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LEGAL IMPLICATIONS IN ACCOUNTING FOR DEPRECIATION

MELVIN F. WINGERSKY

PART II

A depreciable asset is a terminal case. Depreciation\(^1\) effects diminution in service value.\(^2\) It influences exhaustion\(^3\) of the service life of a fixed asset. Ineluctible conditions\(^4\) manifested

\(^*\) This is the second of two installments. The first appeared in the Autumn-Winter 1952 issue of the De Paul Law Review, at page 45.

\(^1\) S. S. Weyer, Regulation, Valuation and Depreciation of Public Utilities (Columbus, Ohio, 1913), fig. 20, p. 103, charts species of depreciation. II Kester, Accounting Theory and Practice 121, diagrams causes of depreciation. This author notes that his

\(^2\) John Bauer's article under "Depreciation," 5 Encyc. of the Social Sciences, pp. 98 ff., is a detailed and valuable explanation of the subject. More particularly because it recognizes that word as setting up a dichotomy between the concept of fall of value and amortized cost.


Marginal note 9 to the majority opinion in Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591, 601 (1944), indicates recognition of this problem: "We recently stated that the word "value" is to be gathered from the purpose for which a valuation is being made. . . ."

United States v. Ludey, 274 U.S. 295, 300, 301 (1927): "The amount of the allowance for depreciation is the sum which should be set aside for the taxable year, in order that, at the end of the useful life of the plant in the business, the aggregate of the sums set aside will (with salvage value) provide an amount equal to the original cost."

\(^3\) In Accounting Research Bulletin No. 16 (Special) pp. 138 ff., where the Committee on Accounting Procedure of the American Institute of Accountants particularly noted "causes of exhaustion" in connection with their report on "depreciation."


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The author's opinions, herein expressed, do not necessarily represent the official views of the State's Attorney's office.
during service life of fixed assets lead to accounting recognition of depreciation expense. They are consequences with discoverable facts. Plant units wear out. Invention spawns superior plants and equipment.

Irrefragable evidence compels insertion of an economic clause commonly named "depreciation" in the profit and loss statement. Consequently, a charge titled depreciation is made an element of expense in ascertaining profits or losses for a particular accounting period. Recognition of depreciation as an element in the financial outline is adapted from Weyer's. Weyer mentions "normal wear" as physical, while Kester identifies "physical wear" as "wear and tear from operation." These authors also differ on "depreciation." The action of time is omitted in Weyer's analysis. These two treatises are noted and described in II Bonbright, Valuation of Property 187 (1937). Kester's analysis is summarized by Professor Bonbright, but he refers to a different edition of Kester's work.


Accounting Research Bulletin No. 20 (Special), issued by the Committee on Accounting Procedure, American Institute of Accountants, pp. 160 ff., examines the terms "depreciation accounting," "depreciation for the year," and discusses the diversified usage of the words "depreciate" and "depreciation." This Bulletin, p. 141, considers the difference between "loss" and "cost." Preference for the concept of "cost" is summarized on p. 142 ff., ibid.

Int. Rev. Code Sec. 23(1), 26 U.S.C.A. § 23 (1948). "(1) Depreciation—A reasonable allowance for the exhaustion, wear and tear (including a reasonable allowance for obsolescence);" U.S. Treas. Reg. 111, Sec. 29.23(1)-1, official text cited in note 20, C.C.H. Par. 4001: "... For convenience such an allowance will usually be referred to as depreciation, excluding from the term any idea of a mere reduction in market value not resulting from exhaustion, wear and tear, or obsolescence. ..." (Italics supplied.)

For a description of the term "service life" see Kohler, A Dictionary For Accountants, pp. 378 ff. But note this author's careful delineation between economic service life and physical service life. Mr. Kohler wrote Depreciation and The Price Level—The Case For Original Cost, which appeared in 23 The Accounting Review 115 (1948). In this connection, see also American Institute of Accountants, Accounting Research Bulletin No. 42, Emergency Facilities; Accounting for Depreciation and Taxes Under Certificates of Necessity, 95 J. of Accountancy 48 (1953).

Examination of various authorities discloses a tendency to focus on distribution of cost over accounting periods. But most of such writers eventually discuss the "funds" for replacement. A clear line of demarcation should be drawn in terminology between "funds" accumulated by sinking fund methods, as contrasted with the word "funds" meaning money—currency. See: John E. Kane, Relationship Between Depreciation Allowance and Maintenance of Capital During Inflation, 94 J. of Accountancy 697 (1952); The report of the National Association of Railroad and Utilities Commissioners on Depreciation (1953).

III. A. S. Dewing, The Financial Policy of Corporations 21 (1920), comments on machinery which has been superseded "by better and faster models." The 1920 edition of this work is of interest in this paper because in note 16, ibid, the author discusses the difference between maintenance of physical condition of property and the maintenance of its "full economic value."
analysis of an enterprise necessitates a methodology for expressing it in dollars.

Certain concepts underlying a depreciation allowance fall into two categories. One sees such charge as an allocation of cost, while the other envisages it as providing funds for replacement. The first view simply spreads the cost of an asset over its estimated useful service life. Such procedure frees a single accounting period from distortion which would be caused by the impact of charging the total original cost to that single period. Such procedure has deceptive conceptual simplicity. By this treatment each period, during the estimated service life of an asset, reflects a segment of the cost of a fixed asset. But as depreciable assets age, dollars disbursed as the medium of exchange at the time of initial acquisition do not remain stable units of measurement. Accordingly, a profit and loss statement for a subsequent period mirrors dollars contemporaneous with the statement date in virtually all items, save for depreciation allowance. But the amount allocated and charged as current depreciation, in such a statement, reflects a computation predicated on dollars of past original.

48 This is one side of the dual aspect of depreciation, i.e., is the depreciation charge to act as a sifting process by which money will be provided for replacement of assets, or is it a spreading of the cost of a plant unit?

49 Northwest Airlines, Inc.; Mail Rate Proceeding For Route No. 45, Docket 407, II CAB 827, 832 (1941); "The petitioner's contention that the depreciation of capital assets should be computed upon market value, as a base, must be presumed to rest upon the theory which we believe to be unsound, that depreciation is a means or method of financing replacements. The primary purpose of depreciation accounting is not the financing of replacements but a determination of an expense or cost of operation. Depreciation is the cost incurred through the consumption, diminution or exhaustion of the service capacity, utility or service life of depreciable property. The depreciation charge serves the purpose of preserving the integrity of the investment in depreciable capital assets and of distributing equitably throughout the service life the only expense of retirement which is capable of reasonable ascertain-ment—the known cost less the estimated salvage value."

50 Niswonger, The Interpretation of Income in a Period of Inflated Prices, 24 Accounting Rev. 27 (1949); Sweeney, Maintenance of Capital, 5 Accounting Rev. 277 (1930); Simon H. Rifkind, Money as a Device for Measuring Values, 26 Col. L. Rev. 559, 587 (1926).

51 In Detroit Edison Co. v. Commissioner, 319 U.S. 98, 102 (1943), Mr. Justice Jackson observed: "A property may have a cost history quite different from its cost to the taxpayer. It may have been purchased for less or more than original cost, or built by contract which called for payments on which the builder profited greatly or suffered heavy loss." And at page 101: "Or as a layman might put it, the machine in its life time might pay for itself before it can be said to pay anything to its owner."

Mr. Justice Douglas, delivering the majority opinion of the Court in Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591, 606, said, inter alia: "Moreover, this Court recognized in Lindheimer v. Illinois Bell Telephone Co., supra, the pro-
cost. It is at this juncture that a question arises concerning "matching dollars" when presenting accounting results. Sales or revenues are expressed in dollars having the purchasing power of the current statement period, while the depreciation item, of expense, is computed with and reflected in dollars of a prior or different period. Dates of asset acquisition vary widely in comparison to the period covered by such statements.

Freed from a multiplicity of definitions, there is a contra account to the depreciation charge in which the periodic depreciation allowance is accrued. As service life expires, this account accumulates and reflects past depreciation allowances charged as production expenses against prior periods. It depicts that dollar amount of original cost, of a particular plant unit or units, assumed to be consumed by the enterprise for all prior periods for which the depreciation allowance was made. The decreasing usefulness of a particular asset is thus spelled out in dollars. Entries in this account also tabulate the total amount of historical cost dollars which were allocated to each prior period.

There is, however, a marked tendency toward blurring the boundary lines between the several concepts. Some materials on this subject display little recognition of any delineation. But these are the dual aspects of the pivotal question under examination.

The reserve for depreciation is not a repository of dollars. It indicates that during the estimated service life of a particular asset, amounts equivalent to the periodic depreciation charge were withheld from distribution as dividends. Management, then, had avail-

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able to it dollars equivalent to such periodic depreciation allowances for the purposes of replacing the aging assets. Dollars thus held back from distribution were computed on original cost.

In a high price level period, as today, management cannot replace old assets with this amount of dollars recaptured on an original cost basis.

Periodic charges for depreciation are not precise repetitive measurements of the actual consumption of a plant unit. The total condition resulting from depreciation cannot be measured. Since such consumption by use is not measurable, that loss which is not preventable by maintenance, is translated by methodical distribution, as a cost of production over the estimated useful life of a plant asset. Recordation of wear and tear, decay, inadequacy and obsolescence are thus theoretically interpreted into dollars. Such procedure involves predictions based upon original data contributed by judgments and opinions. But this interpretation is made in dollars of original cost. The phenomenon of depreciation being converted into dollars by utilizing the dollar amount, expended in acquisition of the plant unit, is a starting point. The purchase price paid for a depreciable asset becomes the dominant fact in such computations. Consumption of a plant unit by utilization in production is treated as a gradual sale of such asset. Hence the periodic depreciation charge which channels the dollar quantum of estimated consumption into the computations necessary to ascertain profits or losses for a given period.

As an expense item, depreciation is a bivious charge: the gradual sale by consumption of a fixed asset; and, systematic spreading of original cost throughout the asset’s estimated useful life. This latter

54 Assuming, of course, that undistributed moneys did not flow out of the business for other purposes. The need for business budgeting is apparent.

An important phase, here, is contained in Int. Rev. Code Sec. 102, 26 U.S.C.A. § 102 (1948), governing the surtax on undistributed profits, also referred to as a surtax on corporations improperly accumulating surplus. On this topic, see Helvering v. National Grocery Co., 304 U.S. 282 (1938); World Publishing Co. v. United States, 169 F. 2d 186 (C.A. 10th, 1948).


56 Price level dislocations after World War I are considered by H. W. Sweeney, Stabilized Accounting (Harper & Bros., N.Y., 1936).

57 While the price paid for a plant unit is thus allocated over future accounting periods, degrees and quantum of consumption by production are not otherwise measured in the straight line method of computation.
procedure being somewhat analogous to the treatment accorded long-
term deferred expenses.

Under the foregoing theories the dollar depreciation charge is
clearly a derivative of acquisition cost. Acquisition of a plant unit
at the current price level necessarily produces a depreciation charge
based on that elevated cost. But traditional accounting practice does
not reflect the fluctuations in the dollar as a unit of measurement.
Depreciation charges remain rigidly correlated to cost of acquisition,
or historical dollar cost. For the most part, financial statements do not
mirror increments or declines in fixed asset values or corresponding
adjustments for depreciation. Seemingly, the price paid and first in-
vested in a depreciable plant unit is thus considered the sole indicia
of its value. Orthodox accounting methods concerning depreciable
assets are postulated on a stable dollar, regardless of the point in time
during an economic cycle when money was committed by disburse-
ment to investment in a fixed asset. Non-recognition of economic
cost produces an inadequate depreciation charge. The cost of a plant
unit purchased at lower price levels is mechanically written off over
its service life by naked computations, i.e., cost less salvage divided
by estimated service life. But, an increment in value of that asset
arising during the interim years, after acquisition, due to rising price
levels, is ignored in customary statements. Clearly, depreciation
charges derived by historical dollar cost computations are inadequate
if economic cost is to be accorded recognition. If an aim of a depreci-
ation charge is to insulate some portion of profits against distribution
as dividends, and protect the earnings, thereby making those profits
available for replacement of assets, such conserved amounts would be
deficient for such purposes at the current price level. In restructuring
this problem, from the elevated price level aspect, it appears that de-
preciation charges computed on original cost understate the economic
cost of asset consumption. Under that premise earnings recorded and
reported pursuant to traditional accounting practices are distorted and
overstated.

Since the first postulate of depreciation accounting seemingly con-
templates recovery of capital, a failure to adjust for changing price

58 Here too, clear cut definitions are wanting. Those which are available require
explanation and amplification. Each must be examined in context. See e.g., Kohler,
A Dictionary For Accountants (Prentice-Hall, Inc., 1952); American Institute of
Accountants, Committee on Accounting Procedure, Bulletin No. 39; Dwight, Capital
and Capital Stock, 16 Yale L. J. 161 (1907).
levels would impair capital. Integrity of an investment in plant is not preserved by continued non-recognition of changing price levels.

Still, if original cost is the resultant of the historical act of disbursing a particular quantity of dollars in exchange for a depreciable asset, this "cost" is the amount that orthodox accounting directs be recovered by periodic charges for depreciation. That cost is treated as the original investment, that is the minimum of investment to be protected. Price behavior during subsequent years of estimated useful life does not change the amount of initial outlay. Present depreciation accounting technique is founded upon recovery of the cost figures, not upon fluctuations in value.

Economists, on the other hand, urge that present profit reporting methods fail to reflect true economic earnings. Their thesis being that, in an inflationary period, incremental changes in value accruing to an enterprise through operations are not translated by customary accounting methods. That is a derivative of the postulate that traditional accounting disregards shrinkage in the dollar as a unit of measurement of value in recording and reporting financial data (except in special price level studies and statements). The corollary being that stability of the yardstick is assumed in the accounting area.

In today's business setting management ascertains the true earnings of its business enterprise. Economic costs are accorded recognition in prudent management's formulation of policies and reflected in their

59 John E. Kane, Relationship Between Depreciation Allowance and Maintenance of Capital During Inflation, 94 J. of Accountancy 697 (1952).

"To use a depreciation charge as the measure of the year's consumption of plant, and at the same time reject original cost as the basis of the charge is inadmissible. It is a perversion of this business device." United Railways & Electric Co. of Baltimore v. West, 280 U.S. 234, 277, 278 (1930), Brandeis, J., dissenting.

59a Securities and Exchange Comm. v. Wickham, 12 F. Supp. 245, 247 (Minn. D., 1935): "The placing of capital or laying out of money in a way intended to secure income or profit from its employment. . . ."

60 The Annual Economic Review, p. 74, in The Economic Report of the President, January, 1953: "The general price structure seems now to have readjusted to a reasonably stable condition. . . . There will be some upward pressures. For one thing, many businesses will face further cost increases. . . ."


"In nonmanufacturing, only public utilities showed increased plant and equipment expenditures for the year as a whole, with mining, transportation, and commercial firms showing a decline. . . ." The Annual Economic Review, p. 53, in The Economic Report of the President, January, 1953.

Neil W. Chamberlain, Management in Motion (Yale University Labor and Management Center, 1950).
budgets. To contend for present value of a past outlay seems to be a reversal of events. It imputes current values to closed transactions.

Management is confronted with the problem of financing future replacements of worn-out depreciable property. Replacement decisions are dictated by the sources and cost of capital. Either a portion of earnings sufficient for replacement outlay must be retained or the enterprise must invade the money markets and compete for capital. But retained earnings are the residual of past transactions of an enterprise. If they were accumulated by depreciation charges calculated on historical dollar cost, then, seemingly, acquisition of new facilities, at current prices, out of such retained earnings would deplete capital. Yet, altering depreciation expense to coincide with the current price levels is an artificial change of the financial environment in which the outlay first took place.

Whatever view one holds concerning problems presented by current price levels, no one will question the cardinal importance of according recognition to the symptoms. The occasion has arisen for a systematic re-examination of the underlying issues and ramifications implicit in them. The fields of economics and accounting are presenting a challenge in these sensitive areas. It would be unrealistic to assume that all contentions urged in technical and professional journals are stimulated by a mere wave of contagion. True, somewhat similar arguments were sponsored in prior periods of inflation. But such a polemic has merely a narcotic function. It palliates, but does not cure. It is a recitation, not a refutation.

Contemporary contentions must be examined against a new background. Treatment accorded depreciation as a factor, and as an item of expense, permeates a wide band of daily affairs. Yet the basic pattern of resolving such questions has demonstrated no marked advance in law.

Possibly the reason lies in that cogent observation by Mr. Justice Brandeis in United Railways & Electric Co. of Baltimore v. West:

For, whether the expense in plant consumption can be more nearly approximated by using a depreciation charge based on original cost or by one based

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E. Cary Brown, Effects of Taxation Depreciation Adjustments For Price Changes (Division of Research, Graduate School of Business Administration, Harvard University, Boston, 1952).

Viz., Federal, state and local taxation, regulation of public utilities, securities regulations, rent control, condemnation cases, casualty losses, admiralty cases, corporate dividend policies, damage suits.

280 U.S. 234, 275, 276 (1930).
upon fluctuating present values is a problem to be solved, not by legal reasoning, but by the exercise of practical judgment based on facts and business experience.

Experience of such nature has expanded considerably in the span of years since the Justice's remark. Certainly such knowledge has appreciated—not depreciated. It would appear, too, that business men have by now accumulated data predicated on actual experience concerning mortality studies, life spans and turnover rates of fixed assets. They have now owned, used and retired plant units, in many instances, over the years that were once the predicted estimated life. World War II accelerated the availability of scientific knowledge to private industry. Experience in aircraft maintenance, for example, should afford a fund of information on wear and tear. Mathematics, too, received heavy impetus under war time exigencies. Professor Bonbright concluded his chapter on depreciation by pointing out that his object was to pose problems concerning depreciation, not to solve them. He expressly noted that part of the advance in lay in higher mathematics. Practical application of sampling, developed from the theory of probability, is now available in the planning and interpretation of surveys. Economic behavior and price theory are being extensively explored.

This is but a small segment from a total enumeration of all those areas in which valuable and pertinent contributions have now been made. It is an adumbration of the progress accomplished within any one of these several fields of knowledge. But to hold such developments in isolation would frustrate progress in the area encompassed by this paper.

64 D. J. Davis, An Analysis of Some Failure Data, 47 Journal of the American Statistical Association 113 (1952): "Preventive maintenance procedure, by which parts are replaced after a fixed lifetime or at a given state of wear, are justified by a normal theory of failure. . . .", and " . . . the time rate of wear increases with the cumulative amount of wear. . . ."

65 I Bonbright, The Valuation of Property 213 (1937).

66 Ibid.

67 See e.g.: Schaef, Leeburger and Jeming, Depreciation of Public Utility Property; J. B. Jeming, On Estimates of Average Service Lives and Life Expectancies, 11 Econometrica 141 (1943), for examples of newer developments on the subject.

68 Dr. William E. Deming demonstrates a methodology of drawing a sample of telephone poles in order to examine them and ascertain percent condition, in his book Some Theory of Sampling, p. 95 f., (John Wiley & Sons, Inc., N.Y., 1950). It is of interest here to note that the Quarterly Financial Report—U.S. Retail and Wholesale Corporations, 3rd Quarter 1952 (Feb., 1953), Federal Trade Commission—Securities and Exchange Commission, pp. 6 ff., contains an explanation of the sampling plan utilized, and the standard error of each estimate thereof. This is valuable information for evaluating the methodology underlying that Report.
Research discloses that there is an utter paucity of agreement as to
terminology and nomenclature between the fields of law, finance,
accounting, engineering and economics. Treatment, ascertainment
and application of depreciation expense remains a scene of chaos.
This, despite its vital place in the theory of values. The question of
adjusting for price levels may not be as audacious as conservative
opinion indicates.

Current economic conditions come to accounting clothed in lan-
guage peculiar to that field. Interpretations of present day economy
are garbed in the phraseology familiar to the economist. Then, regu-
latory bodies and courts struggle with vague concepts communicated
by words having floating meanings. The difficulty lies not in the con-
cepts, but in their translation. Like all judicial opinions, they must be
read as applicable only to the particular facts involved.

This semantic problem is typified in the field of public utility rate
regulation. Judge Learned Hand recognizes the situation in Consoli-
dated Gas Co. of New York v. Newton. As recently as January,
1953, the Illinois Supreme Court considered the same so-called in-
dicia of fair value which were involved in Judge Hand’s opinion.
Reproduction cost, reproduction cost new and replacement are facets
of the problems fashioned by present price levels. With depreciation

69 "It must be owned that much of the discussion shows either a timidity or an
inability to grasp any principle in dealing with the rate base. With deference, it
appears to me to be merely an abandonment of any attempt to deal intelligibly with
the question to say that cost of reproduction and the original cost are each elements
to be considered. That statement can mean nothing whatever, unless it is accom-
ppanied by a constitutive rule, which will establish some standard in the ascertainment
of which these may be used. It would be understandable to say that the two esti-
mates should be averaged, but such rule could obviously command no support,
because it would correspond to no relevant considerations of policy. Merely to
leave the question with a caution that several elements are to be considered is to
abandon any effort to solve it." Judge Learned Hand in Consolidated Gas Co. of

70 Illinois Bell Telephone Company v. Illinois Commerce Commission, Supreme
Court of Illinois, Nos. 32519, 32548, Consol., opinion dated January 22, 1953. This
opinion points out, among other things, that "the reproduction cost should have been
determined and stated in the findings of the Commission. . . . In this respect the
Commission erred because a fair present value of a public utility cannot be de-
termined without full and proper consideration being given to the cost to reproduce
it new." At another place therein, it was said:

"This court previously stated in the Springfield Gas and Electric Company case
that it could not be laid down as a rule without qualification that cost of reproduc-
tion new, less depreciation, is the only basis of valuation for rate-making purposes.
We also there declared that it was equally true that the original cost of construction,
less depreciation, cannot be held to be the only proper basis for determination of
valuation for rate-making purposes."
(and its treatment) attending each of them in one way or another. The complexity of these interrelationships is apparent upon examination of the so-called principles which formulate the criteria for finding "fair value" as a rate base. For rate purposes, determination of "fair value" is the reverse of commercial practice. Value, in a rate case, is ascertained for the purpose of determining future earnings. Whereas, in non-regulated areas value is commonly ascertained from earnings, existing and anticipated. These approaches demonstrate the existence of two different concepts of value.

Scrutiny of forecasts of future earnings, at untried rates, usually reveals a superstructure of predictions resting upon framework erected on invalid assumptions. Operating conditions, prospective price levels, wage and tax rates are all variables in the legal equation applied by regulatory bodies. Depreciation of plant commences at the inception of its construction. Installation of fixed assets signals the start of that inevitable march to retirement. What significance is attached to sequential entries of figures in a depreciation account is not always clear in rate orders. Illustrative of vague explanations enunciated in rate cases is Lowell Gas Co. v. Department of Public Utilities, where the court stated that: "The department's brief contains such statement as: 'its so called prudent investment theory'... in plain language means the net cost of investment less depreciation as the base upon which rates should be granted subject, of course, to the particular circumstances and conditions that prevail in the particular utility concerned." In a later case, New England

71 This method should be contrasted with the attacks sometimes levelled at reproduction cost evidence, e.g., "... reproduction costs new less depreciation estimates are at best to a material extent conjectural....", Alexandria Water Co. v. Alexandria, 163 Va. 512, 606, 177 S.E. 454, 494 (1934).

72 As stated in McCord v. Indianapolis Water Co., 272 U.S. 400, 408 (1926): "... in determining present value, consideration must be given to prices and wages prevailing at the time of the investigation...."

73 324 Mass. 80, 84 N.E. 2d 811, 820 (1949), cert. denied sub nom., Department of Public Utilities v. Lowell Gas Co., 338 U.S. 825. This opinion cites Galveston Electric Co. v. City of Galveston, 258 U.S. 388, 391 (1922), commenting in marginal note 7 (84 N.E. 2d 811, 820) that Mr. Justice Brandeis refers to the "undepreciated reproduction cost on the historical basis—which seems to be substantially equivalent to what is often termed the prudent investment...."

Compare the view expressed by Mr. Justice Reed in his dissent in Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591, 622 (1944): "Historical cost, prudent investment and reproduction cost were all relevant factors in determining fair value. Indeed, disregarding the pioneer investor's risk, if prudent investment and reproduction cost were not distorted by changes in price levels or technology, each of them would produce the same result." Marginal note 3 cited in this quotation contains this statement (320 U.S. 591, 622): "'Prudent investment' is not defined
Telephone and Telegraph Co. v. Department of Public Utilities, the Massachusetts Court pointed out that it had "never yet passed upon the soundness of the department's so-called prudent investment theory of fixing the rate base or of its corollary the cost of capital theory of determining the rate. . . ."74 Where the theory of rate making is approached by ascertaining original cost or reproduction cost, depreciation is taken into consideration. This, because the value of the utility's property is integrated with the rate making process. The prevailing principle has been that fair value determines a rate base. Accordingly, application of the prudent investment theory eliminates ascertainment of such values.

The contours of concepts75 underlying the word "investment" encompass original cost as reflected in the utilities' accounting records. But once a plant is built and machinery installed, all with the accompanying initial outlay disbursed for such acquisition, the original "investment" takes on additional characteristics, and increments in value. But reconciliation between original cost76 and cost to reproduce77 or by the Court. It may mean the sum originally put in the enterprise, either with or without additional amounts from excess earnings reinvested in the business."

74 97 N.E. 2d 509, 513 (1951): The cautious reservation of the Court with respect to its acceptance of the "prudent investment" theory and "cost of capital" solely for the case at bar, should be noted. As late as February 28, 1951, the Massachusetts Court does not intend to create "binding precedent for the future" with respect to this theory and its corollary. The court's attitude here (97 N.E. 2d 509, 513) with respect to Smyth v. Ames, 169 U.S. 466 (1897) even in light of Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944), is of interest. See: Springfield v. Union Electric Light Co., 39 P.U.R. (NS) 135, 139 (1941); Springfield Street Railway Co., P.U.R. 1918C, 515, 547, for a ruling by the Massachusetts Commission (its name at that time) wherein no deduction is made for accrued depreciation in fixing the basis of return; In Re Blue Hill Street Railway Co., P.U.R. 1915E, 370.

75 When evaluating decisions of those years prior to modern regulatory practice, it is advisable to bear in mind that property records were not maintained as efficiently as today. Many of the "original costs" had to be reconstructed from various sources.

76 In Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591, 606 (1944), the majority opinion disposed of the distinction between a wasting asset business and one where continuance of service was required to be as an immaterial distinction.

See also: Willcox v. Consolidated Gas Co., 212 U.S. 1941 (1909): "There must be a fair return upon the reasonable value of the property at the time it is being used for the public." Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia, 262 U.S. 679 (1923).

"The actual cost of the property—the investment the owners have made—is a relevant fact. Smyth v. Ames, 169 U.S. 466 . . . But, while cost must be considered, the Court has held that it is not an exclusive or final test. The public have not underwritten the investment. The property, on any admissible standard of
reproduction cost new has not yet crystallized. Courts insist on blending them as a reservoir of criteria or indicia of fair value.  


Dissenting in Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591, 627 (1944), Mr. Justice Frankfurter, commenting on the sources to which the commissions and courts are to go for ascertaining standards relevant to regulating natural gas rates, said, inter alia: "It will not do to say that it must all be left to the skill of experts. Expertise is a rational process and a rational process implies expressed reasons for judgment. It will little advance the public interest to substitute for the hodge-podge of the rule in Smyth v. Ames, 169 U.S. 466, an encouragement of conscious obscurity or confusion in reaching a result, on the assumption that so long as the result appears harmless its basis is irrelevant."

When evaluating the Hope case it is well to note that there were three dissents, and that of the majority only Justices Douglas and Black remain in the Court. Peoples Gas Light and Coke Co. v. Slattery, 373 Ill. 31, 53, 25 N.E. 2d 482, 494 (1939): "The valuation of the property of the company was ascertained by the commission considering present values of the real estate, the reproduction cost new of the structures and equipment, the original or historical cost.... It was also determined in this case that the finding of value, by the commission, should be sustained because it was not based solely upon original cost or solely upon reproduction cost new, but was based upon a combination of all. State Public Utilities Commission v. Springfield Gas & Electric Co., 291 Ill. 209, 125 N.E. 891 (1919).

Arthur Andersen & Co. have prepared a summary (Subject File Re 500 Item 11, 1951) of 480 public utility rate cases entitled: Rate of Return Allowed in Public Utility Rate Cases 1915-1951. This is an excellent analysis showing the rate base, return allowed and pertinent language in each case examined. Equally useful are the several charts showing rate of return, for the same period, of electric, gas, transportation, telephone and water utilities.

It was said, inter alia, in Idaho Power Co. v. Thompson, 19 F. 2d 547, 566 (S.D. Idaho, 1927): "Fair value implies a consideration of all factors which would be regarded as material in negotiating a sale and purchase of such property. Wear, decay, deterioration, obsolescence, inadequacy and redundancy would all undoubtedly be considered as factors. It is suggested that obsolescence and inadequacy do not accrue but occur. But in essence how do they differ from wear and decay?...."

"The property is held in private ownership, and it is that property, and not the original cost of it, of which the owner may not be deprived without due process of law," The Minnesota Rate Cases (Simpson v. Shepard) 230 U.S. 352, 434 (1913). Referring to the basic calculation of "fair value" the court said: "The ascertainment of that value is not controlled by artificial rules. It is not a matter of formulas, but there must be a reasonable judgment, having its basis in a proper consideration of all relevant facts."

priation. It has been urged that permutations in the rate base affect the property rights of the investors. It is on this point in rate cases that circularity of judicial pronouncements becomes emphasized. Yet no decision has adequately spelled out the nature, nor clearly described or classified the property interest entitled to constitutional protection under regulatory rate making procedures.

Under current price levels the problem is even more acute. The question involves the nature and magnitude of the property which is to be protected against alleged expropriation due to inflationary conditions. There is a fluctuation in an investor's actual investment. It is contended that the dollar exchanged for a share of capital stock twenty years ago has a different purchasing power today than at the time when the stock was acquired. On the other hand, economists would urge that assets of such a utility, selling that stock, have appre-

80 Though it was said in McCardle v. Indianapolis Water Co., 272 U.S. 400, 414 (1926): "That there is an element of value in an assembled and established plant, doing business and earning money, over one not thus advanced, is self-evident. This element of value is a property right, and should be considered in determining the value of the property, upon which the owner has a right to make a fair return when the same is privately owned although dedicated to public use. Des Moines Gas Co. v. Des Moines, 238 U.S. 153, 165; Denver v. Denver Union Water Co., 246 U.S. 178, 191, 192," the declared decisions have not always been clearly applied.

D. R. Richberg, Value by Judicial Fiat, 40 Harv. L. Rev. 567 (1927); II Bonbright, Valuation of Property (1937), chap. 30, pp. 1078 ff., more particularly p. 1083.

An interesting sidelight on the semantic problem of "value" is furnished by the Draft Charter for the International Trade Organization of the United Nations (Dept. of State, Pub. 2927) Article 34, Valuation for Customs Purposes, Clause 1—"The members shall work toward the standardization, as far as practicable, of definitions of value and of procedures for determining the value of products subject to customs duties or other charges or restrictions based upon or regulated in any manner by value." "Actual value" is defined in Clause 3(b), ibid.

81 Compare the phraseology: "... and the private property embarked in it is not placed at the mercy of legislative caprice..." Justice Hughes delivering the majority opinion in The Minnesota Rate Cases, 230 U.S. 352 (1913) and, "The investor agrees, by embarking capital in a utility, that its charge to the public shall be reasonable"—"To give to capital embarked in public utilities the protection guaranteed by the Constitution..." Mr. Justice Brandeis dissenting in State ex rel. Southwestern Bell Telephone Co. v. Public Service Commission of Missouri, 262 U.S. 276, 292 (1923). ( Italics supplied.)


See: Table 2, p. 3, Securities and Exchange Commission Statistical Series Release No. 1143, February, 1953. This table indicates the proposed uses of estimated net proceeds from offerings of corporate securities. The Commission observed that: "In 1952 new securities provided about 28 per cent of the total amount estimated to have been spent by corporations for plant and equipment purposes, the remainder being provided by retained earnings and depreciation accruals."
ciated in value. This, then, is one of the motivations impelling those who urge synthesis of present values with original cost.

Depreciation expense, as commonly computed, is not based upon any observation other than a view of the purchase invoice. The purpose of the depreciation charge was described in Eisner v. Macomber, by Justice Brandeis. His dissent in that case preceded United Railways & Electric Co. v. West, by ten years, and it appears that Justice Brandeis had described his concept underlying depreciation which was to become the third purpose he enunciated in the West case.

Reviewing tribunals have usually restricted their review, in rate making cases, to an ascertainment of whether a regulatory body's determination is arbitrary, capricious or unreasonable. But the judicial criteria used in testing for such characteristics are neither clear, consistent, nor uniform. Nor has there been a recent pronouncement

82 252 U.S. 189 (1920): "The gains of a business, whether conducted by an individual, by a firm or by a corporation, are ordinarily reinvested in large part. Many a cash dividend honestly declared as a distribution of profits, proves later to have been paid out of capital, because errors in forecast prevent correct ascertainment of values. Until a business adventure has been completely liquidated, it can never be determined with certainty whether there have been profits unless the returns at least exceeded the capital originally invested. Business men, dealing with the problem practically, fix necessarily periods and rules for determining whether there have been net profits—that is, income or gains. They protect themselves from being seriously misled by adopting a system of depreciation charges and reserves. Then, they act upon their own determination, whether profits have been made. Congress in legislating has wisely adopted their practices as its own rules of action." (Italics supplied.)

Eisner v. Macomber is discussed in Tentative Draft No. 6, p. 190, of the American Law Institute, Federal Income Tax Statute study. The majority opinion is quoted in American Institute of Accountants, Committee on Accounting Terminology, Accounting Research Bulletin No. 9 (Special) p. 72.


83 280 U.S. 234 (1930): "It is a bookkeeping device introduced in the exercise of practical judgment to serve three purposes. It preserves the integrity of the investment... It serves to distribute equitably throughout the several years of service life the only expense of plant retirement which is capable of reasonable ascertainment—the known cost less the estimated salvage value. And it enables those interested, through applying that plan of distribution, to ascertain, as nearly as is possible, the actual financial results of the year's operation."


in a rate case involving factual issues grounded on original cost re-
cast at the level of recent prices, supported by evidence of the de-
terioration of the purchasing power of the dollar.

There has been controversy as to whether depreciation is counter-
acted by adequate renewals and replacements charged against earn-
ings. But these contentions overlook the accompanying question as to
the quantum of money made available by depreciation charges for
repairs, maintenance and replacement.

Some decisions have applied those concepts of property developed
in eminent domain proceedings to public utility rate cases. But this
analogy seemingly restricts ascertainment of value to the time of
taking, i.e., when the plant and facilities are first devoted to public
use. Stemming from this hypothesis, all subsequent investments are
made with notice of the fact that the utility is regulated. Since public
utilities compete with non-regulated enterprises for capital, the re-
action of investors to the fact that it is a regulated enterprise which
seeks to attract capital presents yet another facet of the rate making
problem.

Examination of the various pertinent opinions leads to the obser-
vation that fair value is not the product of disintegrating analysis or
rigid synthesis. The logical sequence, however, of the present value
requirement is to produce an estimation. This estimate could be the
product of appraisal or the application of price indices. The choice
between these alternatives lies in the magnitude of the undertaking
which would be encountered by physically examining a large modern
plant. Combinations of these two methods are not uncommon.

Cost in Public Utility Valuation, 37 Harv. L. Rev. 173 (1923); Hale, Rate Making
and the Revision of the Property Concept, 22 Col. L. Rev. 209 (1922).

88 E. W. Clemens, Economics and Public Utilities 191 (1950), explores the idea
deducting depreciation from the value new in determining the rate base. See
also p. 189, ibid, for the author's observations on depreciation accounting.

86 II Bonbright, Valuation of Property, pp. 207 ff. (1937), discusses the plant
immortality theory and the fifty per cent theory.

87 Thus in Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591,
602, it was said: "We held in Federal Power Commission v. Natural Gas Pipeline
Co., supra, that the Commission was not bound to the use of any single formula
or combination of formulae in determining rates. Its rate-making function, moreover,
involves the making of 'pragmatic adjustments.'"

88 R. B. Heflebower, An Economic Appraisal of Price Measures, 46 Journal of
the American Statistical Association 461 (1951); S. A. Rice, Revision of Base Period
for General Purpose Indexes, 5 The American Statistician 18 (1951).

Cases on price trends include Pacific Gas & Electric Co. v. Railroad Commission
Of California, 26 F. Supp. 507 (N.D. Calif., 1938); Northern States Power Co. v.
Public Service Commission, 73 N.D. 211, 13 N.W. 2d 779 (1944).
A significant aspect of the depreciation element comes into play in connection with the determination of present fair value of a public utility's property. When reproduction cost new is sponsored as evidence of fair value, existing depreciation of plant and equipment is ascertained and deducted from the reproduction cost new.89 Accrued depreciation, under such circumstances, need not be calculated at the same percentage rate as that which was utilized in computing the periodic charge to operating expense.90 One method of determining this amount of depreciation is by actual inspection.91 The magnitude of such an undertaking is readily apparent. But whatever competing theories, combinations or compromises of them are utilized, judgment and opinion dominate the result produced for application with reproduction cost new.

Sufficiency of the rate of return to the utility presents still another aspect of the rate making process. Reasonableness of a rate may be tested by the adequacy of the sum it yields as compared to operating expenses of the utility. Here, ascertainment of the sum required to meet operating expenses becomes a factor, and is to be considered. Once again depreciation and obsolescence are elements in the legal equation.

The impact of the treatment accorded depreciation overflows into the area of federal taxation.92 While the problem is more complex for regulated businesses it, of course, has a broad sweep in its general effect. This area has been subjected to a study, just recently published.93 However, the findings reported treat only with unregulated industries.94

Closely related to the matters at hand are the national income sta-
Statistics. Depreciation charge is defined in the volume, National Income\textsuperscript{65} as follows: "... represents the charges made by private business against receipts for the current consumption of durable capital goods and comparable allowances for nonprofit institutions. It includes depreciation charges against owner-occupied houses. Depreciation reported by business is not adjusted for changes in the replacement value of capital goods, except for farm enterprises.”

Confusing terminology and the use of non-scientific methods have produced the problems outlined. New conceptions of profit and property are emerging. Ideas expressed in monetary terms need fresh translation. There is room for the scientific method in the rate making process. Research on nomenclature, utilizing scientific polling by questionnaire and interview, should aid in settling terminology.

Operations research,\textsuperscript{86} as a potential methodology could be explored by regulatory bodies, public utilities and customers as a means of resolving various valuation problems. Taxpayers should not remain immune to the various advancements made in such techniques. Taxing officials are continually demonstrating an awareness of the potentialities which lie in practical application of sampling methods.

Materials concerning topics outlined in this paper disregard evidentiary problems, i.e., admissibility in evidence of results of polls and of sampling. This aspect, alone, lends itself to an extensive research project.

A research project undertaken to ascertain the aim, goal, and method of accounting for depreciation, from its myriad aspects, could make a distinct contribution to law. It could be the source of supply of working hypotheses. Eradication of \textit{ipse dixit-ism} would


In this connection see the article by J. B. D. Dirksen, The Use and Development of National Income Statistics, 6 The American Statistician 16, 17 (1952). The author points out several important problems in the treatment of capital consumption allowances which must be deducted from gross output to ascertain net output.


\textsuperscript{86} P. M. Mose and G. E. Kimball, Methods of Operations Research (The Technology Press of Massachusetts Institute of Technology and John Wiley \& Sons, Inc., 1951).
clear the underbrush cluttering basic issues. Regulative and instrumental points of view would be refreshed.

Various writers have urged the gravity of the economic situation and its impact on risk capital⁹⁷ and on property rights. They render a valuable service by recognizing that free men can determine value—and differ.

⁹⁷ Paton and Greer, Utility Rates Must Recognize Dollar Depreciation, 51 P.U. Fort. 333, 338 (March, 1953).