | 0.0 | .104 | .102 | .104 |
| 108 | .10 | .063 | .1591 | 13.87 | 13.87 | 17.20 | 16.13 | 2.15 | 2.02 | 2.05 | 1.33 | 1.41 | 1.51 | 104.3 | 108.2 | 108.2 | 56.1 | 65.2 | 0.0 | .110 | .107 | .105 |
| 109 | .10 | .060 | .1411 | 13.06 | 13.06 | 16.24 | 15.05 | 2.03 | 1.88 | 1.90 | 1.32 | 1.38 | 1.43 | 105.3 | 110.3 | 110.3 | 66.3 | 76.0 | 0.0 | .106 | .103 | .101 |
| 110 | .11 | -.039 | .0682 | 14.86 | 14.86 | 16.91 | 16.51 | 2.11 | 2.06 | 2.18 | 1.59 | 1.55 | 1.47 | 106.0 | 107.3 | 107.3 | 85.1 | 20.4 | 0.0 | .110 | .110 | .110 |
| 111 | .11 | -.048 | .0611 | 14.45 | 14.45 | 16.88 | 16.46 | 2.11 | 2.06 | 2.11 | 1.58 | 1.54 | 1.43 | 106.2 | 107.7 | 107.7 | 85.1 | 24.7 | 0.0 | .110 | .110 | .107 |
| 112 | .11 | -.034 | .0756 | 14.48 | 14.48 | 16.28 | 16.63 | 2.11 | 2.08 | 2.13 | 1.58 | 1.38 | 1.48 | 106.2 | 106.8 | 106.8 | 85.1 | 9.1 | 0.0 | .110 | .110 | .107 |
| 113 | .11 | -.047 | .0657 | 14.01 | 14.01 | 15.85 | 16.02 | 2.11 | 2.00 | 2.04 | 1.58 | 1.37 | 1.43 | 106.4 | 107.6 | 107.6 | 85.1 | 19.7 | 0.0 | .110 | .107 | .105 |
| 115 | .09 | .067 | .1557 | 15.05 | 15.05 | 17.12 | 17.41 | 2.14 | 2.18 | 2.26 | 1.33 | 1.41 | 1.52 | 100.0 | 100.0 | 103.6 | 0.0 | 0.0 | 58.8 | .107 | .110 | .110 |
| 116 | .09 | .057 | .1458 | 14.93 | 14.93 | 16.59 | 16.62 | 2.07 | 2.10 | 2.25 | 1.32 | 1.40 | 1.48 | 100.0 | 100.0 | 104.3 | 0.0 | 0.0 | 68.4 | .105 | .107 | .110 |
| 124 | .09 | .052 | .1416 | 14.80 | 14.80 | 16.14 | 16.35 | 2.02 | 2.04 | 2.23 | 1.33 | 1.39 | 1.47 | 104.9 | 104.9 | 105.2 | 68.6 | 0.0 | 4.6 | .105 | .107 | .110 |
| 127 | .10 | .038 | .1395 | 13.04 | 13.04 | 16.08 | 15.00 | 2.01 | 1.87 | 1.90 | 1.32 | 1.37 | 1.42 | 105.5 | 108.6 | 108.6 | 68.2 | 47.1 | 0.0 | .105 | .103 | .100 |
| 128 | .09 | .061 | .1562 | 14.07 | 14.07 | 17.21 | 14.33 | 2.15 | 2.04 | 2.08 | 1.34 | 1.40 | 1.50 | 104.2 | 105.7 | 105.7 | 56.1 | 24.5 | 0.0 | .110 | .107 | .105 |
| 129 | .10 | .038 | .1385 | 12.92 | 12.92 | 14.98 | 14.82 | 1.87 | 1.85 | 1.87 | 1.31 | 1.34 | 1.41 | 106.6 | 109.9 | 109.9 | 90.7 | 47.1 | 0.0 | .100 | .103 | .108 |
| 130 | .09 | .053 | .1550 | 14.43 | 14.43 | 16.67 | 16.89 | 2.08 | 2.11 | 2.16 | 1.33 | 1.40 | 1.50 | 104.5 | 105.1 | 105.1 | 62.3 | 9.5 | 0.0 | .107 | .110 | .107 |
| 131 | .09 | .062 | .1565 | 14.09 | 14.09 | 17.21 | 16.45 | 2.15 | 2.06 | 2.08 | 1.34 | 1.40 | 1.51 | 104.2 | 104.2 | 105.7 | 56.1 | 0.0 | 23.6 | .110 | .107 | .105 |
| 132 | .10 | .038 | .1390 | 13.08 | 13.08 | 16.08 | 15.22 | 2.01 | 1.90 | 1.90 | 1.32 | 1.37 | 1.42 | 105.5 | 105.5 | 108.6 | 68.2 | 0.0 | 45.4 | .105 | .103 | .100 |
| 133 | .09 | .064 | .1553 | 14.50 | 14.50 | 16.67 | 16.94 | 2.08 | 2.12 | 2.16 | 1.33 | 1.40 | 1.51 | 104.5 | 104.5 | 105.1 | 62.3 | 0.0 | 9.2 | .107 | .110 | .107 |
| 134 | .10 | .038 | .1389 | 12.96 | 12.96 | 14.98 | 15.07 | 1.87 | 1.88 | 1.83 | 1.31 | 1.36 | 1.41 | 106.6 | 106.6 | 109.7 | 90.7 | 0.0 | 45.4 | .100 | .103 | .100 |
| 137 | .09 | .066 | .1557 | 14.73 | 14.78 | 16.14 | 16.29 | 2.02 | 2.04 | 2.22 | 1.33 | 1.39 | 1.51 | 104.9 | 105.5 | 105.5 | 68.6 | 9.5 | 0.0 | .105 | .107 | .110 |
| 140 | .09 | .066 | .1561 | 14.79 | 14.79 | 16.14 | 16.14 | 2.02 | 2.04 | 2.22 | 1.33 | 1.39 | 1.51 | 104.9 | 104.9 | 105.5 | 68.6 | 0.0 | 9.3 | .105 | .107 | .110 |
| 141 | .11 | -.024 | .0876 | 14.16 | 14.16 | 16.86 | 16.65 | 2.11 | 2.08 | 2.09 | 1.58 | 1.38 | 1.51 | 106.3 | 106.3 | 117.2 | 95.1 | 0.0 | 172.0 | .110 | .110 | .110 |
| 142 | .10 | -.018 | .0858 | 14.85 | 14.85 | 16.42 | 16.68 | 2.05 | 2.09 | 2.21 | 1.54 | 1.38 | 1.48 | 106.1 | 106.1 | 106.2 | 86.6 | 0.0 | 1.5 | .107 | .110 | .110 |
| 144 | .11 | -.027 | .0858 | 14.07 | 14.07 | 16.85 | 15.31 | 2.11 | 1.98 | 2.07 | 1.58 | 1.38 | 1.50 | 106.4 | 110.4 | 118.2 | 85.1 | 65.2 | 115.9 | .110 | .107 | .110 |
| 146 | .10 | .069 | .1662 | 13.70 | 13.70 | 17.19 | 16.12 | 2.15 | 2.02 | 2.03 | 1.33 | 1.41 | 1.52 | 104.3 | 108.3 | 116.4 | 56.1 | 65.2 | 124.6 | .110 | .107 | .107 |
| 149 | .09 | .072 | .1667 | 14.01 | 14.01 | 16.10 | 15.96 | 2.01 | 1.99 | 2.09 | 1.32 | 1.39 | 1.52 | 105.2 | 109.4 | 117.1 | 68.6 | 65.2 | 117.2 | .105 | .107 | .110 |
| 150 | .11 | -.030 | .0824 | 14.09 | 14.09 | 16.86 | 16.20 | 2.11 | 2.03 | 2.06 | 1.58 | 1.52 | 1.49 | 106.4 | 111.0 | 118.5 | 85.1 | 75.0 | 115.4 | .110 | .110 | .110 |
| 151 | .11 | -.026 | .0893 | 13.75 | 13.75 | 16.83 | 16.33 | 2.10 | 2.04 | 2.01 | 1.58 | 1.38 | 1.50 | 106.5 | 110.2 | 118.1 | 85.1 | 58.6 | 123.3 | .110 | .110 | .107 |
| 152 | .11 | -.010 | .0986 | 14.07 | 14.07 | 16.37 | 16.32 | 2.05 | 2.04 | 2.08 | 1.53 | 1.38 | 1.50 | 106.5 | 110.2 | 117.7 | 86.6 | 58.6 | 115.9 | .107 | .110 | .110 |
| 153 | .10 | .072 | .1682 | 13.74 | 13.74 | 16.63 | 16.59 | 2.08 | 2.07 | 2.04 | 1.33 | 1.40 | 1.52 | 104.8 | 108.5 | 116.3 | 62.3 | 58.6 | 123.6 | .107 | .110 | .107 |
| 155 | .11 | -.016 | .0909 | 13.78 | 13.78 | 15.87 | 15.74 | 1.98 | 1.97 | 2.07 | 1.49 | 1.37 | 1.44 | 106.6 | 111.0 | 118.3 | 88.2 | 65.2 | 109.6 | .105 | .107 | .110 |
| 156 | .11 | -.028 | .0834 | 13.71 | 13.71 | 16.34 | 16.29 | 2.04 | 2.04 | 2.01 | 1.53 | 1.38 | 1.45 | 106.7 | 110.4 | 118.0 | 86.6 | 58.6 | 116.9 | .107 | .110 | .107 |
| 157 | .10 | .045 | .1455 | 13.08 | 13.08 | 15.44 | 15.66 | 1.98 | 1.96 | 1.92 | 1.32 | 1.38 | 1.44 | 105.7 | 110.2 | 118.7 | 70.9 | 67.7 | 126.9 | .104 | .107 | .104 |
| 159 | .11 | -.045 | .0670 | 14.05 | 14.05 | 16.85 | 15.71 | 2.11 | 1.96 | 2.06 | 1.58 | 1.47 | 1.44 | 106.4 | 111.2 | 118.5 | 85.1 | 76.7 | 109.6 | .110 | .107 | .110 |
| 161 | .12 | -.046 | .0719 | 13.33 | 13.33 | 16.40 | 15.76 | 2.10 | 1.97 | 1.93 | 1.57 | 1.37 | 1.43 | 106.7 | 110.8 | 119.1 | 85.1 | 65.2 | 124.1 | .110 | .107 | .105 |
| 163 | .11 | -.046 | .0689 | 13.73 | 13.73 | 16.83 | 16.18 | 2.10 | 2.02 | 2.00 | 1.58 | 1.52 | 1.44 | 106.5 | 111.2 | 118.8 | 85.1 | 75.0 | 116.9 | .110 | .110 | .107 |
| 164 | .10 | .039 | .1399 | 13.01 | 13.01 | 15.87 | 14.62 | 1.98 | 1.83 | 1.90 | 1.32 | 1.37 | 1.42 | 105.7 | 111.0 | 120.1 | 70.5 | 80.5 | 126.4 | .104 | .102 | .104 |
| 165 | .10 | .054 | .1536 | 13.39 | 13.38 | 17.17 | 16.11 | 2.15 | 2.01 | 1.97 | 1.33 | 1.40 | 1.48 | 104.4 | 108.4 | 116.7 | 56.1 | 65.2 | 126.2 | .110 | .107 | .105 |
| 166 | .10 | .046 | .1469 | 13.20 | 13.20 | 16.95 | 15.86 | 2.12 | 1.98 | 1.94 | 1.33 | 1.40 | 1.45 | 104.7 | 108.9 | 117.3 | 58.4 | 67.7 | 126.9 | .109 | .107 | .104 |
| 168 | .10 | .071 | .1671 | 13.62 | 13.62 | 15.10 | 14.60 | 1.89 | 1.85 | 2.00 | 1.31 | 1.36 | 1.50 | 106.2 | 111.5 | 111.5 | 79.8 | 77.1 | 0.0 | .100 | .103 | .105 |
| 170 | .11 | -.016 | .0913 | 14.13 | 14.13 | 16.37 | 16.33 | 2.05 | 2.04 | 2.09 | 1.54 | 1.38 | 1.49 | 106.4 | 110.2 | 110.2 | 86.6 | 58.6 | 0.0 | .107 | .110 | .107 |
| 171 | .10 | .068 | .1644 | 13.63 | 13.63 | 15.94 | 15.78 | 1.99 | 1.97 | 2.01 | 1.32 | 1.39 | 1.50 | 105.4 | 109.8 | 109.8 | 70.1 | 66.8 | 0.0 | .104 | .107 | .104 |
| 172 | .10 | .008 | .1117 | 13.33 | 13.33 | 14.71 | 14.37 | 1.84 | 1.80 | 1.95 | 1.38 | 1.35 | 1.40 | 107.2 | 113.0 | 113.0 | 91.8 | 80.5 | 0.0 | .099 | .102 | .104 |
| 173 | .11 | -.003 | .1055 | 12.92 | 12.92 | 15.00 | 14.72 | 1.88 | 1.84 | 1.86 | 1.41 | 1.35 | 1.40 | 107.4 | 112.7 | 112.7 | 90.7 | 76.0 | 0.0 | .101 | .103 | .101 |
| 174 | .10 | .037 | .1378 | 12.87 | 12.87 | 14.77 | 14.43 | 1.85 | 1.80 | 1.87 | 1.30 | 1.35 | 1.40 | 106.8 | 112.5 | 112.5 | 93.0 | 90.5 | 0.0 | .099 | .102 | .101 |
| 175 | .10 | .060 | .1580 | 13.37 | 13.37 | 14.80 | 14.46 | 1.85 | 1.81 | 1.95 | 1.31 | 1.36 | 1.47 | 106.5 | 112.3 | 112.3 | 83.0 | 80.5 | 0.0 | .099 | .102 | .104 |
| 176 | .11 | -.036 | .0756 | 14.20 | 14.20 | 16.86 | 16.21 | 2.11 | 2.03 | 2.07 | 1.58 | 1.52 | 1.47 | 106.3 | 111.0 | 111.0 | 85.1 | 75.0 | 0.0 | .110 | .110 | .107 |
| 179 | .11 | -.050 | .0649 | 13.79 | 13.78 | 16.83 | 15.69 | 2.10 | 1.96 | 2.00 | 1.58 | 1.47 | 1.43 | 106.5 | 111.3 | 111.3 | 85.1 | 76.7 | 0.0 | .110 | .107 | .105 |
| 181 | .11 | -.032 | .0827 | 13.81 | 13.81 | 16.84 | 15.80 | 2.10 | 1.97 | 2.01 | 1.58 | 1.38 | 1.48 | 106.5 | 110.6 | 110.6 | 85.1 | 55.2 | 0.0 | .110 | .107 | .105 |
| 185 | .12 | -.032 | .0835 | 13.02 | 13.02 | 15.38 | 14.81 | 2.00 | 1.85 | 1.87 | 1.50 | 1.36 | 1.40 | 107.1 | 112.1 | 112.1 | 87.6 | 76.0 | 0.0 | .106 | .103 | .101 |
| 186 | .10 | .068 | .1647 | 13.63 | 13.63 | 16.06 | 14.83 | 2.01 | 1.85 | 2.01 | 1.32 | 1.38 | 1.51 | 105.3 | 110.5 | 110.5 | 68.8 | 78.6 | 0.0 | .105 | .102 | .105 |

| PTP | DIV/P | + GDPS | + KE | P0 | P1 | P2 | P3 | EPS1 | EPS2 | EPS3 | OPS1 | OPS2 | OPS3 | #SH 1 | #SH 2 | #SH 3 | S L 1 | S L 2 | S L 3 | RR81 | RR82 | RR83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 187 | .10 | .038 | .1395 | 12.94 | 12.98 | 15.36 | 14.62 | 1.98 | 1.83 | 1.89 | 1.32 | 1.37 | 1.42 | 105.7 | 111.1 | 111.1 | 70.5 | 80.5 | 0.0 | .104 | .102 | .101 |
| 188 | .10 | .062 | .1597 | 13.49 | 13.49 | 15.90 | 14.65 | 1.99 | 1.83 | 1.98 | 1.32 | 1.37 | 1.44 | 105.5 | 110.8 | 110.8 | 70.5 | 80.5 | 0.0 | .104 | .102 | .104 |
| 189 | .10 | .064 | .1616 | 13.64 | 13.64 | 16.92 | 15.82 | 2.12 | 1.88 | 2.01 | 1.33 | 1.40 | 1.51 | 104.6 | 108.8 | 108.8 | 59.0 | 68.3 | 0.0 | .109 | .106 | .104 |
| 191 | .11 | -.038 | .0715 | 14.44 | 14.44 | 16.88 | 15.44 | 2.11 | 2.06 | 2.10 | 1.53 | 1.54 | 1.46 | 106.2 | 108.0 | 108.0 | 95.1 | 28.4 | 0.0 | .110 | .110 | .107 |
| 192 | .10 | -.023 | .0913 | 14.80 | 14.80 | 16.42 | 15.48 | 2.05 | 2.06 | 2.18 | 1.54 | 1.54 | 1.47 | 106.2 | 107.5 | 107.5 | 86.6 | 21.2 | 0.0 | .107 | .110 | .110 |
| 193 | .11 | -.051 | .0421 | 13.39 | 13.39 | 16.55 | 15.49 | 2.11 | 1.99 | 2.03 | 1.58 | 1.49 | 1.42 | 106.4 | 108.5 | 108.5 | 85.1 | 33.5 | 0.0 | .110 | .107 | .105 |
| 194 | .11 | -.018 | .0488 | 14.43 | 14.43 | 16.39 | 16.60 | 2.05 | 2.07 | 2.12 | 1.54 | 1.38 | 1.48 | 106.3 | 107.0 | 107.0 | 86.6 | 10.0 | 0.0 | .107 | .110 | .107 |
| 195 | .11 | -.033 | .0799 | 14.00 | 14.33 | 15.85 | 15.99 | 2.11 | 2.00 | 2.04 | 1.58 | 1.37 | 1.48 | 106.4 | 108.0 | 108.0 | 85.1 | 25.0 | 0.0 | .110 | .107 | .105 |
| 196 | .11 | -.029 | .0854 | 13.31 | 13.31 | 15.83 | 14.77 | 1.98 | 1.85 | 1.87 | 1.48 | 1.35 | 1.40 | 107.1 | 110.3 | 110.3 | 88.1 | 47.1 | 0.0 | .105 | .103 | .100 |
| 197 | .10 | -.001 | .1305 | 14.73 | 14.73 | 15.32 | 16.07 | 1.99 | 2.01 | 2.19 | 1.49 | 1.37 | 1.49 | 106.3 | 107.0 | 107.0 | 88.2 | 9.9 | 0.0 | .105 | .107 | .110 |
| 198 | .09 | .071 | .1594 | 14.92 | 14.92 | 16.59 | 16.82 | 2.07 | 2.13 | 2.24 | 1.32 | 1.40 | 1.52 | 100.0 | 100.0 | 104.6 | 0.0 | 0.0 | 72.8 | .105 | .107 | .110 |
| 199 | .09 | .050 | .1431 | 14.14 | 14.14 | 15.81 | 15.35 | 1.98 | 1.99 | 2.10 | 1.32 | 1.39 | 1.45 | 100.0 | 100.0 | 106.4 | 0.0 | 0.0 | 96.9 | .101 | .104 | .106 |
| 202 | .10 | .044 | .1404 | 13.75 | 13.75 | 16.37 | 15.44 | 2.05 | 1.93 | 2.03 | 1.32 | 1.38 | 1.44 | 100.0 | 100.0 | 107.1 | 0.0 | 0.0 | 103.8 | .104 | .101 | .104 |
| 203 | .10 | .039 | .1372 | 13.45 | 13.45 | 15.67 | 14.57 | 1.96 | 1.82 | 1.98 | 1.32 | 1.37 | 1.42 | 105.7 | 108.6 | 108.6 | 73.1 | 43.1 | 0.0 | .103 | .101 | .103 |
| 204 | .10 | .038 | .1363 | 13.33 | 13.33 | 14.58 | 14.40 | 1.82 | 1.80 | 1.95 | 1.30 | 1.35 | 1.41 | 106.8 | 109.9 | 109.9 | 85.6 | 43.1 | 0.0 | .098 | .101 | .103 |
| 205 | .10 | .037 | .1356 | 13.12 | 13.12 | 15.32 | 14.33 | 1.79 | 1.79 | 1.91 | 1.30 | 1.34 | 1.40 | 107.1 | 107.1 | 110.6 | 88.5 | 0.0 | 48.0 | .097 | .100 | .102 |
| 206 | .10 | .037 | .1357 | 13.24 | 13.24 | 15.40 | 14.47 | 1.79 | 1.81 | 1.93 | 1.31 | 1.36 | 1.41 | 106.3 | 106.3 | 109.5 | 76.0 | 0.0 | 48.0 | .102 | .100 | .102 |
| 207 | .10 | .064 | .1610 | 13.66 | 13.66 | 16.77 | 15.80 | 2.10 | 1.98 | 2.00 | 1.33 | 1.39 | 1.50 | 104.7 | 107.0 | 107.0 | 60.7 | 36.9 | 0.0 | .108 | .106 | .103 |
| 208 | .10 | .037 | .1389 | 12.96 | 12.96 | 15.69 | 14.36 | 1.86 | 1.82 | 1.88 | 1.31 | 1.36 | 1.41 | 105.9 | 109.4 | 109.4 | 72.5 | 51.7 | 0.0 | .103 | .101 | .100 |
| 209 | .10 | .068 | .1543 | 13.66 | 13.66 | 15.80 | 15.28 | 1.97 | 1.97 | 2.00 | 1.32 | 1.38 | 1.50 | 105.5 | 107.9 | 107.9 | 71.8 | 35.0 | 0.0 | .104 | .106 | .104 |
| 210 | .11 | .000 | .1083 | 12.31 | 12.31 | 14.86 | 14.70 | 1.86 | 1.84 | 1.86 | 1.39 | 1.35 | 1.39 | 107.4 | 110.8 | 110.8 | 91.2 | 47.1 | 0.0 | .100 | .103 | .100 |
| 211 | .10 | .036 | .1369 | 12.35 | 12.45 | 14.86 | 14.38 | 1.82 | 1.80 | 1.86 | 1.30 | 1.35 | 1.39 | 107.0 | 110.7 | 110.7 | 35.0 | 51.7 | 0.0 | .099 | .101 | .100 |
| 212 | .10 | .064 | .1612 | 13.71 | 13.71 | 16.79 | 16.30 | 2.10 | 2.00 | 2.01 | 1.33 | 1.39 | 1.51 | 104.6 | 104.6 | 107.0 | 60.5 | 0.0 | 35.4 | .108 | .106 | .103 |
| 213 | .10 | .035 | .1360 | 12.54 | 12.94 | 15.38 | 14.46 | 1.92 | 1.81 | 1.87 | 1.31 | 1.36 | 1.40 | 106.2 | 106.2 | 110.1 | 76.0 | 0.0 | 53.4 | .102 | .100 | .100 |
| 214 | .10 | .069 | .1652 | 13.70 | 13.70 | 15.82 | 15.39 | 1.98 | 2.00 | 2.01 | 1.32 | 1.38 | 1.51 | 105.5 | 105.5 | 107.7 | 71.6 | 0.0 | 33.5 | .104 | .106 | .104 |
| 215 | .10 | .035 | .1359 | 12.82 | 12.82 | 14.30 | 14.31 | 1.79 | 1.79 | 1.89 | 1.30 | 1.34 | 1.39 | 107.3 | 107.3 | 111.2 | 98.5 | 0.0 | 53.4 | .097 | .100 | .100 |
| 216 | .10 | .068 | .1645 | 13.65 | 13.65 | 15.91 | 14.81 | 1.99 | 1.85 | 2.01 | 1.32 | 1.37 | 1.50 | 105.4 | 108.5 | 108.5 | 70.5 | 46.5 | 0.0 | .104 | .102 | .104 |
| 217 | .10 | .072 | .1676 | 13.64 | 13.64 | 14.95 | 14.80 | 1.87 | 1.85 | 2.00 | 1.31 | 1.36 | 1.50 | 106.3 | 109.4 | 109.4 | 81.6 | 44.5 | 0.0 | .100 | .102 | .105 |
| 218 | .10 | .068 | .1647 | 13.70 | 13.70 | 15.94 | 15.06 | 1.99 | 1.88 | 2.01 | 1.32 | 1.37 | 1.51 | 105.4 | 105.4 | 109.5 | 70.2 | 0.0 | 44.5 | .104 | .102 | .104 |
| 219 | .10 | .073 | .1687 | 13.69 | 13.69 | 14.97 | 15.05 | 1.87 | 1.88 | 2.01 | 1.31 | 1.36 | 1.51 | 106.3 | 106.3 | 109.2 | 81.3 | 0.0 | 42.7 | .100 | .102 | .105 |
| 220 | .11 | -.001 | .1008 | 14.73 | 14.73 | 15.32 | 16.13 | 1.99 | 2.02 | 2.19 | 1.49 | 1.37 | 1.49 | 106.3 | 106.3 | 106.9 | 88.2 | 0.0 | 9.6 | .105 | .107 | .110 |
| 222 | .11 | -.008 | .1007 | 14.11 | 14.11 | 16.37 | 16.63 | 2.05 | 2.08 | 2.08 | 1.53 | 1.38 | 1.51 | 106.5 | 106.5 | 117.4 | 86.6 | 0.0 | 172.8 | .107 | .110 | .110 |
| 225 | .12 | -.026 | .0891 | 13.68 | 13.68 | 16.83 | 15.79 | 2.10 | 1.97 | 1.99 | 1.58 | 1.38 | 1.50 | 106.5 | 110.6 | 118.9 | 85.1 | 65.2 | 124.4 | .110 | .107 | .107 |
| 226 | .11 | -.029 | .0832 | 14.04 | 14.04 | 16.85 | 15.71 | 2.11 | 1.86 | 2.06 | 1.58 | 1.47 | 1.49 | 106.4 | 111.2 | 118.9 | 85.1 | 76.7 | 116.1 | .110 | .107 | .110 |
| 228 | .10 | .070 | .1667 | 13.69 | 13.69 | 16.70 | 15.56 | 2.09 | 1.95 | 2.03 | 1.33 | 1.39 | 1.52 | 104.7 | 109.2 | 117.6 | 61.6 | 71.0 | 124.2 | .108 | .105 | .108 |
| 229 | .10 | .070 | .1668 | 13.70 | 13.73 | 17.13 | 16.55 | 2.25 | 2.07 | 2.03 | 1.33 | 1.41 | 1.53 | 104.3 | 108.0 | 115.3 | 56.1 | 60.1 | 124.8 | .110 | .109 | .107 |
| 230 | .11 | .005 | .1114 | 13.96 | 13.96 | 15.87 | 15.74 | 1.98 | 1.97 | 2.06 | 1.49 | 1.37 | 1.50 | 106.6 | 111.0 | 118.8 | 98.2 | 65.2 | 117.6 | .105 | .107 | .110 |
| 232 | .10 | .073 | .1593 | 13.88 | 13.88 | 15.72 | 15.52 | 1.97 | 1.94 | 2.02 | 1.32 | 1.38 | 1.52 | 105.6 | 110.2 | 118.6 | 72.7 | 69.5 | 123.7 | .103 | .106 | .108 |
| 234 | .12 | -.029 | .0856 | 13.72 | 13.72 | 16.33 | 16.28 | 2.10 | 2.02 | 1.99 | 1.58 | 1.52 | 1.49 | 106.5 | 111.2 | 119.3 | 85.1 | 75.0 | 123.5 | .110 | .110 | .107 |
| 235 | .12 | -.026 | .0897 | 13.68 | 13.68 | 16.83 | 15.24 | 2.10 | 2.03 | 2.00 | 1.58 | 1.38 | 1.50 | 106.5 | 110.3 | 118.3 | 85.1 | 59.6 | 124.6 | .110 | .110 | .107 |
| 236 | .11 | -.010 | .1018 | 13.70 | 13.70 | 16.14 | 16.29 | 2.04 | 2.04 | 2.00 | 1.53 | 1.38 | 1.50 | 106.7 | 110.4 | 118.4 | 86.6 | 58.6 | 124.1 | .107 | .110 | .107 |
| 237 | .10 | .072 | .1584 | 13.70 | 13.73 | 16.56 | 16.53 | 2.07 | 2.07 | 2.03 | 1.33 | 1.40 | 1.52 | 104.8 | 108.6 | 116.5 | 62.3 | 59.2 | 124.5 | .107 | .110 | .107 |
| 239 | .10 | .038 | .1391 | 12.91 | 12.91 | 14.77 | 14.43 | 1.85 | 1.80 | 1.87 | 1.30 | 1.35 | 1.40 | 106.8 | 112.5 | 121.8 | 81.0 | 80.5 | 126.7 | .099 | .102 | .104 |
| 240 | .10 | .037 | .1382 | 12.88 | 12.88 | 14.77 | 14.43 | 1.85 | 1.80 | 1.87 | 1.30 | 1.35 | 1.40 | 106.8 | 112.5 | 121.8 | 83.0 | 80.5 | 125.9 | .099 | .102 | .104 |
| 241 | .11 | -.016 | .0950 | 13.06 | 13.05 | 15.62 | 15.45 | 1.95 | 1.93 | 1.89 | 1.46 | 1.36 | 1.42 | 107.2 | 111.7 | 120.4 | 88.8 | 67.7 | 126.9 | .104 | .107 | .104 |
| 242 | .11 | -.023 | .0900 | 12.99 | 12.39 | 15.65 | 15.42 | 1.96 | 1.80 | 1.87 | 1.47 | 1.35 | 1.40 | 107.2 | 112.6 | 121.8 | 88.7 | 30.5 | 126.4 | .104 | .102 | .104 |
| 244 | .12 | -.049 | .0689 | 13.31 | 13.31 | 15.80 | 15.66 | 2.10 | 1.96 | 1.92 | 1.57 | 1.47 | 1.42 | 106.7 | 111.5 | 119.9 | 85.1 | 76.7 | 124.1 | .110 | .108 | .105 |
| 245 | .12 | -.041 | .0779 | 13.33 | 13.33 | 15.80 | 15.76 | 2.10 | 1.97 | 1.93 | 1.57 | 1.37 | 1.45 | 106.7 | 110.8 | 119.2 | 85.1 | 65.2 | 126.2 | .110 | .108 | .105 |
| 246 | .12 | -.043 | .0751 | 13.15 | 13.15 | 16.60 | 15.53 | 2.38 | 1.94 | 1.90 | 1.56 | 1.37 | 1.42 | 106.9 | 111.1 | 119.7 | 85.6 | 67.7 | 126.9 | .109 | .107 | .104 |
| 248 | .10 | .040 | .1408 | 13.01 | 13.01 | 15.37 | 14.62 | 1.84 | 1.83 | 1.90 | 1.32 | 1.37 | 1.42 | 105.7 | 111.0 | 120.2 | 70.5 | 30.5 | 126.7 | .104 | .102 | .104 |
| 249 | .10 | .031 | .1338 | 13.61 | 13.61 | 14.39 | 14.69 | 1.87 | 1.84 | 1.99 | 1.40 | 1.35 | 1.49 | 107.0 | 112.4 | 112.4 | 91.0 | 76.9 | 0.0 | .101 | .103 | .106 |
| 251 | .11 | -.020 | .0881 | 14.15 | 14.15 | 16.37 | 16.17 | 2.05 | 2.02 | 2.07 | 1.53 | 1.52 | 1.47 | 106.4 | 111.3 | 111.3 | 84.6 | 75.0 | 0.0 | .108 | .110 | .107 |
| 252 | .11 | .003 | .1118 | 13.62 | 13.62 | 15.75 | 15.60 | 1.97 | 1.95 | 1.98 | 1.48 | 1.37 | 1.49 | 106.8 | 111.3 | 111.3 | 98.5 | 66.5 | 0.0 | .105 | .107 | .105 |
| 253 | .10 | .028 | .1318 | 13.35 | 13.35 | 14.71 | 14.37 | 1.84 | 1.80 | 1.94 | 1.38 | 1.35 | 1.46 | 107.2 | 113.0 | 113.0 | 91.8 | 80.5 | 0.0 | .099 | .102 | .104 |
| 254 | .11 | .005 | .1124 | 12.85 | 12.85 | 14.67 | 14.33 | 1.83 | 1.79 | 1.85 | 1.38 | 1.34 | 1.39 | 107.5 | 113.3 | 113.3 | 91.8 | 80.5 | 0.0 | .099 | .102 | .101 |
| 255 | .10 | .040 | .1572 | 13.35 | 13.35 | 14.62 | 14.41 | 1.83 | 1.80 | 1.95 | 1.30 | 1.35 | 1.45 | 106.7 | 110.3 | 110.3 | 95.1 | 43.4 | 0.0 | .098 | .101 | .103 |
| 256 | .11 | -.034 | .0873 | 13.79 | 13.79 | 15.83 | 15.69 | 2.10 | 1.96 | 2.00 | 1.58 | 1.47 | 1.47 | 106.5 | 111.3 | 111.3 | 85.1 | 76.7 | 0.0 | .110 | .108 | .105 |
| 258 | .12 | -.032 | .1026 | 13.02 | 13.02 | 15.38 | 14.78 | 2.00 | 1.85 | 1.87 | 1.50 | 1.39 | 1.40 | 107.1 | 112.3 | 112.3 | 87.6 | 79.4 | 0.0 | .108 | .103 | .101 |
| 259 | .12 | -.030 | .0860 | 13.66 | 13.66 | 16.82 | 15.78 | 2.10 | 1.96 | 1.98 | 1.58 | 1.38 | 1.49 | 106.6 | 110.6 | 113.5 | 85.1 | 55.2 | 43.5 | .110 | .108 | .105 |
| 260 | .11 | -.025 | .0893 | 13.62 | 13.62 | 16.63 | 15.78 | 2.08 | 1.94 | 1.97 | 1.56 | 1.37 | 1.48 | 106.6 | 110.9 | 110.9 | 85.7 | 57.9 | 0.0 | .107 | .106 | .104 |
| 261 | .11 | .000 | .1095 | 13.61 | 13.61 | 15.85 | 15.28 | 1.98 | 1.83 | 1.98 | 1.49 | 1.36 | 1.49 | 106.8 | 112.0 | 112.0 | 88.2 | 78.3 | 0.0 | .105 | .103 | .105 |
| 262 | .11 | -.024 | .0894 | 12.35 | 12.35 | 15.64 | 14.42 | 1.36 | 1.80 | 1.86 | 1.47 | 1.35 | 1.40 | 107.2 | 112.6 | 112.6 | 88.7 | 80.5 | 0.0 | .104 | .102 | .101 |
| 263 | .11 | -.001 | .1082 | 13.45 | 13.45 | 15.68 | 14.45 | 1.36 | 1.81 | 1.96 | 1.47 | 1.36 | 1.47 | 106.9 | 112.3 | 112.3 | 88.7 | 30.5 | 0.0 | .104 | .102 | .104 |
| 264 | .10 | .061 | .1583 | 13.47 | 13.47 | 15.71 | 14.58 | 1.96 | 1.82 | 1.97 | 1.32 | 1.37 | 1.48 | 105.7 | 109.0 | 109.0 | 72.6 | 49.4 | 0.0 | .103 | .101 | .103 |
| 266 | .11 | -.022 | .0845 | 14.38 | 14.38 | 16.39 | 16.41 | 2.05 | 2.05 | 2.10 | 1.54 | 1.54 | 1.47 | 106.3 | 108.2 | 108.2 | 86.6 | 29.2 | 0.0 | .108 | .110 | .108 |
| 269 | .11 | .008 | .1149 | 13.64 | 13.64 | 15.62 | 15.55 | 1.95 | 1.95 | 1.98 | 1.46 | 1.36 | 1.49 | 106.9 | 109.2 | 109.2 | 38.9 | 34.6 | 0.0 | .104 | .106 | .104 |
| 270 | .11 | -.022 | .0915 | 13.64 | 13.64 | 16.49 | 15.55 | 2.06 | 1.94 | 1.97 | 1.55 | 1.37 | 1.48 | 106.6 | 109.0 | 109.0 | 86.1 | 36.4 | 0.0 | .108 | .106 | .103 |
| 273 | .09 | .075 | .1685 | 14.13 | 14.13 | 15.81 | 15.95 | 1.98 | 1.99 | 2.09 | 1.32 | 1.38 | 1.52 | 100.0 | 100.0 | 106.9 | 0.0 | 0.0 | 105.3 | .101 | .104 | .106 |
| 275 | .10 | .045 | .1442 | 13.31 | 13.31 | 15.81 | 15.95 | 1.98 | 1.89 | 1.95 | 1.32 | 1.38 | 1.44 | 100.0 | 100.0 | 107.4 | 0.0 | 0.0 | 111.4 | .101 | .104 | .101 |
| 276 | .10 | .036 | .1369 | 12.90 | 12.90 | 14.56 | 14.38 | 1.82 | 1.80 | 1.87 | 1.30 | 1.35 | 1.40 | 100.0 | 102.2 | 110.5 | 0.0 | 30.0 | 114.1 | .095 | .098 | .100 |
| 277 | .10 | .071 | .1673 | 13.80 | 13.80 | 16.43 | 15.51 | 2.05 | 1.94 | 2.03 | 1.32 | 1.38 | 1.52 | 100.0 | 100.0 | 107.5 | 0.0 | 0.0 | 110.4 | .104 | .102 | .104 |
| 279 | .10 | .041 | .1414 | 13.12 | 13.12 | 16.37 | 15.44 | 2.05 | 1.93 | 1.91 | 1.32 | 1.38 | 1.43 | 100.0 | 100.0 | 107.8 | 0.0 | 0.0 | 114.8 | .104 | .101 | .100 |
| 280 | .10 | .069 | .1652 | 13.74 | 13.74 | 16.37 | 15.44 | 2.05 | 1.93 | 2.01 | 1.32 | 1.38 | 1.51 | 100.0 | 100.0 | 107.6 | 0.0 | 0.0 | 112.1 | .104 | .101 | .104 |
| 281 | .10 | .036 | .1371 | 13.01 | 13.01 | 15.62 | 14.52 | 1.95 | 1.81 | 1.89 | 1.31 | 1.36 | 1.41 | 100.0 | 101.2 | 109.5 | 0.0 | 17.9 | 114.1 | .100 | .098 | .100 |
| 282 | .10 | .049 | .1478 | 13.11 | 13.11 | 14.32 | 14.33 | 1.79 | 1.79 | 1.90 | 1.30 | 1.34 | 1.43 | 107.1 | 107.1 | 110.9 | 98.5 | 0.0 | 52.1 | .097 | .100 | .102 |
| 283 | .10 | .049 | .1478 | 13.23 | 13.23 | 15.40 | 14.47 | 1.93 | 1.81 | 1.92 | 1.31 | 1.36 | 1.44 | 106.0 | 106.0 | 109.8 | 76.0 | 0.0 | 52.1 | .102 | .100 | .102 |
| 285 | .10 | .035 | .1363 | 12.95 | 12.95 | 15.48 | 14.48 | 1.93 | 1.81 | 1.87 | 1.31 | 1.36 | 1.41 | 101.5 | 101.5 | 109.9 | 18.6 | 0.0 | 114.8 | .100 | .098 | .100 |
| 286 | .10 | .019 | .1221 | 12.81 | 12.81 | 14.24 | 14.26 | 1.79 | 1.79 | 1.34 | 1.34 | 1.34 | 1.38 | 107.7 | 107.7 | 111.6 | 93.2 | 0.0 | 53.4 | .097 | .100 | .100 |
| 288 | .10 | .035 | .1361 | 12.83 | 12.83 | 14.30 | 14.31 | 1.79 | 1.79 | 1.85 | 1.30 | 1.34 | 1.39 | 107.3 | 107.3 | 116.7 | 89.5 | 0.0 | 123.5 | .097 | .100 | .102 |
| 289 | .11 | .005 | .1126 | 13.63 | 13.63 | 15.72 | 14.64 | 1.97 | 1.83 | 1.98 | 1.47 | 1.35 | 1.49 | 106.8 | 109.9 | 119.9 | 88.6 | 46.1 | 0.0 | .104 | .102 | .104 |
| 292 | .10 | -.004 | .0974 | 14.71 | 14.71 | 15.92 | 16.05 | 1.99 | 2.01 | 2.17 | 1.49 | 1.50 | 1.48 | 106.3 | 106.3 | 108.0 | 88.2 | 0.0 | 25.0 | .105 | .107 | .110 |
| 293 | .11 | -.008 | .1139 | 14.01 | 14.01 | 15.89 | 16.08 | 1.98 | 2.01 | 2.02 | 1.49 | 1.37 | 1.51 | 106.6 | 106.6 | 118.5 | 88.2 | 0.0 | 131.0 | .105 | .107 | .110 |
| 294 | .11 | -.028 | .0869 | 13.76 | 13.76 | 16.33 | 16.53 | 2.10 | 2.07 | 1.99 | 1.58 | 1.55 | 1.49 | 106.5 | 106.5 | 119.3 | 85.4 | 0.0 | 200.4 | .110 | .110 | .108 |
| 297 | .11 | -.014 | .0982 | 13.67 | 13.67 | 15.42 | 15.32 | 2.05 | 1.91 | 1.99 | 1.54 | 1.37 | 1.50 | 106.6 | 111.2 | 119.7 | 95.3 | 70.6 | 124.0 | .108 | .105 | .108 |
| 298 | .12 | -.029 | .0865 | 13.67 | 13.67 | 16.83 | 15.68 | 2.10 | 1.36 | 1.98 | 1.58 | 1.47 | 1.49 | 106.5 | 111.3 | 119.7 | 85.1 | 76.7 | 124.4 | .110 | .107 | .107 |
| 299 | .11 | .015 | .1213 | 13.67 | 13.67 | 15.55 | 15.36 | 1.74 | 1.92 | 2.00 | 1.46 | 1.36 | 1.50 | 106.9 | 111.6 | 120.0 | 89.1 | 69.3 | 123.7 | .103 | .106 | .108 |
| 300 | .11 | .002 | .1086 | 13.34 | 13.94 | 15.87 | 15.63 | 1.98 | 1.35 | 2.04 | 1.49 | 1.47 | 1.49 | 106.7 | 111.7 | 119.7 | 98.2 | 76.7 | 117.6 | .105 | .107 | .110 |
| 303 | .12 | -.029 | .0861 | 13.67 | 13.67 | 16.93 | 16.12 | 2.10 | 2.01 | 1.99 | 1.58 | 1.51 | 1.49 | 106.5 | 111.3 | 119.4 | 85.1 | 75.2 | 124.6 | .110 | .110 | .107 |
| 304 | .11 | -.010 | .1023 | 13.53 | 13.58 | 16.32 | 16.27 | 2.04 | 2.03 | 2.00 | 1.53 | 1.38 | 1.50 | 106.7 | 110.5 | 119.5 | 86.7 | 58.8 | 124.4 | .107 | .110 | .107 |
| 306 | .11 | .007 | .1136 | 12.39 | 12.89 | 14.67 | 14.34 | 1.83 | 1.79 | 1.66 | 1.38 | 1.34 | 1.39 | 107.5 | 113.3 | 122.6 | 91.8 | 30.5 | 126.7 | .099 | .102 | .104 |
| 307 | .11 | .006 | .1127 | 12.37 | 12.87 | 14.67 | 14.33 | 1.83 | 1.79 | 1.86 | 1.38 | 1.34 | 1.39 | 107.5 | 113.3 | 122.6 | 91.8 | 80.5 | 126.9 | .099 | .102 | .104 |
| 312 | .12 | -.040 | .0726 | 13.14 | 13.14 | 16.60 | 15.75 | 2.09 | 1.93 | 1.89 | 1.56 | 1.45 | 1.42 | 106.3 | 111.8 | 120.4 | 85.6 | 77.3 | 126.9 | .109 | .107 | .104 |
| 313 | .10 | .030 | .1330 | 13.61 | 13.51 | 14.99 | 14.67 | 1.87 | 1.83 | 1.99 | 1.41 | 1.38 | 1.49 | 107.0 | 112.6 | 112.6 | 90.9 | 79.6 | 0.0 | .101 | .103 | .106 |
| 314 | .11 | .000 | .1088 | 13.61 | 13.61 | 15.76 | 15.51 | 1.97 | 1.94 | 1.97 | 1.48 | 1.45 | 1.48 | 106.8 | 112.0 | 112.0 | 98.5 | 77.0 | 0.0 | .105 | .107 | .105 |
| 316 | .10 | .033 | .1355 | 13.33 | 13.33 | 14.54 | 14.34 | 1.82 | 1.79 | 1.94 | 1.36 | 1.34 | 1.46 | 107.0 | 110.3 | 110.9 | 92.3 | 49.4 | 0.0 | .098 | .101 | .103 |
| 317 | .11 | -.028 | .0868 | 13.61 | 13.61 | 16.63 | 15.48 | 2.08 | 1.93 | 1.37 | 1.56 | 1.45 | 1.47 | 106.6 | 111.5 | 111.5 | 85.7 | 77.3 | 0.0 | .109 | .107 | .104 |
| 318 | .12 | -.032 | .0833 | 13.63 | 13.63 | 16.82 | 15.68 | 2.10 | 1.36 | 1.37 | 1.58 | 1.47 | 1.48 | 106.6 | 111.4 | 114.1 | 85.1 | 76.7 | 40.9 | .110 | .107 | .105 |
| 320 | .11 | .003 | .1109 | 13.44 | 13.44 | 15.52 | 14.41 | 1.34 | 1.80 | 1.95 | 1.45 | 1.35 | 1.46 | 107.0 | 110.3 | 110.3 | 89.2 | 49.4 | 0.0 | .103 | .101 | .103 |
| 321 | .11 | -.025 | .0890 | 13.64 | 13.64 | 16.50 | 15.47 | 2.06 | 1.93 | 1.96 | 1.55 | 1.45 | 1.47 | 106.4 | 109.6 | 109.6 | 86.1 | 46.1 | 0.0 | .108 | .106 | .103 |
| 322 | .11 | .004 | .1118 | 13.63 | 13.63 | 15.63 | 15.52 | 1.95 | 1.94 | 1.97 | 1.47 | 1.45 | 1.48 | 106.9 | 109.9 | 109.9 | 88.9 | 45.4 | 0.0 | .104 | .106 | .104 |
| 323 | .10 | .035 | .1369 | 13.53 | 13.63 | 14.86 | 14.68 | 1.86 | 1.83 | 1.99 | 1.39 | 1.38 | 1.49 | 107.1 | 110.4 | 110.4 | 91.4 | 47.3 | 0.0 | .100 | .102 | .103 |
| 328 | .10 | .077 | .1718 | 13.79 | 13.79 | 15.48 | 15.53 | 1.94 | 1.94 | 2.03 | 1.31 | 1.37 | 1.52 | 100.0 | 100.5 | 108.1 | 0.0 | 7.9 | 111.5 | .100 | .102 | .105 |
| 329 | .10 | .042 | .1430 | 13.06 | 13.06 | 15.52 | 15.62 | 1.94 | 1.95 | 1.90 | 1.31 | 1.37 | 1.43 | 100.5 | 100.5 | 108.2 | 6.1 | 0.0 | 114.8 | .100 | .103 | .100 |
| 330 | .10 | .053 | .1520 | 13.31 | 13.31 | 15.81 | 15.95 | 1.99 | 1.99 | 1.95 | 1.32 | 1.38 | 1.46 | 100.0 | 100.0 | 107.5 | 0.0 | 0.0 | 114.0 | .101 | .104 | .101 |
| 333 | .10 | .038 | .1385 | 12.90 | 12.90 | 14.56 | 14.38 | 1.82 | 1.80 | 1.87 | 1.30 | 1.35 | 1.40 | 100.0 | 102.2 | 110.6 | 3.0 | 30.0 | 114.6 | .095 | .098 | .100 |
| 334 | .1. | .037 | .1379 | 12.99 | 12.99 | 15.48 | 14.48 | 1.93 | 1.81 | 1.88 | 1.31 | 1.36 | 1.41 | 101.5 | 101.5 | 109.8 | 18.6 | 0.0 | 114.6 | .100 | .098 | .100 |
| 338 | .10 | .018 | .1223 | 12.32 | 12.82 | 14.24 | 14.26 | 1.78 | 1.79 | 1.85 | 1.34 | 1.34 | 1.39 | 107.6 | 107.6 | 117.1 | 93.2 | 0.0 | 128.5 | .097 | .100 | .102 |
| 339 | .10 | .017 | .1216 | 12.83 | 12.83 | 14.29 | 14.28 | 1.79 | 1.78 | 1.85 | 1.34 | 1.34 | 1.39 | 102.9 | 102.9 | 111.4 | 35.8 | 0.0 | 114.8 | .095 | .098 | .100 |
| 340 | .11 | .004 | .1121 | 13.63 | 13.63 | 15.72 | 14.63 | 1.97 | 1.83 | 1.98 | 1.47 | 1.37 | 1.49 | 106.8 | 110.1 | 113.1 | 88.6 | 48.1 | 0.0 | .104 | .102 | .104 |
| 341 | .11 | .017 | .1229 | 13.75 | 13.75 | 15.59 | 15.76 | 1.35 | 1.37 | 2.01 | 1.46 | 1.36 | 1.51 | 106.8 | 106.8 | 119.5 | 89.0 | 0.0 | 190.0 | .104 | .106 | .109 |
| 343 | .11 | .004 | .1105 | 13.99 | 13.99 | 15.87 | 16.00 | 1.98 | 2.00 | 2.05 | 1.49 | 1.50 | 1.50 | 106.6 | 106.6 | 119.5 | 88.2 | 0.0 | 196.0 | .105 | .107 | .110 |
| 347 | .11 | -.015 | .0963 | 13.67 | 13.67 | 16.43 | 15.25 | 2.03 | 1.91 | 1.99 | 1.54 | 1.43 | 1.49 | 106.6 | 111.6 | 120.2 | 86.3 | 78.0 | 124.0 | .108 | .105 | .108 |
| 349 | .11 | .012 | .1159 | 13.66 | 13.66 | 15.56 | 15.29 | 1.74 | 1.91 | 1.99 | 1.46 | 1.43 | 1.47 | 106.9 | 112.1 | 120.5 | 89.1 | 77.7 | 123.6 | .104 | .106 | .109 |
| 352 | .10 | .017 | .1216 | 12.83 | 12.83 | 14.29 | 14.28 | 1.79 | 1.78 | 1.65 | 1.34 | 1.34 | 1.39 | 102.7 | 102.7 | 112.1 | 35.8 | 0.0 | 124.9 | .095 | .098 | .100 |