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NORMALIZATION VERSUS FLOW THROUGH FOR UTILITY COMPANIES USING LIBERALIZED TAX DEPRECIATION

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A utility company that uses liberalized depreciation for tax purposes will have relatively low taxes in the early years following major asset acquisitions, higher taxes in later years, and the early years' tax savings can either be flowed through to reported profits or normalized. The flow through versus normalization question has been studied extensively--for a sample of the literature, see the references at the end of this paper. However, none of the published studies has considered in a systematic manner the effects of (1) regulatory lags, (2) price elasticity, and (3) differential costs of capital. The purpose of this paper is to report the results of a computer simulation study which incorporates these three factors into the analysis.

THE BASIC SIMULATION MODEL

The model simulates three prototype firms: (1) a straight line company, S, which uses straight line depreciation for book and tax purposes, hence has no tax timing problem; (2) a normalized company, N, which uses accelerated depreciation for tax purposes, straight line for book, and anticipates the later higher taxes by setting up a reserve for deferred taxes; and (3) a flow through company, F,

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which does not recognize the deferred tax liability, flows the tax effect of liberalized depreciation through to current income, but simultaneously offsets this income increase by reducing utility service rates.[1]

The simulation is designed to show how different tax accounting methods affect customers and stockholders. To make the analysis most meaningful, we start with three identically equal firms, let them then adopt different accounting methods, and compare their operating results over the simulation period.

Table 1 shows the primary variables generated in the model and tracked over time. The variables marked by an asterisk, 6 through 9 in Section III, are the key items and the ones of primary concern to customers, regulators, managers and stockholders. Customers and regulators are interested in service rates, while stockholders are concerned primarily with earnings, dividends, and stock prices. Management is interested in all of these variables.

During the first simulated year, the companies all have exactly the same operating results. At the beginning of the second year, however, two of the firms begin calculating tax depreciation for newly acquired assets by one of the accelerated methods.[2] In effect, the situation in year 2 is analogous to the one prevailing in 1954, when accelerated depreciation was first allowed for tax purposes. Of the two accelerated companies, one flows through and the other normalizes.

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[1]It is important to note (1) that flow through <u>does not</u> generally increase reported profits--rather, it stimulates a rate reduction to offset the otherwise higher profits, and (2) the deferred tax account of a normalized firm is generally either deducted from the rate base or else taken as zero-cost capital. Thus, regardless of whether a firm uses flow through or normalization, the benefits of accelerated depreciation accrue to customers. See Brigham [2] for a more detailed discussion of this point.

[2]Our simulation model is programmed with sum-of-the-years digits as the accelerated method. The results would not be significantly affected by a substitution of double declining balance for sum-of-the-years digits.

Table 1. Variables Generated in the Simulation Model

I. Balance Sheet Items

1. Total assets
2. Liabilities and net worth
   a. Debt
   b. Reserve for deferred taxes
   c. Equity
      (1) dollars
      (2) number of shares

II. Income Statement Items

1. Gross income (income after operating costs but before depreciation, interest, and taxes)
2. Tax and book depreciation charges
3. Interest charges
4. Income taxes
5. Credit to reserve for deferred taxes
6. Net profits reported to stockholders

III. Other Variables

1. Asset growth rate
2. Annual gross investment
3. Dividend payout ratio
4. Net cash flow (net profits, net additions to the depreciation account, and the credit to the deferred tax reserve)
5. New funds needed to finance investment
6. Utility service rates*
7. Earnings per share*
8. Dividends per share*
9. Market price of the stock*

A set of input variables must be specified--these variables, and the values used to generate the data reported later in the paper, are shown in Table 2. Given this information, the program generates first-year values for the variables listed under Sections II and III of Table 1. Depreciation and interest charges are calculated first, and these values, plus the tax rate, the rate base, and the allowed rate of return (cost of capital), are then used in a system of simultaneous equations to find gross income, taxes, the credit to the deferred tax reserve, and reported profits. Reported profits are divided by shares outstanding to determine the earnings per share, and the payout ratio is applied to find dividends per share.[3]

Given the required investment outlay (book depreciation plus the net investment required to produce the specified rate of growth) and the firms' cash flows, capital needs are determined. The required new funds are allocated between debt and equity so as to maintain the designated capital structure.

Stock prices are calculated as a function of earnings per share, then reduced by an assumed underwriting cost to arrive at the net price per share received on new issues.[4] This new issue price is then divided into the required amount of new outside equity to obtain the number of shares that must be sold during the

[3]The dividend payout ratio is determined within the model as a function of the firms' growth rates. If assets are growing at 10 percent or more, then the payout is 40 percent. If growth is zero or negative, then the payout is 100 percent. Between these two limits, payout is a linear function of the growth rate.

[4]The process by which market prices are determined is rather complex, involving the following steps: (1) A first approximation pass is made through the entire simulation; in this first run, price per share is computed as a multiple of earnings per share. (2) A second pass is made with the price for each year calculated as a function of the present value of future dividends per share (where the number of shares is as determined in the first pass) plus a terminal price based on the terminal dividend. (3) These cycles are repeated for a total of twenty-five passes, by which time prices have stabilized. The basic purpose of this process is to make stock prices a function of earnings, dividends, and the growth rate of these items.

Table 2. Input Values for the Simulation Model

Variable	Value Used
Simulation length	50 years
Asset life	30 years
Asset growth rate*	5%
Initial assets	$100
Initial shares of stock	1 share
Debt ratio	60%
Embedded (and marginal) cost of debt	5%
Cost of equity	11%
Overall cost of capital	7.48%
Target or allowed rate of return on capital	7.48%
Upper control limit**	8.22% (which is 10% above the target rate)
Lower control limit**	7.10% (which is 5% below the target rate)
Length of lag**	6 months after control limit is exceeded

*The model permits the growth rate to vary. An initial growth rate, a terminal growth rate, a transition period, and a "growth rate change pattern" are specified, and the model calculates the set of annual growth rates. The change pattern can be linear or S-shaped.

**These variables apply only in the lag model.

year.

At the end of the simulated year, the balance sheet items are modified to reflect the events that transpired during the year. Assets, as well as debt, equity, and shares outstanding, are increased, and in the case of the normalized company, the reserve for deferred taxes is also adjusted. Once these modifications have been made, the model is ready to begin the calculations for the next year. These operations are repeated for each of the simulated years.

Effects of Depreciation Method on Ratepayers: The No-Lag Case[5]

Utility customers must pay rates that are sufficient to cover all operating and capital costs. Operating costs, which include maintenance, property taxes, labor, fuel, and so on, are unaffected by depreciation policy, so we abstract from them in the simulation model. Capital costs are defined to include depreciation, income taxes, and an allowed return on the rate base.[6] To standardize for size, thus facilitating comparisons over time, the capital costs for a given year are divided by total assets, and the resulting ratio is defined as the utility service rate for that year.[7] Since operating costs are the same for all firms, relatively low utility service rates indicate that customers are receiving services at relatively low prices, and high utility rates indicate that charges are relatively high.

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[5]For a more detailed presentation and explanation of the effects on ratepayers in this idealized world, see Brigham [2] or Nantell [7].

[6]As noted above, the model computes gross income from a system of simultaneous equations in which capital costs are determinant variables. Actually, this system gives us the gross income the firm is <u>required</u> to generate if it is to earn its <u>allowed</u> rate of return.

[7]We are abstracting here from lags. When lags are introduced in a later section, we must differentiate between the <u>required utility rate</u>--i.e., the rate necessary to keep the actual rate of return on target--and the <u>actual utility rate</u>, which may, because of lags, differ from the required rate.

Figure 1 shows utility rate patterns for the no-lag case when the model is initialized according to the variable values given in Table 2 above. The model has been run under a wide variety of assumptions, and for each a graph similar to Figure 1 is produced. The major findings of these simulations are described below.

1. Companies using straight line for tax purposes have the highest utility rates for any reasonable set of conditions.

2. Flow through rates decline rapidly after Firm F adopts accelerated depreciation, but after N/2 years (where N = average depreciable life of the assets), rates must be increased. These required rate increases occur annually until year N. Normalized rates decline more slowly, and they never rise unless the growth rate in assets becomes negative.

3. Assuming that asset growth rates are not changing, then utility service rates for Firms F and N stabilize after N years. Firm S, of course, has stable rates throughout.

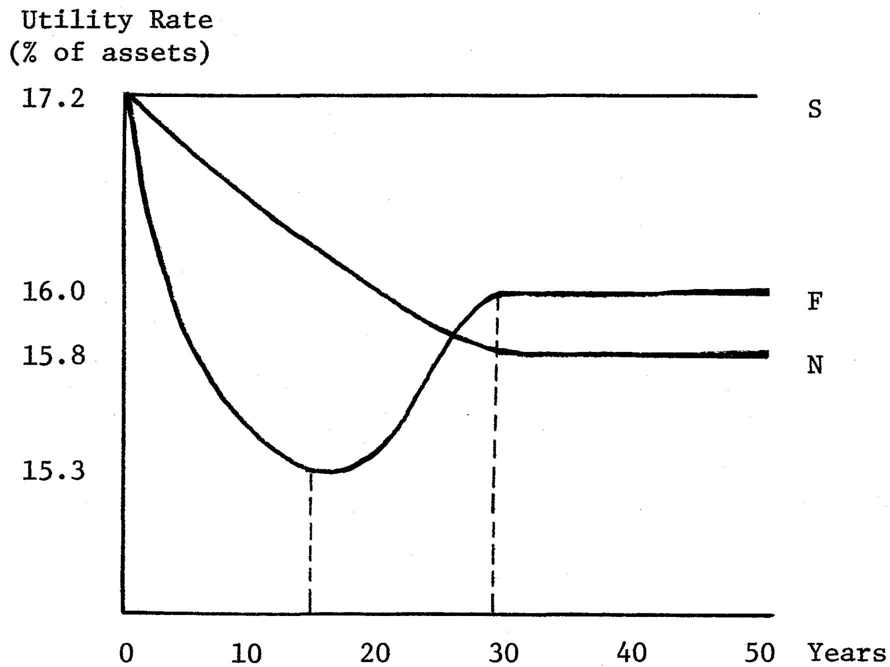
4. Depending on the asset growth rate, the level of the stabilized utility rates varies among companies as follows:

   a. Flow through rates are always lower than straight line provided the terminal growth rate is not negative. Normalized rates are always lower than straight line rates.

   b. Flow through rates in the steady state are less than normalized rates if the growth rate is "high," and they are greater if the growth rate is "low." The critical level between "high" and "low" growth rates depends on the cost of debt, cost of equity, corporate tax rate, and the capitalization ratios. For the input values listed in Table 2, the critical level is 6 percent. Since the growth rate used in the illustration is 5 percent, in Figure 1 flow through rates exceed normalized rates after year 30. Had we used a 6 percent asset growth rate, F's and N's utility rates would have been identical beyond year 30, while at a growth rate greater than 6 percent, N's stabilized rate would exceed F's.

5. In this no-lag case, if (1) ratepayers have the same time value of money as investors (i.e., if the average ratepayer's discount rate is equal to the cost of capital) and (2) the deferred taxes are not outstanding

Figure 1. Utility Rates, No-Lag Case



> forever (either because the company's growth declines or the profit position deteriorates to the point where no income taxes are paid, or because accelerated depreciation is no longer permissible for tax purposes), then the present value of future revenue requirements is the same under flow through or normalization, and both are lower than that of the straight line firm.

Effects of Depreciation Method on Investors: The No-Lag Case

Under the assumptions used thus far--no lags, the same cost of capital for all three firms, and no price elasticity, hence no differential growth as a result of service rate differentials--stockholders should be indifferent to tax depreciation policy. Accelerated depreciation causes a reduction in taxes, but the benefits of this reduction are passed on to customers.[8] In effect, the regulatory process operates to keep earnings and dividends per share equal, and since we are assuming no cost of capital differences, these earnings and dividends are capitalized at identical rates. Therefore, the three companies' market prices, throughout time, are also identical.

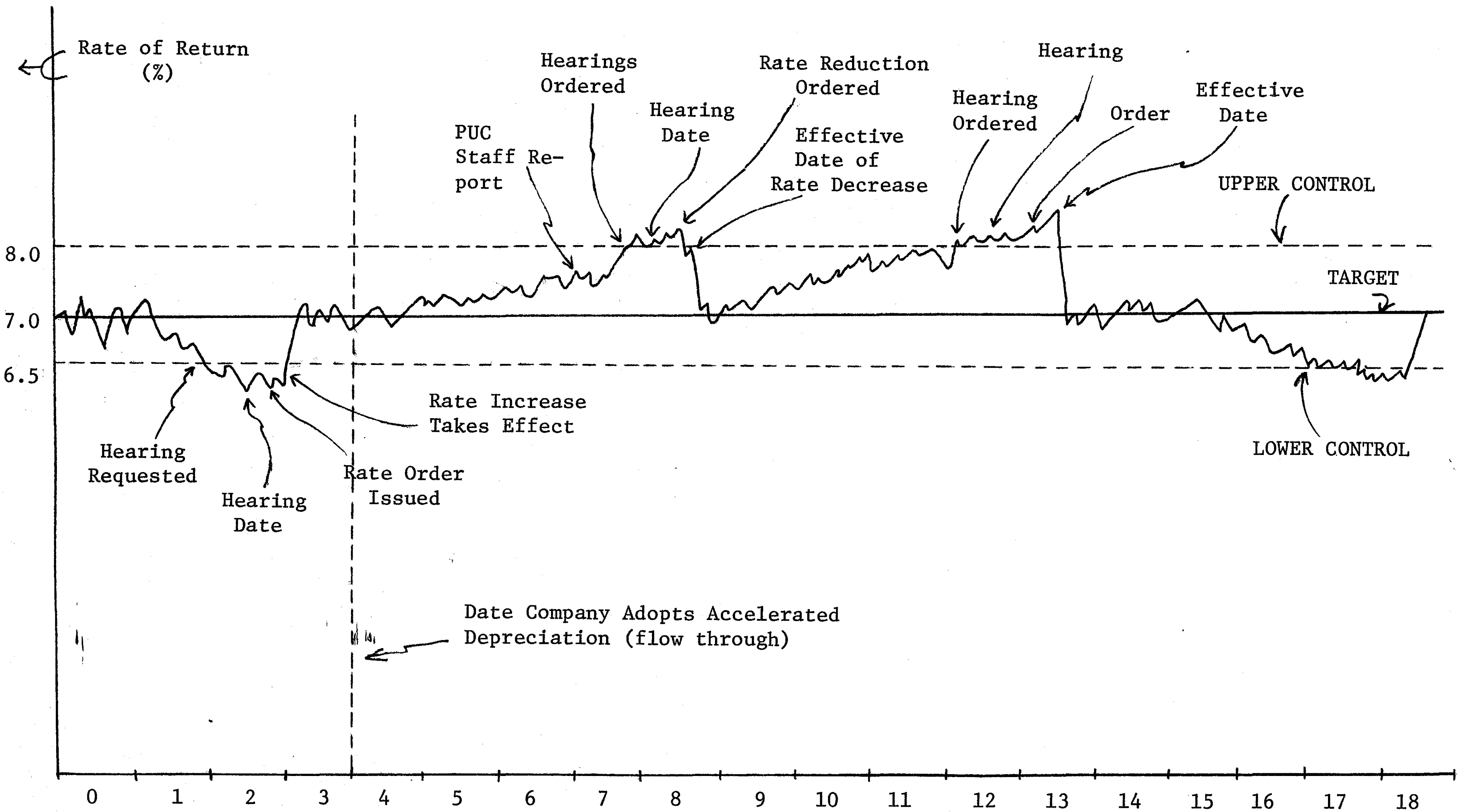
The assumptions upon which these conclusions are based are, of course, not realistic, so the conclusions themselves are questionable. In the following sections we relax the assumptions and examine the effects of lags, cost of capital differences, and price elasticity on both investors and customers.

THE LAG MODEL

Regulatory lag is the period required to adjust rates after a utility company's rate of return has deviated from its target return. The existence of these lags is a fact of life, so they must be incorporated into the analysis. Our lag model is based on a regulatory system similar to that depicted in Figure 2. A target rate

[8]There is a question as to the intent of Congress when it passed the legislation liberalizing tax depreciation methods. Some utility managements have argued that at least some of the benefits of the timing differences should accrue to investors, but most utility commissions take the position that the benefits should accrue only to customers. See Brigham [1].

Figure 2. "Realistic" Rate of Return Pattern



of return is determined in a rate case, then service rates sufficient to cover all allowable costs--including income taxes and depreciation--are set.[9] Demand, expenses, and so on fluctuate to some extent, so realized rates can naturally be expected to depart somewhat from the target rate. Thus, an upper and lower bound, or a "zone of reasonableness," is also set, and rates can fluctuate within this zone without triggering a rate hearing.[10] However, if persistent rather than random forces are operating, the realized return will break the upper or lower bound, and this will trigger a rate case, and a new rate schedule will be prescribed.

The time between the piercing of the control limits and the effective date of the new rates is the regulatory lag, and it is caused by two factors. First, there is a "recognition lag," consisting of the length of time it takes consumer groups, commission staffs, and utility company managements to recognize that the observed deviations are not just random events caused by weather conditions, temporary business conditions, and the like. Second, there is an "action lag," or the interval needed to schedule a hearing, file testimony, hold the hearing, reach a decision, and put a new set of rates into effect.

In the model we can set the control limits and regulatory lag at any desired values; in our illustrative run, we used an upper control limit 10 percent above the target (8.22 percent vs. a 7.48 percent target) and a lower control limit 5 percent below the target (7.10 percent), together with a six-month lag. Other input variables were set at the values shown in Table 2 above.

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[9] If past test year cost data are used, yet inflation continually drives costs up, revenue requirements will not be met and the company will fail to earn its "allowed" rate of return. Conversely, if costs are declining, it will earn more than the allowed rate. Our lag model is programmed on a past test year basis; the no-lag model is, in essence, a "current test year" model.

[10] Of course, the target rate of return and the zone of reasonableness can change over time because of changes in capital markets. In the simulation we hold these values constant.

Effects on Investors

Figure 3 shows the pattern of realized rates of return on investment in the lagged case; this figure is similar to Figure 2, except that random fluctuations are eliminated. Also, note that a graph similar to Figure 3 in the no-lag case would simply show a horizontal line at 7.48 percent, indicating that instantaneous regulation action would offset the tax timing effects of accelerated depreciation and would keep Firms S, N, and F's realized rates of return right on target throughout time.

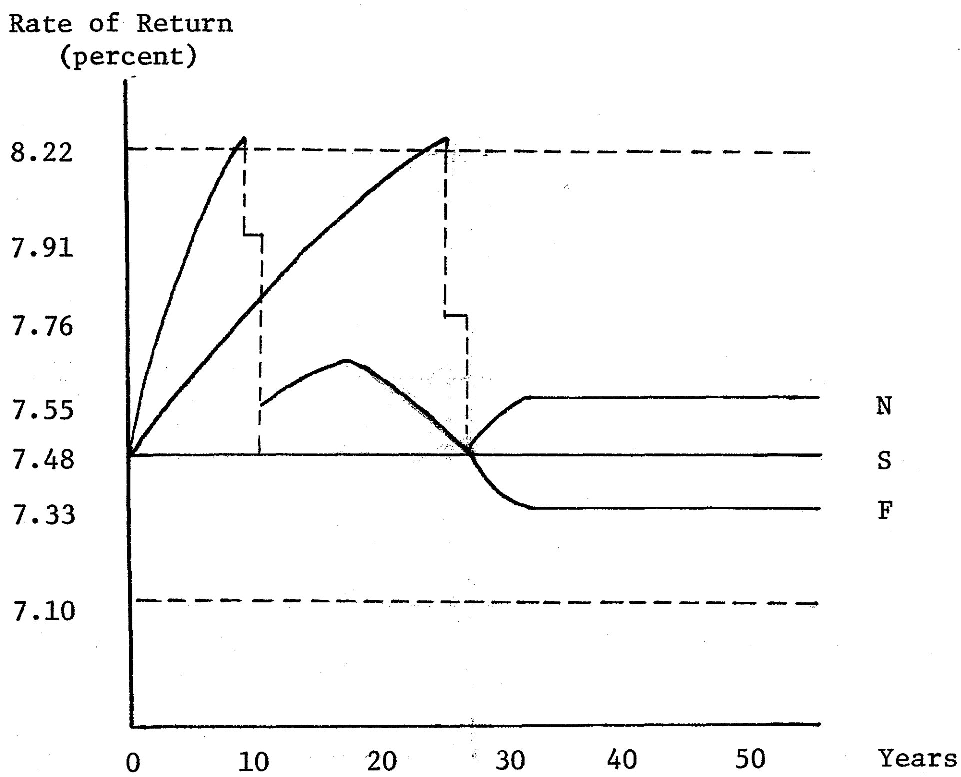
As Figure 3 shows, in the early years the realized returns of both Firms F and N exceed the target rate of return, and they do so by increasing amounts. This pattern results from the fact that although declining taxes cause required utility service rates for both firms to fall, the regulatory lag caused actual service rates to remain at the initial level. Since the flow through firm's required rates fall faster than those of the normalizing firm, its realized rates rise faster and exceed the upper limit sooner. At this point, a new utility rate is prescribed for F, and its implementation (after a six month lag) causes F's realized return to drop back toward the target level.[11] Since taxes actually paid are still less than straight line taxes, the realized rate of return continues to increase for a few years, peaks, then declines and levels off below the target rate.[12]

Firm N's realized return also increases until the upper limit is exceeded and a new service rate is prescribed to bring the realized rate down to the target level. Since tax benefits are still accruing, Firm N's realized return continues to rise until year N, at which point the rate of return stabilizes above the

[11]The realized rate does not fall all the way to the target rate because of the past test year phenomenon programmed into the model.

[12]This increase continues to year N/2, the point where straight line taxes exceed accelerated depreciation taxes. Had a lower upper control limit been set, a second rate reduction would have been ordered, but with the values used in the illustrative run this did not occur.

Figure 3. Realized Rates of Return with Regulatory Lag



target rate.

Under the postulated conditions, Firm S's realized return is always right on target, and N's return is always on or above target, while F's return is above target in the early years but later stabilizes below the "allowed" return. This situation is not a result of the particular input values used in the illustrative run: for any input values, there is a definite and systematic bias against the flow through firm from the investors' standpoint, and the magnitude of this bias increases with wider control limits and longer lags.[13]

The source of the bias is obvious--while the realized return for a normalized firm will never fall below the target level because its required utility service rate never increases, F's required utility rate level does increase between years N/2 and N. With regulatory lags, Firm F, with its constant actual utility rate, necessarily faces periods of deficient realized rate of return. Further, no relief is forthcoming until the lower control limit is exceeded, so unless an infinitely small lower control limit is used the flow through firm will always end up with stabilized rates below the target level.

The impact of lags on stock prices is shown in Figure 4. Recall that in the absence of regulatory lag, the market prices of all three firms were identical. Now, however, N's stock price rises above those of the other two firms, and F's price ends up below that of S. Thus, the bias against F that is reflected in realized rates of return also appears in the market price data.

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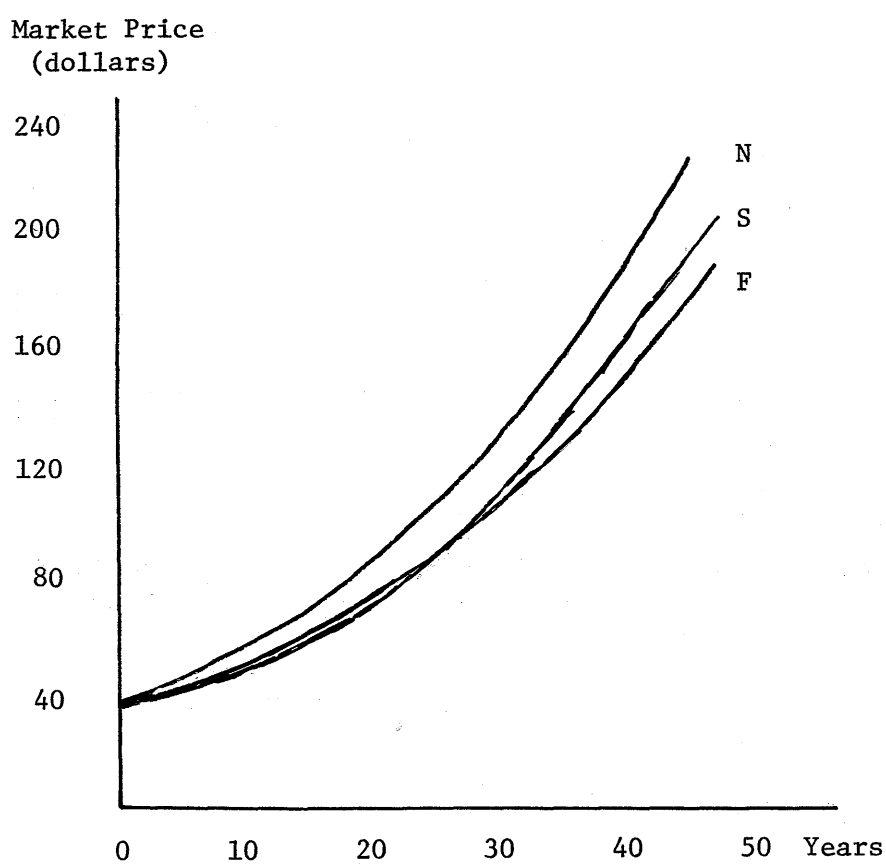
[13]The magnitude of the bias is probably lessened because of the fact that non-depreciation related events also trigger rate cases, and, once opened, these rate cases would lead to adjustments for depreciation. However, this fact provides small comfort to utility company managements. In the first place, in non-inflationary periods rate cases have been relatively rare, so the flow through bias may be expected to persist in the absence of inflation. Further, utility companies have found it quite difficult to get sufficient rate relief during the inflation of recent years. The larger the needed rate increases, the more difficult full compensatory returns have been to obtain. Thus, it is not at all clear that utilities can rely on non-tax related events to offset the observed flow through bias.

Figure 4. Market Prices under Regulatory Lag



Effects on Customers: The Lagged Case

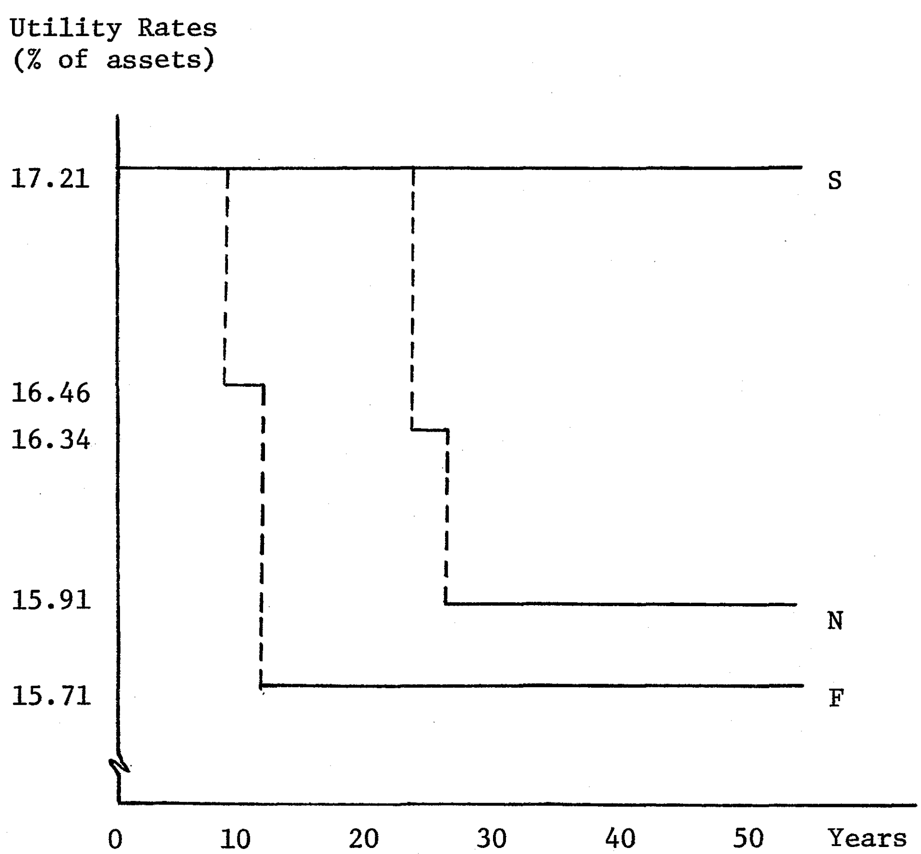
Figure 5 shows the pattern of utility service rates under regulatory lag; this figure is consistent with Figure 3, which showed that Firms N and F's realized rates of return each broke the control limits once, causing them both to experience one service rate change.[14] It is apparent that, under lagged conditions, service rates are lowest for the flow through company. Firm F's utility rate should rise to permit it to earn the target rate of return, and its stabilized utility rate should exceed that of Firm N, but under the lagged conditions specified in the model this rate increase does not occur.

Since service rates are lowest under flow through, should customers prefer flow through to normalization? Under the assumptions of the model, the answer is "yes." In the real world, the answer is less clear. First, it is apparent that the advantage of flow through to customers is at the expense of investors, especially stockholders.[15] In effect, stockholders in the simulated flow through company are subsidizing customers, and these stockholders are earning subnormal returns. This unfavorable treatment is bound to have an influence on Firm F's ability to attract capital, as well as on the terms on which this capital is secured. These factors, in turn, might influence the flow through company's investment policy, possibly causing service deterioration and delays in new customer hookups. Obviously, the likelihood of these problems' occurring depends on the extent and duration of the rate of return shortfall.

[14]The little "blip" in the N and F rate schedules results from the fact that the utility rate cut occurs during the year, so the new rate is in effect during only part of the year in which the cut occurs. During the following year, the full impact of the cut is felt.

[15]The overall rate of return under flow through is less than the cost of capital in the simulation. Bondholders would receive their fixed interest payments, so the return shortfall would all bear on stockholders. Bondholders would suffer somewhat, as interest coverage would be reduced and bond quality would deteriorate, but the main impact would fall on the equity investors.

Figure 5. Utility Rates under Regulatory Lag



DIFFERENTIAL COSTS OF CAPITAL

Studies by Brigham and Pappas [4], Mlynarczyk [6], and O'Donnell [8], indicate rather clearly that flow through companies have a higher cost of capital than normalized companies. These findings are very much consistent with our simulation results, which show:

1. that cash flows are larger for normalized firms, hence bond interest and stock dividends are covered more adequately under normalization,

2. that flow through companies must request rate increases at some point to make up for earlier revenue deficiencies, and difficulties may be encountered in obtaining the needed rate relief, and

3. that under regulatory lag, the chances are relatively high that flow through stockholders will be penalized for some period, perhaps an extended one.

Thus, flow through accounting entails additional risks for investors, and the result is a higher cost of capital.

Because a higher cost of capital is a fact of life under flow through, we modified the simulation model to take this factor into account. Any desired cost of capital differential can be used in the model; for our illustrative runs we increased Firm F's cost of debt and equity by .08% and .15%, respectively, because differentials of this magnitude were found in the Brigham-Pappas study. That study was based on data from the 1960's, before the full impact of the recent inflation had been felt, so the differentials might be higher today.

The higher cost of capital is compensation to investors for the greater risk inherent under flow through accounting. Since required gross income is directly related to the level of capital costs, so also is the required utility rate. Therefore, if the regulatory commission recognizes this higher cost, then flow through service rates will be relatively high.

If this differential cost is indeed recognized by commissions and built into service rates, then investors should be indifferent to the choice of accounting methods. However, if the differential is not recognized and allowed for, then Firm F's stock price will decline, and, depending on the magnitude of this decline, the firm is likely to have difficulty attracting capital.

PRICE ELASTICITY

Thus far we have ignored possible effects of variations among service rates on demand--our simulated utility rates vary over time and among the three companies, yet we have assumed that they all have exactly the same demands for service, hence the same growth rates. However, the demands for at least some utility services are responsive to price changes--for example, while local telephone service has a relatively low price elasticity, touchtone phones, extension phones, toll calls, and data transmission services have higher degrees of elasticity. Similarly, residential demand for electric power for lighting is inelastic, but power for space heating is elastic, and power for some industrial uses is highly elastic. Further, the elasticity of almost all services is greater in the long run than in the short run--a change in price may cause few people to alter their service demand in a matter of weeks, but over the years adjustments may occur that produce a significant impact on demand.

In the usual textbook model, price elasticity is defined as the percentage change in quantity demanded resulting from a one-percent change in price. Since the model does not deal explicitly with price-quantity relationships, we must depart somewhat from this standard definition.

Specifically, we assume that output is a fixed proportion of assets, so growth in assets is directly related to growth in demand. In the basic model, we specify the asset growth rate for each year by simply supplying an initial rate, the number of years to a final rate, the final rate, and the decline pattern followed in going from the initial rate to the final rate. This same growth rate applies to all three companies.

In the elasticity model, we handle growth as follows. First, we calculate the growth rate for the straight line firm as in the basic model, defining this rate as the "basic growth rate." Next, we obtain modified (and higher) growth rates for Firms N and F, using the following equations:

$$g_n(N) = g_n(S) + e \, \frac{U_n(S) - U_n(N)}{U_n(N)} \,.$$

$$g_n(F) = g_n(S) + e \, \frac{U_n(S) - U_n(F)}{U_n(F)} \,.$$

Here g_n is the asset growth rate in year n for Firms N, F, and S as indicated by $g_n(N)$, $g_n(F)$, and $g_n(S)$, respectively; U_n is the actual utility rate in year n; and e is an "elasticity factor," the value of which is supplied as input data. Thus, the growth rates for N and F for each year are equal to the growth rate for S in that year plus or minus a factor related to the percentage difference between the firm's utility rate and that of Firm S. If N's or F's utility rate falls below that for S, then its growth rate will rise above S's, and conversely if their rates are above S's. The difference in the growth rate depends upon (1) the difference in utility rates and (2) the value of e. Since different utility companies have different demand characteristics, hence different degrees of price elasticity, "realistic" values of e would vary from company to company. In our simulation runs, we used values in the range of .05 to .20, which produced growth rate differentials in the range of 2-3 percent above the straight line growth rate (e.g., g = 5.10

to 5.15 versus 5.0%).

Adding price elasticity did not materially affect any of the key output variables--utility rates, rates of return, or stock prices. Our conclusion is that, for the amount of price elasticity faced by most utility companies, this factor does not materially affect the choice between normalization and flow through.

THE IMPACT OF INFLATION

Inflation has been a fact of life in recent years, yet the simulation model does not take this factor into account. If inflation was built into the model, how would it influence our results? We obviously cannot provide a complete answer to the question, but inflation would probably have an adverse effect on all utility companies, especially on those using flow through. Inflation has led to rising operating costs, increased property taxes, higher interest rates, and a higher cost of equity capital. Because of these factors, utility companies have been forced to seek rate increases. Raising service rates is a painful, unpopular action, and the fact that public service commissions are either elected officials or political appointees does not make it any easier for them to order rate hikes, no matter how necessary. Thus there is a natural tendency to resist granting increases, and this resistance, combined with the usual administrative lag, makes the regulatory lag more important than ever during inflationary periods.

All utility companies, whether normalized, flow through, or straight line, will have to seek rate increases if inflation causes costs to outstrip technological advances, but flow through companies will be forced to ask for larger rate hikes than normalized firms. As we saw, flow through firms will, after a period, have to seek rate increases as a direct result of depreciation policy, but normalized firms will never have to ask for higher rates on this count--in fact, depreciation policy will, if anything, help the normalized companies avoid going in for rate increases that inflation would otherwise require.

DEPRECIATION POLICY AND REGULATORY THEORY

In principle, customers should pay rates sufficient to cover all costs, including a fair rate of return to the utility's investors. Certain costs must be allocated, and in public utility ratemaking theory a fundamental premise of allocation is that no class of customers should be required to subsidize another class. Cost allocation is certainly a difficult business, but, to the extent possible, cross-subsidizations should be avoided.

Flow through accounting is totally inconsistent with the traditional theory of ratemaking, as it benefits one class of customers (current customers) at the expense of another class (future customers). Under flow through, sharp short-term rate cuts are made, but future customers must pay the piper through higher rates. Normalization, by contrast, involves establishing a deferred tax reserve, which is treated as "costless" capital, and all the firm's customers, both present and future, benefit from the existence of this "costless" capital. Thus, in our view, normalization is consistent with traditional public utility ratemaking theory, but flow through is not.

CONCLUSIONS AND RECOMMENDATIONS

First, the results of an analysis of the simulation model raise a question as to whether a utility commission is justified in permitting companies under its jurisdiction to continue using straight line depreciation for tax purposes. The model demonstrates that using taxes computed on the basis of straight line depreciation as an allowable cost of service results in a higher cost to ratepayers than would be necessary if the important benefits of accelerated depreciation were utilized in ratemaking. The company <u>could</u> increase its cash flows and thus obtain interest-free capital in the form of deferred taxes. By refusing to use accelerated depreciation the company is refusing to accept this capital contribution. Thus, the model lends support to the thesis that neither the customers nor the stockholders benefit from straight line depreciation. Accordingly, there is reason to question whether it is advisable for a utility commission to permit a company under its jurisdiction to disregard the tax savings afforded by liberalized depreciation.

Second, our analysis leads us to the conclusion that, all things considered, normalization is a better policy than flow through. Both of these methods enable a company to take advantage of accelerated depreciation for tax purposes, and both (at least in our model) pass the benefits of accelerated depreciation on to the utility's customers. However, flow through gives current customers benefits which are really too large, and future customers are forced to make up for these excessively large current rate reductions. Our simulation results show that the frequently encountered argument in favor of flow through--the argument that so long as a company continues growing it will never have to pay its deferred taxes, hence they do not constitute a true cost--is misleading. Regardless of how fast the company is growing, a flow through company will, at some point in the future, be forced to seek rate increases, and the data suggest that future customers are, in effect, being forced to subsidize current customers.

Of course, if future conditions are such that a flow through company simply cannot obtain timely rate increases, either because its regulators will not permit it or because conditions in the market make it impossible, then the flow through company's earnings and rate of return will be too low. Recognizing that flow through companies face a greater potential danger from future economic conditions than normalized firms, investors penalize flow through companies by raising their cost of capital. Thus, at least some additional cost burden is thrown onto the ratepayers whenever a firm adopts flow through accounting.

We are convinced that normalization is a sounder policy than flow through, and we have no hesitancy in recommending (1) that straight line companies should switch to accelerated, then normalize, and (2) that normalized companies should continue with this policy. We are tempted to add a third point, a recommendation that flow through companies switch to normalization, but we must refrain from doing so. We have not studied the effects of a change from flow through to normalization, so we cannot anticipate the problems that might be encountered in such a switch.

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