Current problems in accounting for tangible fixed assets

Epstein, Robert

Boston University

http://hdl.handle.net/2144/21403

Boston University
BOSTON UNIVERSITY

College of Business Administration

THESIS

Current Problems In Accounting for Tangible Fixed Assets

by

Robert Epstein

(B.S. University of Massachusetts 1948)

Submitted in partial fulfillment of the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION
# Table of Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td>Importance of Fixed Assets in Business</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Need for Capital</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Importance of the Subject Today</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Scope of the Thesis</td>
<td>7</td>
</tr>
<tr>
<td><strong>Chapter I - The Growth of the Problem of Accounting for</strong> Fixed Assets</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increasing Complexity of the Business Enterprise</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Necessity of Replacing Fixed Assets</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Consolidations and Mergers</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Influence of Government Regulations</td>
<td>13</td>
</tr>
<tr>
<td><strong>Chapter II - Government Regulations</strong></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tax Laws Pertaining to Fixed Assets</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Regulations of the Securities and Exchange Commission</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Regulations of the Interstate Commerce Commission</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Regulations of the Federal Communications Commission</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Regulations of the Federal Power Commission</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>Case Studies</td>
<td>43</td>
</tr>
<tr>
<td><strong>Chapter III - Procedures Suggested by Accounting</strong></td>
<td>45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Organizations and Members of the Accounting Profession</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Institute of Accountants</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Discussion of Articles in Accounting Journals</td>
<td>60</td>
</tr>
<tr>
<td><strong>Chapter IV - Valuation of Fixed Assets</strong></td>
<td>66</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Original Cost as a Measure of Value</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>Replacement Cost as a Measure of Value</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>Actual Sales as a Measure of Value</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>Capitalized Income as a Measure of Value</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>Factory Overhead as an Element of Cost</td>
<td>76</td>
</tr>
<tr>
<td><strong>Chapter V - Depreciation</strong></td>
<td>80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Depreciation as Distinguished from Depletion and Amortization</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Causes of Retirement</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Composite Life</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Obsolescence</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Retirement Policy as a Method of Depreciation</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>Amortization of Emergency Facilities</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>Depreciation Methods</td>
<td>92</td>
</tr>
</tbody>
</table>
# Table of Contents

Chapter VI - Valuation and Depreciation from the Point of View of Management ......................... 100  
Depreciation as Defined by Some Businessmen ........... 100  
The Adequacy of Profits ................................ 100  
Opinions of Management and Economists ................. 101  
Use of Accelerated Depreciation by some Corporations .................................................. 108  
Results of an Analysis of Thirty Oil Companies ....... 110  

Chapter VII - An Analysis of Industries ................. 113  
Solutions to the Problem of High Costs ................. 113  
List of Corporations and the Solution Adopted by Each ..................................................... 114  
Detailed Analysis of Various Industries ................. 119  

Conclusion ...................................................... 137  
Complexity of the Problem of Accounting for Fixed Assets .................................................... 137  
Importance of the Accountant .............................. 137  
Effects of Government Regulations on Fixed Asset Accounting .................................................. 138  
Conclusions on the Discussion of Valuation Methods ............................................................... 140  
Conclusions on the Discussion of Depreciation Methods ............................................................ 140  
Need for Uniformity .......................................... 142
Schedules and Charts

Figure | Description                                                                 | Page |
--------|-----------------------------------------------------------------------------|------|
1       | Schedule of Fixed Assets of the Gillette Safety Razor Company                | 32   |
2       | Schedule of Reserves for Depreciation of the Gillette Safety Razor Company  | 33   |
3       | Chart Showing Comparison between Capital Expenditures and Annual Depreciation, Depletion, and Amortization Charges of the Texas Company | 102  |
4       | Chart Showing Capital Expenditures of Thirty Oil Companies on the Basis of Present and Prewar Dollar Values | 110  |
5       | Chart Showing Capital Extinguishments of Thirty Oil Companies on the Basis of Present and Prewar Dollar Values | 112  |
INTRODUCTION

Since the beginning of the industrial revolution, during the nineteenth century, the importance of fixed assets in business has increased enormously. Today, huge plants and great amounts of machinery are necessary to keep a steady flow of producer and consumer goods in the pipelines of supply.

Before this great mechanization took place, goods, for the most part, were "homemade". Almost every home was a factory. Wearing apparel was made by hand. Mechanized equipment was unknown. There were no automobiles, huge machines, or electrical appliances. The ideas of mass production and long production lines were merely thoughts in the minds of men who looked to the future.

Today the situation is entirely different. The huge plant is commonplace, while the "homemade" article is hard to find, and is usually more expensive. This growth of industry has required large amounts of capital, both for expansion and replacement. No industrial organization can successfully meet competition if it does not keep up with the times. This means that during periods of expansion Company A must keep up with Company B in order to maintain its share of the market. Business must be in a position to replace its
worn-out or obsolescent equipment, if it wants to maintain a competitive position.

This need for meeting competition involves the problem of obtaining the necessary capital. There are three main sources. The first and primary source is profits. One of the most important tasks of management is to retain sufficient funds out of earnings to maintain present equipment and provide for future replacement and expansion. This task is made difficult for two reasons. First, the income tax laws take away a large part of the earnings. Second, stockholders often demand larger dividends. Thus, the demands of the Treasury Department, plus the stockholders often leave a business with insufficient funds for capital expenditures.

This leads to a second source of capital, namely investments. Investments are usually in one of two forms, either the purchase of company stock, or the purchase of company bond issues. Most companies are reluctant to issue bonds because of the heavy fixed charges which are involved, and because of the demands which are made on the company by the bond indenture. Many companies are not in a position to issue stock. Some have already issued all the stock allowed by their charter, and either cannot or do not want to obtain state permission to issue new stock. Some companies have stock that they can issue, but find that stock market condi-
tions make it unwise to do so.

The third source of capital is gifts. Gifts can be made in several forms. The gift may be stock of the company, which may be resold. The gift may be money given by a stockholder, or a debt owed to a stockholder which he cancels. A third form of gift may be the donation of land, a plant, or some other type of equipment. Municipalities often agree to donate land or a building to some company, as an incentive to start operations in a certain town. Such gifts usually carry the stipulation that the company must employ a certain number of people, or have a certain size payroll for a given period of time, before the plant becomes the property of the company.

The subject of fixed assets is of great importance today. Economic conditions have made accounting for fixed assets a major problem. Management must contend with the high cost of expansion and replacement as well as the regulations set up by the various regulating bodies and the Treasury Department.

These various problems which are confronting management have also had repercussions in the accounting profession. Over the years, the profession has set up standard procedures for accounting for fixed assets. These procedures have often been under fire by management. As a result of these pressures, as well as a change in point of view of some accountants,
changes have been made, and are contemplated in the future in accounting procedures.

In the discussions which follow, I have taken up some of the problems that I believe are of utmost importance today. Fixed assets are the backbone of many industries and, as such, are important elements in our economic structure. I will cover only those problems which are important from an accounting viewpoint. Obviously, there are many problems concerning fixed assets and capital expenditures which are far removed from the immediate problems of the accountant.

The major problems I shall discuss are as follows:

1. The growth of the problem of accounting for fixed assets.
2. Government regulations.
3. A discussion of the stand taken by the AIA and members of the accounting profession, regarding fixed asset accounting.
4. The basis for valuation of assets.
5. Depreciation methods.
6. Problems confronting management due to the high cost of capital assets.
7. The inclusion of overhead costs in the manufacture of fixed assets for a company's own use.

In my conclusion, I shall summarize the discussions, and make any comments which are necessary as to how the various problems have been dealt with.
CHAPTER I

THE GROWTH OF THE PROBLEM OF ACCOUNTING FOR FIXED ASSETS

The complexity of the business enterprise has increased tremendously since the early days of American industry. The growth of the accounting profession has paralleled this industrial expansion.

The accountant played a very small part in early industry. The problems of business in those days were problems of bookkeeping, not problems of what accounting procedures should be used. The typical small business-man was interested primarily in the profit he could take out of the business. Thus, he was interested in seeing that the cash receipts side of his ledger exceeded the disbursements. Since, in most cases, the business ceased operations with the death of the proprietor, plans for the future were relatively unimportant. Large expenditures for fixed assets were the exception, rather than the rule. With few exceptions, businessmen paid little attention to the problems of accounting for property and equipment. The profits derived from their use was more important. There are instances where some businesses wrote off as expense their capital expenditures over a period of years, but no uniform methods were used. The railroads were the first of the American industries to really consider
the necessity of writing off fixed assets costs over a period of years. However, the methods used by them during the nineteenth century were in no sense uniform.

The rise of the corporation as an important element in our economic system put a different light on the problem of accounting for fixed assets. Here was an enterprise that, for all practical purposes, had an unlimited life. Therefore, procedures had to be developed that would preserve the capital investment indefinitely. It was no longer possible to neglect the future of the business. It became important to know what expenditures were for immediate operations, and what expenditures were to be used for immediate and future operations. Thus, the concept of separating capital expenditures and regular business expenses was developed. It was important, as it is today, to follow procedures that would protect the corporation from paying dividends out of capital.

The need for protecting the capital investment is well expressed by Mr. Littleton in his book on accounting evolution,

"---a corporation is a continuing enterprise, and money invested in the corporation's stock is not a venture from which a profit or loss will materialize when a 'division' is made, but is rather a long-lived 'investment' from which periodic returns will flow." (1)

1 Accounting Evolution to 1900, A. C. Littleton, American Institute Publishing Company, 1933.
This statement summarizes very well management's duty to preserve for the future investments made today.

The absentee ownership created by the corporation brought up another problem which increased the importance of the accountant, and necessitated the adoption of standard accounting procedures for the fixed asset accounts, as well as all the other accounts of the business. It became necessary to issue periodic financial statements to these absentee owners, the stockholders. Banks and investment houses required financial statements from corporations which desired loans. The need for these financial statements necessitated that management keep proper books from which correct financial statements could be drawn. As a result of this need, uniform accounting procedures were developed for the handling of the property accounts.

The unlimited life concept of the corporation has necessitated consideration of the problem of improving and replacing capital assets. This action is necessary so that a business can maintain or even improve its competitive position. Numerous examples of companies which have failed over the years can be cited to show that one of the main causes of the failures was due to the lack of foresight of management in considering the replacement and improvement of fixed assets. Why is it that of two companies operating similar businesses,
one will be profitable, while the other either fails or makes little profit? This difference in the two companies can certainly be traced, in part, to the fact that one company operates in a modern plant with modern equipment, while the other is using equipment which became obsolete years ago. The failure of many New England textile mills can be traced, in part, to the failure of their managements to look to the future.

The use of depreciation reserves has been one of the methods of providing for future replacement and expansion since depreciation is an allowable income tax deduction. Many corporations set up fixed asset replacement reserves out of surplus in addition to the regular depreciation reserve as a means of retaining working capital that would otherwise be paid out in dividends to stockholders.

Depreciation accounting is one of the most important accounting problems which faces management and the accounting profession. It is sufficient to say at this point that these two parties differ in their ideas as to the purpose of depreciation. These differences will be taken up in a later discussion.

The Bureau of Internal Revenue, as well as other government regulating bodies, has also set up depreciation procedures. These regulations will be explained fully in a later chapter.
Since the advent of the corporation, there have been numerous examples of mergers and consolidations. The accounting problem involved here is how to record the fixed assets thus acquired on the books.

In the case of the consolidation, the problem is not too difficult when each corporation retains its own identity. Generally speaking, when consolidated statements are prepared from the parent and subsidiary companies, the fixed assets and the related depreciation reserves are merely added together. The problem arises when one of the companies sells another a fixed asset at a profit. Since intercompany profits must be eliminated on consolidation statements, this difference between the cost and selling price of the fixed asset must be eliminated. The depreciation account for consolidation purposes must also be adjusted, so that the parent company can pick up its true share of the subsidiary's profits.

A merger results when the assets of a particular corporate enterprise are acquired by another corporation, and the acquired business no longer exists as a distinct entity. A merger also occurs when two or more existing companies combine into a new corporation. The problem that arises here is how should the fixed assets thus acquired be recorded on the books of the newly formed corporation?
The problem is simple if the book value of the assets acquired are merely transferred to the new corporation. All that is necessary is an entry to set up the book value of the fixed assets in the accounts of the acquiring or newly formed corporation.

The procedure mentioned above is one that has not met with much support. Mr. Paton, in his accountants' handbook, (1) questions this procedure. He makes the following statement regarding assets acquired through a merger:

"The proper measure of the acquired resources to the acquiring company, and the resulting credit to be paid in capital, is their cost on a cash or equivalent basis."

These costs can be measured in one of two ways. They can be measured by the market value of the securities issued in exchange for the assets acquired, or they can be measured by a valuation of the property and business acquired.

If the assets are valued on the basis of the market price of the securities, then it is not difficult to apportion the cost, so that the fixed assets will be recorded on the books in their correct proportionate shares. If the assets are acquired at a cost determined by valuation, then the fixed assets are merely recorded at their valued amounts.

---

The process of merging is a long one, and often results in long court fights. These court fights usually involve the dissenting stockholders, who feel that they are not getting a fair value in return for the assets. Bonbright cites such a case in his study of the valuation of property. (1) The purchaser and the controlling interest of a corporation agreed on a sales price for the assets of $74,000,000. The dissenting stockholders brought the case to court on the grounds that the sales value should have been $94,000,000, a figure which represented a recent appraisal at depreciated replacement cost. The court approved the price which had been decided upon the grounds that the sales price was fair, even though it was much less than the value of the assets to the selling corporation, as a going concern.

In another case (2) cited by Bonbright, the court held that a large discrepancy between the book value of the assets and the current market price of the stock did not represent fraud when the assets were sold for the market price of the stock.

Thus, the occasions when assets are taken over at book values are rare, and the accountant must apportion the

2 ibid p. 815.
selling price of the assets over the various assets acquired. The amounts apportioned to the fixed asset accounts are the cost basis of these assets as far as the acquiring corporation is concerned.

The problems involved in accounting for fixed assets are further complicated by the regulations of federal commissions and the Treasury Department. The Interstate Commerce Commission which was set up towards the end of the last century was the first of these government bodies to set up accounting regulations. All types of transportation involved in interstate commerce are subject to the uniform system of accounts set up by the Commission.

The Federal Communication Commission supervises the accounting system used by telephone, telegraph, and radio telegraph companies.

The Federal Power Commission supervises the accounting procedures followed by the utilities which sell electricity and natural gas in interstate commerce.

The Securities and Exchange Commission, which was set up by acts of Congress in 1933 and 1934, has further complicated managements' accounting problems. Briefly, all corporations which come under the jurisdiction of the Com-
mission are required to file annual financial reports. These corporations are also required to file registration statements when they intend to issue new securities. These statements must conform to the procedures authorized by the Commission. A more detailed discussion of these requirements will be discussed in the next chapter.

The final problem that faces management is the necessity of filing annual income tax statements. The internal revenue code requires that certain procedures be followed in determining corporate taxable income. Many deductions which are made for internal purposes are not allowed for tax purposes. For example, depreciation determined on a replacement cost basis may not be deducted in determining taxable income. The revenue laws regarding fixed assets will also be discussed in the next chapter.

Thus, the growth of American industry plus the almost parallel growth of government regulation have increased the problems involved in accounting for fixed assets. In solving the accounting problems of a corporation, the accountant must not only consider the managerial problems involved in operating a business, but must also consider the problems involved in reporting to stockholders, government commissions, and the Treasury Department. Detailed records must be kept so that the necessary reports can be compiled
with the least amount of difficulty. Today, many people are interested in the way a corporation operates its business, when, formerly, only the direct participants in the business took any interest in the fortunes of the company.
CHAPTER II

GOVERNMENT REGULATIONS

The Treasury Department and the various governmental agencies have set up certain rules and regulations regarding fixed asset accounting. The following pages of this chapter include a discussion of the more important agencies.

In discussing these agencies, I have made no attempt to include all the regulations regarding fixed asset accounting, but have discussed those which I feel are most important. A complete analysis of all the requirements of all the various agencies is not within the scope of this thesis.

TAX LAWS

In 1913 the Sixteenth Amendment was ratified by the required number of states. This amendment gave Congress "...the power to lay and collect taxes on incomes, from whatever source desired, without apportionment among the several states, and without regard to any census or enumeration."

Congress had made previous attempts to levy and collect income taxes, but they had all met with disapproval.
by the courts. Since the adoption of the amendment, Congress and the Treasury Department have set up numerous laws and regulations which must be complied with when filing federal income taxes.

Included in these laws and regulations, are those that apply to fixed assets. The Internal Revenue code has set up certain valuation requirements of fixed assets when determining depreciation, as well as prescribed methods of depreciation and allowable rates.

Section 23 (1) of the code states that a reasonable allowance for the exhaustion and wear and tear of property used in a trade or business, or of property held for the production of income may be deducted from gross income. The deduction is usually referred to as depreciation.

Section 29.23 (1) - 1 provides that salvage value of a piece of property should be taken into consideration when determining depreciation. However, salvage has often been ignored in the past in determining depreciation. It is difficult to determine what the salvage value of a machine will be at the end of a certain number of years. For this reason many business organizations have ignored the regulation, and the Bureau of Internal Revenue has not taken issue with them. Certain types of property are subject to
depreciation while others cannot be depreciated under tax laws.

As mentioned before, properties used in trade or business or the production of income are depreciable. For example, a man that owns a factory in which he carries on his business may depreciate the property. He may also depreciate property he owns which is occupied by someone else, from which he derives income. An apartment house is a good example of this type of property.

It should be noted that property may be depreciated only if it gradually approaches a point where its usefulness is exhausted. Thus, land is not depreciable property. In OD837,4CB178, it was found that radium is not a depreciable asset. Inventories and stock in trade are not depreciable property.

Intangible property is subject to depreciation or amortization if its use is definitely limited in duration. Patents and copyrights may be depreciated, but good will, trade names, trade-marks, formulas, and the like are not depreciable.

Generally, the person who suffers an economic loss as a result of the decrease in value of the property due to
depreciation, is the one who is entitled to claim the depreciation allowance.

The basis for determining the amount of depreciation is very important. The basis for depreciation is the adjusted basis for determining gain from a sale. The adjusted basis for property acquired on or after March 1, 1913, is cost plus additions minus reductions. The adjusted basis for property acquired before March 1, 1913, is the cost or the fair market value, as of March 1, 1913, whichever is greater, plus additions minus reductions. There are also substituted bases, as in the case of gifts and non-taxable exchanges, but the rules given above are the basic ones.

Depreciation may be entered on the books in two ways. Either the amount of the depreciation may be deducted directly from the asset, or a reserve for depreciation may be set up. The second method is preferred by the Treasury, and is the one used by the vast majority of business firms.

The taxpayer may not postpone taking a deduction for depreciation in order to benefit in future years. For example, a taxpayer cannot wait for a period of high profits to take depreciation and thus lower his taxable income. If he does postpone taking depreciation, then he is penalized. At the time he resumes the deduction, he must write off the
adjusted basis over the remaining life of the asset. The adjusted basis is the basis unadjusted minus the amount of depreciation allowed or allowable in preceding years. Thus, if a taxpayer postpones taking depreciation, he loses as a tax deduction the amount he should have taken.

There are many possible depreciation methods. Only a few of these meet the approval of the Bureau of Internal Revenue. Three of the more common methods are the straight line, unit of production, and declining balance or diminishing balance. The Bureau has also set up procedures for the amortization of emergency facilities. The depreciation methods and a discussion of war facilities will be taken up in a later chapter.

Depreciation rates depend upon the estimated useful life of the property. In 1942, the Bureau of Internal Revenue issued Bulletin "P", which lists the useful life of several hundred depreciable items. This bulletin is a guide or starting-point from which the correct depreciation figure may be determined. The rate to be used is determined in the light of the previous useful life records of similar assets in the same type of business.

If a taxpayer has agreed in writing with the Bureau as to the useful life and a proper depreciation rate of a
particular property, he may safely use the same figures in the returns for at least the next five years. However, the taxpayer may request an adjustment. The taxpayer must prove to the Bureau's satisfaction that a change is warranted.

Changing conditions may warrant changes in the amount deducted for depreciation. Accelerated use of property may warrant a greater deduction than in a year of normal use. In Lewis, 1941, P-H TC Memo, paragraph 41228, a contractor was allowed a deduction of 60% in one year for machinery having a normal useful life of five years.

A taxpayer may be allowed an additional deduction for extraordinary obsolescence, provided that the property is being affected by revolutionary inventions, abnormal growth or development, radical economic changes, or other factors, which may force the abandonment of the property at a future date prior to the end of its normal useful life. The obsolescence deduction results in a decrease in the useful life of the property due to conditions other than wear and tear.
The Securities Act of 1933 and the Securities Exchange Act of 1934 were designed to protect the public from fraudulent misrepresentation regarding the selling and issuing of stock by corporations. Under the laws of the acts, corporations must conform to rules and regulations whose main purpose is to make public all information that a prospective security buyer should know before he invests his funds. All corporations who come under the jurisdiction of the Securities and Exchange Commission must submit detailed, periodical reports to the commission. These corporations must also submit detailed registration statements to the Commission when they intend to issue new securities. These statements must be approved by the Commission before the issue of the securities is permitted.

The accounting procedures set up by the Commission include certain requirements which must be followed regarding fixed assets.

The Commission has set up certain rules of general application, (1) several of which apply to fixed asset accounting. They are as follows:

Rule 3-11. Valuation and Qualifying Reserves

Except as otherwise specifically provided, valuation and qualifying reserves (other than those created essentially for contingencies) shall be shown separately in the statements as deductions from the specific assets to which they apply; Provided, however, that this rule need not be applied to the reserves for depreciation, depletion, amortization, or retirements provided by a public utility company in respect of its assets other than current assets.


If an instruction requires a statement as to "the basis of determining the amount", the basis shall be stated specifically. The term "book value" will not be sufficiently explanatory unless, in a particular instruction, it is stated to be acceptable with respect to a particular item.

Rule 3-13. General Notes to Balance Sheets

(a) Assets subject to a lien. The amount of assets mortaged, pledged, or otherwise subject to a lien, shall be designated, and the obligations secured shall be briefly identified. However, in the case of commercial, industrial, and public utility companies, this rule need not be followed with respect to assets (other than current assets and securities) given as security for funded debt.

Rule 3-19. General Notes to Profit and Loss Statements

(c) Depreciation, depletion, obsolescence, and amortization.—-State the policy followed during the period for which profit and loss statements are filed.
with respect to -

(1) The provision for depreciation, depletion, and obsolescence of physical properties, created in lieu thereof, including the methods, and if practicable, the rates used in computing the annual amounts;

(2) The provision for depreciation and amortization of intangibles, or reserves created in lieu thereof, including the methods and, if practicable, the rates used in computing the annual amounts;

(3) The accounting treatment for maintenance, repairs, renewals, and betterments, and

(4) The adjustment of the accumulated reserves for depreciation, depletion, obsolescence, amortization, or reserves in lieu thereof, at the time properties are retired or otherwise disposed of.

Article 5 (1) sets up certain regulations for commercial and industrial companies which apply to fixed asset accounting. This article requires that certain disclosures be made in the balance sheets, and profit and loss statements of the corporations which fall under this provision.

**FIXED ASSETS**

13. Property, plant and equipment. - Tangible and intangible utility plant of a public utility company shall be segregated so as to show separately the original cost, plant acquisition adjustments, and plant adjustments, as required by the systems of accounts prescribed by the applicable regulatory authorities. This rule shall not be applicable in respect of companies which are not otherwise required to make such a classification or have not completed the necessary original cost studies. If such classification is not otherwise required or if such original cost studies have not been completed, an appropriate explanation of the circumstances shall be set forth in a footnote which shall include a specific statement as to the status of the original cost studies and, to the extent practicable, the results indicated

1 ibid. p. 12.
thereby.

14. Reserves for depreciation, depletion, and amortization of property, plant and equipment (or reserves in lieu thereof).

Schedules supporting the fixed asset accounts with their related reserves must be filed.

Corporations are also required to submit an analysis of the surplus account. Surplus resulting from the revaluation of assets must be clearly shown in the analysis.

The prospectus is published as a requirement by the S.E.C. that all corporations who desire to issue new securities must publish a complete report so that prospective buyers may see what type of company is issuing the stock.

This prospectus gives complete financial information including schedules of the more important accounts. It gives a brief history and financial summary of the company. It also informs the prospective purchaser how the proceeds from the security issue will be used. For example, a prospectus was issued February 28, 1949, by the Central Main Power Company, in which the company states that the proceeds of the issue will be used to reduce the notes held by the First National Bank of Boston. The money borrowed from the bank was used to expand the facilities of the power company to meet post war demands.
The prospectus contains fixed asset and depreciation schedules which are similar to those found in the 10K reports. The fixed asset schedule shows the balances at the beginning of the period. Additions at cost, retirements or sales, other changes, and the closing balances. The depreciation schedule shows the balances at the beginning of the period, amounts charged to income, amounts charged to other accounts, deductions from reserves, and the closing balances.

The following few pages will give a typical example of the forms used on a 10K statement.

10K STATEMENT OF THE GILLETTE SAFETY RAZOR COMPANY AND SUBSIDIARIES

--for Fiscal Year ended December 31, 1947--

Note 5 of Financial Statements

Policy followed during the year for depreciation and obsolescence, amortization, maintenance, repairs, renewals and betterments.

(a) The annual provision for depreciation of fixed assets in the United States is based upon the estimated life of the fixed assets. The rates generally used are as follows:

- Buildings 2-3%
- Machinery 10%
- Equipment 4-25%
The above rates are applied to cost with the following exceptions:

(1) Depreciation on registrants' buildings and building equipment is computed on book values after applying Special Reserves, created out of Capital Surplus, and based upon the remaining life of the asset.

(2) No provision for depreciation is made in respect to registrant's machinery and equipment not used, and which is covered by 100% reserves. (Note E to Schedule 6)

The annual provision for depreciation of fixed assets in foreign countries is based upon the estimated life of the fixed assets. Certain foreign subsidiary companies credit the provision for depreciation to the respective asset accounts, and compute the annual charge to operations on the basis of diminishing balances at the established rate.

Provision for obsolescence is made whenever, in the opinion of the management, changes and developments require that the reserves be increased.

(c) The accounting treatment is to charge the profit and loss account with all maintenance and repair items,
Figure 1.

GILLETTE SAFETY RAZOR COMPANY (Delaware)
Parent Company

SCHEDULE V - Fixed Assets

<table>
<thead>
<tr>
<th>Classification</th>
<th>Balance at Beginning of Period</th>
<th>Addition at Cost</th>
<th>Retirements or Sales</th>
<th>Other Charges</th>
<th>Balance at Close of Period</th>
<th>Special Reserves</th>
<th>Balance at Close After Applying Special Reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>$1,171,361.</td>
<td></td>
<td></td>
<td></td>
<td>$1,171,361.</td>
<td>$513,880.</td>
<td>$657,481.</td>
</tr>
<tr>
<td>Total Land &amp; Buildings</td>
<td>$4,810,512.</td>
<td></td>
<td></td>
<td></td>
<td>$4,810,512.</td>
<td>$2,707,737.</td>
<td>$2,102,675.</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$6,565,546.</td>
<td>$956,920.</td>
<td>$18,516.</td>
<td>$199,936.(A)</td>
<td>$7,304,014.</td>
<td>$2,822,577.</td>
<td>$4,181,437.</td>
</tr>
</tbody>
</table>

NOTE:

(A) Other Charges

Credits:
- Fully depreciated property charged to Reserve for Depreciation
- Transfers to subsidiary companies consolidated

GILLETTE SAFETY RAZOR COMPANY (Delaware) and Subsidiary Companies (Consolidated)

SCHEDULE VI - Fixed Assets

<table>
<thead>
<tr>
<th>Classification</th>
<th>Balance at Beginning of Period</th>
<th>Addition at Cost</th>
<th>Retirements or Sales</th>
<th>Other Charges</th>
<th>Balance at Close of Period</th>
<th>Special Reserves</th>
<th>Balance at Close After Applying Special Reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machinery &amp; Equipment</td>
<td>4,399,958.</td>
<td>2,305,059.</td>
<td>$65,603.</td>
<td>$450,054.(A)</td>
<td>6,190,160.</td>
<td>1,141,740.</td>
<td>6,075,120.</td>
</tr>
</tbody>
</table>

NOTE:

(A) Other Charges

Credits:
- Provision for depreciation for prior year of certain foreign subsidiary companies credited to asset accounts
- Fully depreciated property charged to Reserve for Depreciation
- Transfers to subsidiary companies not consolidated

TOTAL

$450,054.
**Figure 2**

**GILLETTE SAFETY RAZOR COMPANY (Delaware)**
Parent Company

**SCHEDULE VI - Reserves for Depreciation, Obsolescence, General and Special Reserves Against Fixed Assets**

<table>
<thead>
<tr>
<th>Description</th>
<th>Balance At Beginning of Permit</th>
<th>Charged to P &amp; L</th>
<th>Charged to Other Accts.</th>
<th>Retirements</th>
<th>Renewals and Replacements</th>
<th>Other</th>
<th>Balance at Close of Period</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reserve for Depreciation:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buildings</td>
<td>$905,879.</td>
<td>$23,816.</td>
<td></td>
<td>$5,068.</td>
<td>$190,011.</td>
<td>686,899.</td>
<td></td>
</tr>
<tr>
<td>Machinery &amp; Equipment</td>
<td>722,815.</td>
<td>159,133.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$1,628,694.</td>
<td>$182,949.</td>
<td></td>
<td>$5,068.</td>
<td>$190,011.</td>
<td>686,899.</td>
<td></td>
</tr>
<tr>
<td><strong>Reserve for Obsolescence:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machinery &amp; Equipment</td>
<td>$109,831.</td>
<td>$224.(A)</td>
<td>$17,707.</td>
<td></td>
<td></td>
<td>92,318.</td>
<td></td>
</tr>
<tr>
<td><strong>Special Reserves Created Out of:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land</td>
<td>$513,880.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>513,880.</td>
<td></td>
</tr>
<tr>
<td>Buildings</td>
<td>2,193,957.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,193,957.</td>
<td></td>
</tr>
<tr>
<td>Machinery &amp; Equipment</td>
<td>130,416.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>130,416.</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$2,637,853.</td>
<td>$224.(A)</td>
<td>$17,707.</td>
<td></td>
<td></td>
<td>2,564,353.</td>
<td></td>
</tr>
</tbody>
</table>

GILLETTE SAFETY RAZOR COMPANY (Delaware) and Subsidiary Companies (Consolidated)

**SCHEDULE VI - Reserves for Depreciation, Obsolescence, General and Special Reserves Against Fixed Assets**

<table>
<thead>
<tr>
<th>Description</th>
<th>Balance At Beginning of Permit</th>
<th>Charged to P &amp; L</th>
<th>Charged to Other Accts.</th>
<th>Retirements</th>
<th>Renewals and Replacements</th>
<th>Other</th>
<th>Balance at Close of Period</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reserve for Depreciation:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buildings</td>
<td>$1,437,395.</td>
<td>$69,041.</td>
<td></td>
<td>$7,062.</td>
<td>$134,535.</td>
<td>1,923,214.</td>
<td></td>
</tr>
<tr>
<td>Machinery &amp; Equipment</td>
<td>1,656,201.</td>
<td>667,862.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$3,111,596.</td>
<td>$736,903.</td>
<td></td>
<td>$7,062.</td>
<td>$134,535.</td>
<td>1,923,214.</td>
<td></td>
</tr>
<tr>
<td><strong>Reserve for Obsolescence:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machinery &amp; Equipment</td>
<td>$118,909.</td>
<td>$224.(A)</td>
<td>$17,707.</td>
<td></td>
<td></td>
<td>101,426.</td>
<td></td>
</tr>
<tr>
<td><strong>Special Reserves Created Out of:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Surplus in 1931 (E)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land &amp; Buildings</td>
<td>$2,832,837.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,832,837.</td>
<td></td>
</tr>
<tr>
<td>Machinery &amp; Equipment</td>
<td>130,416.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>130,416.</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$2,963,253.</td>
<td>$224.(A)</td>
<td>$17,707.</td>
<td></td>
<td></td>
<td>2,950,547.</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

Additions to Reserve:
(A) Recovery previously written off.
(B) Fully depreciated property written off.
(C) Depreciation charge for machinery used in 1948 and against which 100% reserves have been provided (see Note E).
(D) Provision for depreciation for prior year of certain foreign subsidiary companies credited to asset accounts $238,368. Fully depreciated property written off. 196,117. $434,555.
(E) Special Reserves against property were created out of capital surplus in 1931. The Reserves provided included amounts required to increase existing Reserves to 100% of the asset value of registrants' machinery not needed at that date. When any of the machinery is used, the regular depreciation charge is made to costs and credited to Reserve for Depreciation and the Special Reserve against machinery is reduced and Capital Surplus increased by an equal amount. Thus the reserves against machinery never exceed 100% of the asset value. This procedure is followed until 100% reserves are created out of income.
and minor renewals and betterments, and to capitalize major renewals and betterments which represent improvements.

(d) When fixed assets are retired, or otherwise disposed of, the asset value and accumulated depreciation to date is eliminated from both the asset and reserve for depreciation accounts and the difference between these accounts after allowing for any sales or salvage is charged or credited to the profit and loss account. The exceptions to the foregoing procedures are undernoted:

Certain foreign subsidiary companies credit the provision for depreciation direct to the respective asset account. Thus, when an item is retired or otherwise disposed of, the residual value is eliminated from the asset account and charged or credited to the profit and loss account after allowing for any sales or salvage value.

The registrant and one foreign subsidiary company write off assets against the reserve for depreciation when any item becomes fully depreciated from charges to the profit and loss account.

The fixed asset and depreciation reserve schedules of the company will be found on figures 1 and 2.
Interstate Commerce Commission

The ICC has set up uniform systems of accounts for the various types of transportation that come under their jurisdiction.

Steam Railroads

The uniform system of accounts for steam railroads (1) is a long and detailed document. Some of the more important regulations concerning fixed asset accounting will be discussed.

Generally speaking, the basis of all charges to the fixed asset accounts is cost. If a consideration other than money is given for the property, then the money value of the consideration at the time is debited to the property account. The carrier must be able to prove to the Commission that the actual cash value of the consideration was entered in the account.

The accounts for road property and equipment must include the cost of construction of the property. The text of the regulation is as follows:

"The cost of construction shall include the cost of labor, materials and supplies, work-train

1 Uniform System Of Accounts For Steam Railroads, Interstate Commerce Commission, 1943."
service, special machine service, transportation, contract work, protection from casualties, injuries and damages, privileges and other analogous elements in connection with such work". (1)

If property is purchased on the installment plan, the property account must be debited for the full cost of the equipment when delivery is made.

The cost of a railroad acquired since January 1, 1938 as an operating entity or system by purchase, merger, consolidation, reorganization, receivership, sale or transfer must be charged to an account called "Acquisition Adjustment". If the consideration involved is securities, then the cost charged to the account should be the sum of the par value of the stock, or the sum of the assigned values of no par stock. If the consideration is other than cash or securities, then the consideration must be valued on a current cash basis.

An account entitled "Donations and Grants" must be credited with grants obtained from governmental agencies, and with donations from individuals and others in connection with the construction or acquisition of property, the cost of which is chargeable to the regular property accounts.

Depreciation must be computed monthly and credited to an account called "Accrued Depreciation". This procedure

1 ibid. p.6
is followed during the service life of depreciable road equipment. The amounts charged must approximate the loss in service value not restored by current repairs or covered by insurance. The straight line method involving the use of the group plan is prescribed by the Commission. The basis for depreciation is original cost or estimated original cost of the road property as approved by the Bureau of Valuation.

On the balance sheet the company may show a composite reserve figure, but must be able to produce schedules showing the amount of the reserve for each primary property account.

**Electric Railways**

The Commission has also set up a uniform system of accounts for electric railways. (1) This system is similar to the one set up for steam railways. As in the case of steam railways, property and equipment accounts are listed under investments on the balance sheet. However, the depreciation reserve for the electric railways is on the asset side of the balance sheet, while the reserve is under unadjusted credits on the liability side of the balance sheet for steam railways.

An account entitled "Reserve for Retirements-

---

Nondepreciable Property" is used by this group. This account is credited with amounts charged to operating expenses to cover the anticipated retirement of nondepreciable property. The amounts written off in this manner must meet the approval of the Commission. When non-depreciable property is retired, the net service value is charged to this account.

Carriers by Inland and Coastal Waterways

The Commission has set up a uniform system of accounts for carriers by inland and coastal waterways. (1) The regulations prescribed for carriers apply only to companies which have average annual operating revenues of more than $100,000.

The property and depreciation accounts are found under the caption "Property and Equipment" on the asset side of the balance sheet. The same procedure in changing the property accounts is followed by the carriers by water as by the railways. There are two additional property accounts which are not used in railway accounting procedure. One account is called "Construction Work in Progress", and includes the cost of transportation property in the course of construction. There is also a spare parts account which includes

1 Uniform System of Accounts for Carriers by Inland and Coastal Waterways, Interstate Commerce Commission, 1948.
unapplied spare parts entered at cost less cash and other discounts.

The depreciation method used by the inland carriers by water is similar to the method mentioned previously. Depreciation is based on original of estimated cost, and is figured by the straight line method.

Class I Common and Contract Motor Carriers of Property

The Commission has set up a uniform system of accounts for motor carriers of property. The discussion here will be restricted to Class I motor carriers which the Commission classifies as "carriers having average gross operating revenues (including interstate and intrastate) of $100,000 or over annually".

In general, the procedure prescribed for this type of carrier is similar to the procedures described previously. Property, including construction costs, is entered in the books at cost. However, there are certain relatively unimportant differences. For example, all units of property and additions to and betterments of existing property, having a life in excess of one year and costing more than $50 must be capitalized.

There are two possible depreciation methods which may be used by these carriers. The straight line method involving the use of the unit or group plan must be used for all property and equipment other than motor vehicles. Motor vehicles may be depreciated on the mileage method, in which event the rate per mile must be applied to the number of miles traveled each month.

If joint facilities are operated and depreciation is involved, the carrier operating the facility must credit a joint facilities account for the amount of the share of the other carrier. The non-operating carrier in turn must debit a joint facilities account.

The property accounts and their related reserves are found under the caption "Tangible Property" on the asset side of the balance sheet.

Federal Communications Commission

The F.C.C. has jurisdiction over telephone, telegraph, and radio communications. It has set up uniform systems of accounts for these various means of communication. Two of the important systems, the telephone and the telegraph, will be taken up in the following discussion.
Class A and B Telephone Companies

The Commission has set up a uniform system of accounts for class A and B Telephone Companies, (1) which includes practically all the companies operating in the United States. Class A companies include those which have operating revenues in excess of $100,000. Class B companies include those which have operating revenues of between $50,000 and $100,000. The only difference in the accounting procedures for these two companies is that the Class B companies are permitted to condense some operating revenue and expense accounts.

As is the case with the accounting systems set up by previously named Commissions, the property accounts must be stated at original cost. Property acquired from predecessors, which comprises a substantially complete telephone system, must be credited to an account called "Telephone Plant Acquired at the amount paid for the property, or the current money value of the consideration, plus preliminary expenses included in connection with the acquisition.

The telephone plant accounts should not include the cost or other value of telephone plants contributed to the company. Contributions towards the construction of a plant

should be credited to the accounts charged with the cost of such construction.

Items which cost less than $10, or have a short life, should be charged to current expense.

The "Telephone Plant Acquired" account mentioned previously must be debited with the amount of the depreciation reserve, when these reserves are set up on the books. When all the entries are made to adjust this "acquired" account to its correct value, the balance should be debited or credited to an account called "Telephone Acquisition Adjustment".

As is the case with the systems set up by the other commissions, all costs of construction should be capitalized.

When a particular property is retired, the property account involved must be credited with the cost of the property being retired.

Since 1937, the Commission has required all companies to keep a continuing property record by class.

The depreciation system used by telephone companies is the straight line method. Depreciation must be determined
on the basis of cost. The rates are based on the estimated service values and service rates which have been developed by the company's history and by engineering studies. The composite method is used for each class of property. When property is retired, the depreciation reserve is charged with the cost of the property.

Wire-Telegraph and Ocean-Cable Carriers

The F.C.C. has also set up a uniform system of accounts for wire-telegraph and ocean-cable carriers. (1) It is not necessary to discuss in very much detail the regulations of this system, since it is almost identical to the one prescribed for telephone companies.

Property must be recorded at original cost. Acquired property is handled in the same way as is done by the telephone companies. Construction costs must be included in the cost of a plant or piece of equipment.

These companies are also required to keep continuous property records.

The depreciation procedures followed by these

companies are similar to those followed by telephone companies. The straight line method is followed and depreciation charges are based on cost. When property is retired, the depreciation reserve is charged with the original cost of the property.

Federal Power Commission

The Federal Power Commission exercises jurisdiction over the suppliers of electric power and natural gas involved in interstate commerce. The Commission has set up systems of accounts for these companies. The electric public utilities are the most important of this group, and the system of accounts prescribed for them will be discussed below. In most respects, the accounting procedures followed by the gas companies are similar to those of the electric companies.

Public Utilities and Licensees

The uniform system of accounts set up for public utilities and licensees (1) is in many respects similar to the systems described previously. The term "public utilities" applies only to electric utilities, and not to public utilities in general.

The property and equipment accounts are divided

---

into various types, and are all stated at original cost, except in the case of plant acquisition adjustments.

The plant acquisition adjustment account includes the difference between the cost of an acquired system and the original cost of the system, minus accumulated depreciation and amortization reserves at the time of acquisition.

A deferred debits account, "Extraordinary Property Losses", may be used by a utility with the permission of the Commission, to charge losses in service value of property which has not been provided for by depreciation or other reserves, and could not reasonably have been foreseen and provided for.

The cost of construction of property which is includible in the electric plant account should include all applicable direct and indirect overhead costs.

The system of accounts does not state specifically what depreciation method should be used by the electric utilities. However, it does prescribe that the depreciation reserve method, and not the retirement reserve method, be used. The vast majority of the utilities use the straight line method. The National Association of Railroad and Utilities Commissioners recommends the use of the straight line method.
for public utilities. (1)

Case Studies

Many cases and disputes have arisen between corporations and government agencies concerning the procedures used in accounting for fixed assets. On the following pages I shall discuss some of the cases which I believe will be of interest to the reader.

Tax Cases

Adda Inc., Petitioner v. Commissioner of Internal Revenue, Respondent (2)
Docket No. 883 Promulgated August 18, 1947

Among the questions involved in this case were two regarding fixed assets. The first question that had to be decided by the court was the distribution of the selling price of a piece of property between the land and the building on the land. The second question involved the determination of the useful life of the building.

The property was located in Times Square, New York

1 National Association of Railroad and Utility Commissioners Report of Committee on Depreciation, 1943.
2 Reports of the Tax Court of the United States, Volume 9, July 1, 1947 to December 31, 1947.
City, which was and is one of the most valuable property locations in the city. The building was constructed in 1935, during the depression, merely for the purpose of paying the high real estate taxes on the property, with the hope that a small revenue might also be realized. It was built with the expectation that the building would be torn down, and a newer and larger one erected during more prosperous times.

In 1940, the property was sold to the petitioner at a cost of $5,800,000. The petitioner leased sections of the building to interested parties. The length of life of the longest lease was twenty-one years. The terms of the lease, to all but two of the tenants, stated that if the landlord desired to demolish the building, he could do so after giving ninety days notice.

The Commission placed a cost value on the building $1,150,000, while the petitioner valued the building at $1,500,000. The Commission claimed that in 1940 the remaining useful life of the building was thirty-six and one-half years, the original life being set at forty years. The petitioner claimed that the remaining useful life of the building was only twenty years.

The court decided in favor of the Commission on one question, and for the petitioner on the second question.
The Court placed a value of $1,150,000 on the building because that was the value used by the petitioner on previously filed tax returns, and there was no evidence to show that the value was incorrect.

The court set the useful life of the building at twenty-one years, on the grounds that it had an economic and useful life of that number of years. It based its decision on the fact that the building was inadequate to produce the revenue that a building in that location should produce under normal economic conditions. It also based its decision on the terms of the leases, the longest of which ran for a period of twenty-one years, and provided for demolition of the building at any time during the period.

Agnes McEvoy Camden, Petitioner v. Commissioner of Internal Revenue, Respondent (1)

Dockets Nos. 106784, 106786 Promulgated October 20, 1942.

One of the questions included in this case was whether the petitioner had a right to deduct depreciation in determining net taxable income.

The petitioner and the petitioner's husband before

1 Reports of the United States Board of Tax Appeals, Volume 47, June 1, 1942 to October 31, 1942.
owned a piece of residential property, which was used to raise horses, and was equipped to handle race horses. The petitioner could not submit proof that she or her husband raised horses for any purpose other than as a hobby.

The court decided that since no proof existed that the property was used "in trade or business", it was not a depreciable asset. Section 23 (1) of the internal revenue code states that to be depreciable a piece of property must be used in the production of income. Such was not the case here.

The Equitable Life Assurance Society of the United States, Petitioner, v. Commissioner of Internal Revenue, Respondent (1)  
Docket Nos. 89294, 93805  
Promulgated April 29, 1941.

This case involved thirteen separate questions. One of these questions involved a disallowance by the Commissioner of depreciation taken by the petitioner on certain costs of a newly constructed building.

A building was constructed by the insurance company on a cost plus basis. Included in the costs of the building

---

1 Reports of the United States Board of Tax Appeals, Volume 44, April 1, 1941 to August 31, 1941.
were certain general expenses which were capitalized. These expenses were as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Conditions</td>
<td>$419,260.19</td>
</tr>
<tr>
<td>Contractor's Fee</td>
<td>$392,397.95</td>
</tr>
<tr>
<td>Architect's Fee</td>
<td>$524,861.19</td>
</tr>
<tr>
<td>Home Office Supervisors</td>
<td>$189,729.32</td>
</tr>
<tr>
<td>Own Alterations</td>
<td>$24,966.27</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,651,214.92</strong></td>
</tr>
</tbody>
</table>

The Commissioner denied the depreciation deduction on the basis that they were intangible items, and could not be allocated to the various component elements of the building, such as steel, plumbing, elevators, etc.

The court held that these items were part of the cost of the building, and as such, were depreciable. The court went on to say that these items were as much a cost of the building as were the wages paid to masons and carpenters. The court said that it was immaterial that these costs could not be allocated to the component elements of the building subject to depreciation at different rates. The court determined that 2 4/4% per annum would be a reasonable depreciation rate for the various unallocated costs.

**Commission Cases**

**Federal Power Commission**

California Electric Power Company (1)

(Project No. 1388) January 24, 1946

The problem the Commission considered in this case was the determination of the actual, legitimate, original cost of project No. 1388. A conference was held by the Commission, and the interested parties, and an understanding was reached whereby the claimed cost of the project was reduced by a net amount of $373.68. The figure was determined as follows:

For Elimination:

- Overhead charges (other than interest) transferred to other plant accounts: $8,902.10
- To correct accounting for retirements: 1,854.44
- Construction power charges in excess of actual cost: 5,785.22
- Credit from commissary operations and for cash discounts on material purchased: 6,314.04
- Charges applicable to non-project property: 1,106.93
  **Total:** $23,962.72

For Addition:

- Cost of hydraulic jack omitted from claim: $2,133.80
- Cost of portion of warehouse facilities applicable to project: 1,567.29
- Interest during construction: 19,887.95
  **Total:** $23,589.04

**Total Net Reduction:** $373.68

The net reduction was disposed of in the following manner:

- Not recorded in project plant accounts, no adjustment required: $12,684.94
- Charge Account 250 - Reserve for Depreciation:
  - For adjustment of retirements: 2,134.26
  - For estimated depreciation accrued on elimination: 2,116.72
  **Total:** $16,935.92
- Credit project No. 1389 (Rush Creek) for transfer of certain facilities to project No. 1388 (Leevining Creek): $1,805.01
- Credit Account 270 - Earned Surplus for net amount of other adjustments:
  **Total:** $14,757.23
  **Net Reduction:** $373.68
The Commission ruled that the California Power Co. had to comply with the above findings within ninety days, and was required to submit Federal Power Commission Form No. 7 showing compliance with the order of the Commission.

Federal Communications Commission

In the Matter Of
New York Telephone Company (1)
Docket No. 6329
Decided December 14, 1943

This case involved the transfer of properties from the American Telephone and Telegraph to the New York Telephone Company. At various times between 1925 and 1928, properties were transferred at figures in excess of net book value. These properties were entered in the accounts of the New York Telephone Company at reproduction cost less depreciation, or "structural value."

The Commission had this to say concerning the asset writeups:

1 Federal Communications Commission Reports, Volume 10, April 1, 1943 - June 30, 1945.
"Accounting, for purposes of efficient regulation of public utilities, must be firmly grounded on the cost principle, and if the investment recorded in the accounts is to have some relationship to the actual investment dedicated to the public use by an affiliated group of companies, such agreed "values" must not be allowed to exist as a distortive element in their investment accounts." (1)

The Commission ordered the telephone company to charge surplus, and credit the necessary property accounts for the arbitrary write-up. It also ordered that adjustments be made to the amortization and depreciation accounts to bring them back into line with the property accounts.

Securities and Exchange Commission

In the Matter Of

Associated Gas and Electric Company (2)

File No. 1-1810

Promulgated August 4, 1942

This case involved certain discrepancies in the registration statement of the above-named company. One of the discrepancies was the lack of disclosure of property revaluations

1 ibid, p. 282.
under item 34 (a) of Form 10.

When the company filed its consolidated balance sheet as part of the registration statement, it failed to disclose as separate items "Uneliminated Balance in Investments", ("excess cost of investments") and the revaluation of physical property accounts.

The Commission held that the "Uneliminated Balance in Investments" should have been shown as an intangible, and that the revaluation of physical properties should have been disclosed. The application was deficient for failing to disclose such revaluations.
CHAPTER III

PROCEDURES SUGGESTED BY ACCOUNTING ORGANIZATIONS
AND MEMBERS OF THE ACCOUNTING PROFESSION

Over the years, various accounting procedures have been suggested by accounting organizations and by members of the accounting profession. The objects of these suggestions have been to standardize accounting procedures, and to correct inadequacies in financial reporting.

The Journal of Accountancy, published by the AIA, is the best known of all the accounting publications. Because of the high standing of the Journal among accountants and business managers, the policies suggested by outstanding writers in the publication are often adopted.

During the middle thirties, the AIA began to publish periodic bulletins suggesting changes and improvements in accounting procedures. Since that time, thirty-eight bulletins have been published. Many of these bulletins deal with problems involving fixed assets and their related reserves.

During periods of high prices, corporations sometimes revalue their fixed assets to bring them more into line with
with current prices. The procedure followed in making the adjustment is to debit the asset being revalued, or debit an account called "fixed asset appraisal" and credit Appraisal Surplus.

In a bulletin published in 1940, (1) the committee took up the problem of depreciation on appreciated assets. It took the stand that if appreciation of fixed assets is entered on a company's books, then the depreciation charges should be based on the appreciated value. It is incorrect for a corporation to claim larger property values, and then proceed to write off only the original value. The present and prospective security holders have a right to assume that the corporation intends to keep its capital intact by writing off the appraised value of the property.

The Committee suggested that, for reasons of clarity, the balance sheet property accounts should be shown at cost, with the amount of the unamortized appraisal added on to the fixed asset total as follows:

\[
\begin{array}{ll}
\text{Total Fixed Assets (at cost)} & \$xxxxxx \\
\text{Fixed Asset Appraisal} & \underline{xxxx} \\
\text{Total Fixed Assets} & \underline{xxxxxxx}
\end{array}
\]

1 Depreciation on Appreciation, Bulletin No. 5, American Institute of Accountants, April 1940.
If a company desires to maintain its earned surplus on a cost basis, it can make the following entry:

Dr. Depreciation Expense
Dr. Appraisal Surplus
Cr. Reserve for Depreciation
Cr. Earned Surplus

The entry can be more clearly understood assuming the following figures:

1. Cost of Property $1,000
2. Appraisal Value 1,200
3. Annual Depreciation assuming a ten year life $120

The entry would be as follows:

Dr. Depreciation Expense 120
Dr. Appraisal Surplus 20
Cr. Reserve for Depreciation 120
Cr. Earned Surplus 20

The result of this entry would be a charge to earned surplus of $120 (closed from profit and loss), and a credit of $20, leaving a net charge to earned surplus of $100. This is the amount of depreciation on the basis of cost, and thus, does not alter the cost structure of the earned surplus.

In bulletins issued in 1943 (1) and 1944 (2), the committee attempted to set forth a clear cut definition of depreciation. This definition is of sufficient importance to be included here just as it was quoted in the bulletins.

1 Report of Committee on Terminology, Bulletin No. 20, American Institute of Accountants, November 1943.
"Depreciation accounting is a system of accounting which aims to distribute the cost or other basic value of a tangible capital asset, less salvage (if any), over the estimated useful life of the asset (which may be a group of assets) in a systematic and rational manner. It is a process of allocation not of valuation. Depreciation for the year is the portion of the total charge under such a system that is allocated to the year."

This definition is entirely different from the one often suggested by management that depreciation is a means of providing for future replacement of fixed assets.

During the war, the Treasury Department permitted the writing off of certain fixed assets over a shorter than normal time. The AIA published a bulletin (1) regarding this accelerated depreciation in which the research committee took exception to this practice in certain instances.

They based their disagreement on the fact that accelerated depreciation does not always match costs with revenue. This is true of emergency facilities which have been fully depreciated, but are still being put to productive use. The committee recommended that where these facilities would have a substantial share in future financial operations, the accumulated depreciation and amortization should be adjusted.

Two members of the committee did not agree with the decision on the grounds that such a procedure would be the same as accounting for the same costs twice. One member, Mr. Talbot, suggested that full disclosure should be made in financial statements that the emergency facilities still in use have been fully amortized. He said that no adjustment should be made.

In a bulletin published in 1947, (1) the Committee dealt with the problem of depreciation and high costs. The problem of high costs has been plaguing management since the end of the war. The AIA has taken a definite stand on this problem, both in its research bulletins and its editorials in the Journal of Accountancy.

The Committee stated in the bulletin that it was permissible for management to set up replacements reserves out of net income or surplus in contemplation of replacing facilities at higher price levels.

The Committee disapproved of the policy of writing down plant cost by charges against current income in amounts believed to represent excessive or abnormal costs occasioned by high price levels.

1 Depreciation and High Costs, Bulletin No. 33, December 1947.
The use of the word "reserve" in financial statements has led to a great deal of confusion. Any person ignorant of accounting procedures is confused by the numerous reserve items found on a balance sheet. In an attempt to clarify the use of the word, the AIA published a bulletin (1) recommending a limit to the use of the word "reserve".

The Committee recommend that the use of the word "reserve" be used to designate only those undivided or unidentified portions of assets held for a special purpose. Thus, the word would apply to reserves for plant extension, betterments, excessive cost of replacement of property, and future inventory losses. The bulletin suggests that "Accumulated Depreciation" be substituted for the term "Reserve for Depreciation", since depreciation is a deduction from an asset, and is not a reserve as defined by the Committee.

These bulletins issued by the AIA have done much to clarify problems which have bothered both the accounting profession and management. A continued issue of these bulletins will do much in aiding financial reporting to reach its desired goal, - complete uniformity.

1 Use of Word "Reserve" Should be Limited, Bulletin No. 34, American Institute of Accountants, November 1948.
Articles In Accounting Publications

Numerous articles have been written by accountants in various publications, on how the problem of valuation and depreciation should be approached. Most accountants adhere to the stand taken by the American Institute of Accountants, while some propose different procedures.

A committee set up by the AIA believes that no basic change in the accounting treatment of depreciation of plant and equipment is practicable under present conditions. It believes that the public should know that business must retain some profits, sufficient to replace facilities at current prices. In an editorial (1) in the Journal of Accountancy, the committee said the following:

"A complete restatement of accounts to show so-called 'economic' income, instead of dollar income, is clearly impracticable until further extensive studies can develop a generally acceptable method. Depreciation charges based (by means of index numbers) on the 'current' cost, instead of actual dollar cost, of assets would produce income statements embodying a mixture of concepts, reflecting neither real 'economic' income, nor actual dollar income by conventional standard."

The committee admits that a change may become necessary, but that such a change would merely be a restatement of assets, and the resuming of depreciation on the new base. Such a

1 Journal of Accountancy, American Institute of Accountants, November 1948, p. 353.
A page with no visible text.
change would be quite different from depreciation on replacement cost, regardless of whether prices are going up or down. Obviously, as prices decline so do replacement costs, and consequently depreciation charges will fall. The opposite would be true when prices increase.

Several accountants have proposed the use of index numbers in determining depreciation while preserving the cost basis. (1) They believe that such a method will bring economic income and money income closer together. The question here is on what type of data will the index numbers be based. There are numerous indices in use today, put out both by the government and private organizations. It is doubtful if any of the indices now in use could be applied to fixed assets. The problem of developing an index of sufficient value to meet the requirement is a difficult one. Even if such an index were adopted, it is doubtful that industry would accept it. Business wants high depreciation charges when profits are large, but would not be interested in using index numbers when profits are low.

W. A. Paton proposes three possible solutions. (2) He believes that the least that can be done is that the

1 Impact of Rising Prices Upon Accounting Procedures, Samuel J. Broad, Journal of Accountancy, American Institute of Accountants, July 1948.
corporation reports explain the methods of depreciation used, and show why profits are overstated. His second method is one mentioned previously, under which cost is preserved, but depreciation is figured on a replacement basis. The third method he proposes is one that should be used only when there is a great disparity between cost and replacement values. Using this plan, the replacement value would be recorded with the difference between cost and replacement being credited to a surplus account. Depreciation would then be based on the replacement cost, regardless of further fluctuations in prices. This plan has been proposed as a possible solution by the AIA, if and when a change becomes necessary.

One method of providing depreciation which has been subject to much criticism is the declining balance method, which has been approved for tax purposes by the Bureau of Internal Revenue. (1) The claim is that, although a large portion of the asset becomes depreciated in the early life of the asset, too large an undepreciated balance remains at the end of its useful life. Under the 150% rule of the tax regulation, about 20% of the asset remains undepreciated at the end of its life. This rule will be discussed in the chapter on depreciation methods and will clarify the facts set forth in the next paragraph.

Assuming the following facts, it is easy to see the effects of the declining balance method:

1. Straight line rate-2½% or $24.75 per year
2. Declining balance-150% rule-rate 3 3/4%
3. Life-40 years
4. Salvage-$1000.
5. Cost-$100,000.

At the end of five years, about $18,000 has been depreciated under the declining balance method, while about $12,000 has been depreciated under the straight line method. The former is about 20% of the cost less salvage, while the latter is about 13%. At the end of forty years, about 80% of the cost has been depreciated under the declining balance method, while the asset is completely depreciated under the straight line method. Thus, this method may stimulate investment, but it still leaves the problem of what to do with the 20% balance. The Bureau says nothing concerning the disposal of this balance. Obviously, it will not allow it for tax purposes. Is the loss of the 20% by the taxpayer compensated for by the possibility of new sources for funds? The taxpayer may think so now, but when he has the balance left on his books, I doubt very much that he will be satisfied.

Another accountant has proposed that the 150% rule be changed to 200%. Using the larger percentage, only about 8% to 13% of the balance of the asset would remain undepreciated,

and about 2/3 of the asset would be depreciated in the first half of the life of the asset. This plan might be more acceptable to business for two reasons. First, it would leave a smaller residue in the asset account, and second, it would give a greater stimulus to investment capital.

Business has followed several different procedures in accounting for fixed assets, and depreciation in recent years. Many companies have set up reserves for fixed asset replacement out of income. This policy has been frowned upon by both the accounting profession and the Securities and Exchange Commission. Some auditors, in their audit certificates, have taken exception to such a practice. Such reserves should be set up out of surplus, and not deducted in figuring net income.

Another policy that is followed is the adding of excess depreciation directly to the regular depreciation reserve. The National Steel Corporation followed this course in 1947, as did Chrysler, Allied Chemical and others. Such a procedure distorts the balance sheet, and meets the disapproval of most accountants. An asset less its accumulated depreciation is supposed to equal the net value of the asset at cost. This, of course, is not true when the depreciation reserve is not at cost.
Some companies have included excess replacement costs in their reserves for contingencies. Burroughs Adding Machine Company followed this policy in 1947. This type of entry violates no accounting standard, provided the reserves are charged to earned surplus, rather than income for the current year.

From the facts given above, it is obvious that a uniform procedure is not followed. Accountants unanimously agree that, if and when a change in accounting procedure for fixed assets and depreciation is made, the change should be uniform. Scattered changes only create confusion. It is often necessary to make comparisons between income statements, and between balance sheets. The comparisons would be useless if the same general accounting procedures were not followed by all companies. Uniformity must be obtained.
CHAPTER IV
VALUATION OF FIXED ASSETS

The basis of valuation of a corporation's property from the accountant's point of view is cost. Under certain circumstances, the cost valuation is inadequate. In terms of earning power, a piece of property may be worth more than its book value (cost less accumulated depreciation). During a period of high prices, it may cost a good deal more to replace an asset than was originally paid for it. Thus, replacement or reproduction cost is often an important consideration in valuing fixed assets. For purposes of sale, an asset may be valued at more or less than book value. Actual sales value is an important consideration under such a condition. Liquidation value must be considered when a corporation is forced to sell its assets during a period of financial difficulty.

From the above discussion, it is obvious that the basis for valuation of a piece of property depends on the purposes for which the property is being valued. The following pages contain a discussion of the various bases for valuation, and the conditions under which each basis is used.

Original Cost as a Measure of Value

As was mentioned previously, the accountant uses cost as the basis for valuing fixed assets. There are numerous
arguments which support this use rather than the use of current values as a basis of valuation. In his Accountants' handbook, (1) Paton cites seven arguments for the use of cost as a basis. These arguments are as follows:

1. Accounting is designed to record only the data of actual transactions.
2. Cost is an objective fact, subject to verification.
3. Cost represents the amount committed by the investor.
4. Recognition of unrealized increase in value may lead to the declaration of dividends on an improper basis.
5. Revaluations are estimates based upon individual judgments.
6. Continuous recognition of current values would give rise to the necessity of repeated adjustments.
7. Replacement costs, in addition to being difficult to determine, mean little in the case of much of the property existing at any particular time, particularly where the element of obsolescence is present.

One of the fundamental axioms of accounting is the matching of costs with revenue. The writing off of a plant on the basis of reproduction cost or some other basis other than cost does not match costs with revenue, since an inflated cost is being used. The discount on bonds is written off over the period during which a corporation has access to the funds obtained by the bond issue. Using the same reasoning, the cost of a plant should be written off during the period when the plant is of use to a corporation. In both instances,

costs are matched with revenue. A company would not think of adding an arbitrary amount to its inventory in determining the cost of goods sold, so why should it add an arbitrary amount to its fixed assets for the purpose of increasing the depreciation expense.

Any revaluation of an asset is merely an estimate of an individual or group of individuals. It has no objective basis, but is merely an opinion. It is important in financial reporting to reduce estimates and guesses to a minimum. Otherwise, the report loses much of its significance. After all, a person reading a financial statement wants facts, not opinions. Since price levels are subject to change, the value of an asset on a replacement basis is also subject to change. The result might be a valuation of one figure one year and a different figure the next year. Such a procedure only results in confused financial reporting.

The writing up of a fixed asset results in a credit to an appraisal surplus account. In many states, this appraisal surplus can be used as a basis for paying dividends. The result is a dividend payment based not on earnings, but on an estimated increase in asset values. The payment of the dividend results in a depletion of working capital which certainly is not compensated for by an arbitrary increase in fixed assets.
Replacement Cost as a Measure of Value

There are arguments for the use of current replacement values in accounting for fixed assets. Paton sets forth three of the most important ones in his handbook. (1)

1. Portrayal of economic position and progress of an enterprise.
2. Maintenance of capital.
3. Determination of effective costs of production.

A rate of return based on cost has its limitations when current values are way out of line with original costs. This is especially true in making comparisons between companies and in estimating intangible values.

If fixed assets are acquired during a period of low prices, but are used during a period when the price level is much higher, earnings based on cost figures are less significant to management and the investor than figures based on current values. In such a case, a rate of return based on cost would be very misleading.

The fact that a company has high earnings during a period of rising price levels should be examined to determine if these earnings are based on asset purchases made during periods of a declining price level, or whether the earnings

1 ibid p. 806.
are based on current values. It would be erroneous to conclude that a company has superior management or a goodwill value, if such conclusions are based on earnings which were made with low cost fixed assets, during a period of high prices.

Dewing, in his book on corporation finance, (1) has this to say about earnings:

"The fundamental principle is that earnings cannot be considered as net earnings, as real earnings, until there is assurance that the economic value of the property as evidenced by power to earn, has not declined during the period in which the earnings are being made."

This statement is in line with those people who believe that fixed assets should be depreciated on a replacement cost basis, in order to preserve the capital of a business.

The use of replacement cost in determining depreciation would be justified if it were genuinely helpful in maintaining physical capital. Would the shift from accounting based on cost to accounting based on replacement cost accomplish the desired results? Future prices are unpredictable. To say that we have reached a permanently high

price level is to repeat what was foolishly predicted before the crash of 1929. Therefore, it is possible that the total depreciation charges on the basis of replacement costs could be greater than the cost of replacing a fixed asset on the date of retirement. The prices of one period are no more promising than those of another as a basis for estimating replacement cost. Thus, the replacement cost basis of depreciation provides no better means of providing for the future than does depreciation on a cost basis.

Mr. Paton summarizes the above discussion very adequately in his handbook: (1)

"There is no procedure available which will insure charges to operations equitably distributed through service life approximating the cost of acquiring similar facilities when the original property is eliminated."

The best procedure that can be followed is not to use replacement cost as a basis of valuation, but to make appropriations out of earned surplus when management deems it is necessary to protect the corporation from a rising price level. By reducing or restricting the earned surplus, management can retain a portion of its earnings that it would otherwise pay out to stockholders.

Replacement cost valuation does have a place in our economic system, but its place is in managerial planning and comparative business studies, and not in accounting procedure. When the management of a corporation is planning future operations, it must consider in its budget what it is going to cost to replace assets presently in use. The management must plan how much of the company's earnings must be retained to provide funds for the future. It is the foolish business that believes that it is going to pay the same amount for fixed assets in the future that it is paying now, or paid in the past.

Actual Sales as a Measure of Value

It is often necessary to consider actual sales value as a means of valuation. This method of valuation is used to a great extent by the courts in the legal valuation of marketable forms of property.

In valuation where actual sales or market value is the objective, the courts quite generally admit recent sales of the property in question, or recent sales of similar property as evidence of value. (1) However, there are many instances where the recent sales price of a piece of property

is not its true market value. For example, the price paid for a building at a "forced sale" is not its true market value. The price paid on such a sale is almost always disregarded by the courts as a measure of actual sales value.

The question often arises as to whether the market value should be determined on a basis of only the most recent transactions, or on a basis of the transactions which have taken place over a period of years. The courts have used both methods, but are more inclined to use the average of the sales prices over a period of years. This tendency is based on the fact that this method seems to produce a more normal market value.

The question of actual sales value is not an accounting problem. A going concern rarely contemplates the selling of its fixed assets, and it would be rather foolish to replace the cost valuation of an asset with its actual sales value on the books. In most instances, the sales value would be a good deal less than the original cost. Ordinarily, when a corporation does sell a fixed asset, it does so when the asset reaches the point where its usefulness to the corporation is at an end, and only the scrap or salvage value remains.

Actual sales or market value of fixed assets is
important to a corporation that is in the process of liquidation. The corporation is forced to sell its assets in order to pay off its creditors. The more it receives for the assets the more debts it is able to pay off. Since it is often necessary to sell these assets in a hurry, the opportunity to survey the market in order to obtain the best possible price is often lacking. This is the "forced sale" that was mentioned in a previous paragraph.

Capitalized Income as a Measure of Value

The use of capitalized income as a measure of value involves the consideration of the future earning powers of a given business. The advocates of this theory base the present worth or value of a corporation on its probable future earnings.

In his study of the capitalization of earnings, (1) Dewing has this to say:

"The capitalization of earnings of a business, enterprise is a result of two factors, the earnings and the rate of capitalization."

The determination of the rate is based on a great many factors. The rate at which a business should be capitalized, to obtain its value, will depend on the confidence

the buyer might feel in the continuation of earnings. The greater the risk, the lower is the capitalized value of the earnings.

All types of businesses are sold on the basis of capitalization of earnings. The task of determining the future earning power and rate of capitalization of a business as a complete unit is a difficult one, but it is even more difficult to determine the values of individual pieces of property in the business. The earnings and rate of capitalization depend upon all the factors in and surrounding a given business. For all practical purposes, any one of these factors, such as the fixed assets, taken separately has little or no value on the basis of future earning power.

Thus, while the capitalization of earnings may be a fair and equitable basis of valuing a business as a whole, it is of little value in determining the worth of individual parts of a business.

In his handbook on accounting, (1) Paton had the following to say regarding the capitalization of earnings as a basis for determining fixed asset values:

"In most cases business income must be viewed as a composite result of operation, not assignable to particular structures or units of equipment."

Of the four bases of valuations discussed, only two, original cost and replacement cost, enter into the problems of accounting. The other two plans, actual sales value and capitalization of earnings, are not accounting problems, but are problems of determination of sales value.

Original cost is the best means of valuation of fixed assets for accounting purposes because it is more exact, and less of a statement of opinions than replacement cost valuation, or any other means of valuation. The other bases of valuation have their place in our economics system, but their place is not in the field of accounting.

Factory Overhead as an Element of Cost

The inclusion of overhead in the cost of construction of a fixed asset is not, in a true sense, a question of valuation. However, it is an important consideration in determining the correct cost value of a fixed asset constructed by a company for its own use. For the above reason, a discussion of this problem is included here.

When a company manufactures its own fixed assets,
the question often arises as to whether or not factory overhead should be included as part of the cost of the asset.

It is accepted procedure to include material and direct labor costs in the total cost of the asset, but there are differences of opinion as to whether or not the factory overhead costs of the company as a whole should be apportioned to the asset in the process of construction. Three opinions or theories have been advanced as to the procedure that should be followed.

1. No overhead should be charged to fixed assets.
2. Fixed assets should be charged with overhead specifically incurred in their manufacture.
3. Overhead should be apportioned to fixed assets and finished goods at the same rate.

Opinion I

The proponents of this theory say that normal overhead should not be charged to the cost of construction, since it will result in an understatement of the cost of goods sold, with a resultant overstatement of gross profit. They go on the theory that no appreciable increase in normal overhead costs will result from the construction work. The persons who hold to this theory say that the capitalization of a portion of the overhead would, in effect, be taking a profit on the manufacture of fixed assets.
The proponents of this procedure maintain that fixed assets cannot be manufactured by a company without incurring additional overhead charges. These additional costs, they say, should be charged to the cost of the fixed assets being produced. It is improper to charge the cost of goods sold with expenses which were not incurred in their manufacture. Additional clerical work may be necessary to maintain the construction records. The cost of electric power may also be increased because of construction needs.

Some proponents of this plan say that if production is curtailed because of the fixed asset construction program, the amount of overhead that would have been charged to the finished goods which were not produced should be charged to the cost of construction. This theory is sound provided the assumption is made that curtailed production does not result in a decrease in overhead costs.

The following figures are based on the assumption that a decrease in output does not result in a decrease in overhead costs.

<table>
<thead>
<tr>
<th>Normal Output</th>
<th>6000 units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overhead Cost</td>
<td>$24,000</td>
</tr>
<tr>
<td>Cost per unit</td>
<td>$4.00</td>
</tr>
<tr>
<td>Output because of construction</td>
<td>5000 units</td>
</tr>
<tr>
<td>Overhead Cost</td>
<td>$24,000</td>
</tr>
<tr>
<td>Cost per unit</td>
<td>$4.80</td>
</tr>
</tbody>
</table>
Now assume that a decrease in production also resulted in a proportionate decrease in overhead costs.

Curtained output - 5000 units
Overhead Cost - $20,000
Cost per unit - $4.00

Opinion 3

The proponents of this theory say that overhead costs should be apportioned to fixed asset construction costs on the same basis that they are allocated to finished goods provided data is available to make the proper allocation.

In the past, this point of view has not been generally adapted due to the conservatism of accountants. Finney (1) has the following to say regarding this procedure:

"Now that accountants are beginning to give more consideration to the importance of cost on the basis of accounting, there appears to be an increasing tendency to sanction the inclusion of overhead in the cost of fixed assets at the same rate as that applied to finished goods, so that there may be no special favors, or exemptions resulting in the undercosting of fixed assets and a consequent overcosting of finished goods."

CHAPTER V

Depreciation

Depreciation accounting is one of the more important phases of accounting for any business. The definition of depreciation as stated by the American Institute of Accountants was given in a previous discussion, \(^1\) and therefore, it is not necessary to repeat it at this point, but generally speaking, depreciation is the writing off of the cost of a fixed asset over a period of years.

The managements of a majority of the better known corporations define depreciation as the writing off of a fixed asset in order to provide a means of replacing the asset at some future date. They do not consider the actual depreciation as a means of providing funds, but consider the smaller taxable income or the smaller payment of dividends due to the depreciation charge as a means of providing funds for the future. However, the following discussion will be based primarily on the cost definition stated above.

It is important to distinguish between depreciation, depletion, and amortization. Depreciation applies to build-

\(^1\) p. 57
ings and equipment. Depletion represents the extinguishment of wasting assets such as mineral deposits. Amortization usually refers to bond premium and discount, leaseholds, organization expenses, patents and other intangibles. However, the Treasury Department has referred to the accelerated depreciation of emergency war facilities as amortization.

Most companies now use an account called "Reserve for Depreciation" and deduct this reserve from the related fixed assets. However, there are some companies, particularly in the public utility field, that show the reserve on the liability side of the balance sheet. For example, the uniform system of accounts for steam railroads prescribes the placing of the reserve on the liability side of the financial statement.

Causes of Retirement

Paton (1) lists seven conditions which may limit the service lives of plants and equipment:

1. Ordinary "wear and tear" in use.
2. Unusual deterioration or damage.
3. Exhaustion.
4. Limited possibility of use.
5. Inadequacy.
6. Obsolescence.
7. Cessation of demand.

Ordinary wear and tear results from use and gradual deterioration due to the elements. The ordinary wear and tear of a plant or piece of equipment can usually be predicted fairly accurately due to the years of experience in dealing with the assets. Some types of equipment depreciate more from use, while others depreciate more from exposure to the elements. For example, a piece of machinery such as a lathe depreciates more from usage, while a steam roller, which is left outside whether in use or not depreciates more from weather conditions. Ordinary wear and tear is one of the most important of the factors entering into depreciation calculations.

Unusual deterioration or damage is not an important factor in depreciation due to the uncertainties of predicting the amount of extraordinary deterioration or damage. Business firms should carry insurance to cover these types of losses in service value.

Exhaustion is somewhat similar to depletion in that it applies to the decline in power to produce of such assets as animals, trees, and soil. Exhaustion is an important element in depreciation for those businesses that use this type of asset.

The limited possibility of use applies to assets such as underground construction in mines, or the equipment
used in oil and gas wells. The Bureau of Internal Revenue suggests that oil and gas well equipment should be written off at about the same rate that is used in calculating depletion of oil and gas reserves. (1)

Inadequacy exists wherever changes in the conditions of operation make assets unsuited for further use. Inadequacy of assets does not include inadequacies caused by inventions and technological improvements (obsolescence). For example, the rails used by the Metropolitan Transit Authority might become "inadequate" if heavier rolling stock were purchased. In calculating depreciation, it is difficult to forecast when and if a piece of equipment becomes inadequate.

The obsolescence of an asset is due to the effects of progress. A new invention may make a perfectly good machine obsolete. For example, the new long-playing records, which are now being manufactured by the major recording companies, may make presently used equipment manufactured by radio companies obsolete. It is difficult to forecast when and if obsolescence will occur. In some instances, the Bureau of Internal Revenue has permitted a corporation to include obsolescence as a factor in calculating depreciation.

1 ibid p. 721.
Cessation of demand is often treated as a factor in obsolescence. However, cessation of demand can occur even when the latest type of equipment is being used. The demand for a product may become obsolete, rather than the equipment used in manufacturing the product. It is difficult to predict such an occurrence and therefore, the problem of the cessation of demand is usually not considered in calculating the service life of a particular piece of equipment.

In estimating the service life of a plant or piece of equipment, consideration must be given to the maintenance policy that is to be followed in keeping the asset in good operating condition. Obviously, if care is not taken to maintain a truck in good working order, its service life will be shortened.

**Composite Life**

The composite life method of depreciation is advocated by many of the federal regulatory commissions, and is also used by many industrial companies. The composite or average life of a plant or facility is the time, in years, during which the depreciation of all parts of the plant or facility will amount to original cost less salvage value. The following example will show how the calculations are made assuming the use of the straight line method of depreciation for each unit of the plant.
The composite life method is rarely used by accountants since they must determine the annual depreciation of each individual item. The method is used most frequently by engineers who desire to know how many years it will take to fully depreciate all the parts of a given plant or facility.

Obsolescence

The importance of obsolescence as a factor in determining the service life of an asset has been mentioned previously. The stand taken by most accountants and the Bureau of Internal Revenue is that obsolescence should be taken into consideration when determining depreciation charges. Several other methods of accounting for obsolescence have been suggested.

It has been suggested that the amount of the obsolescence be charged to operating expenses at the time the
property is retired. This procedure is not very satisfactory if the amount of the obsolescence is large since it results in an understatement of expenses during the service life of the asset, and an overstatement at the time the asset is retired. It would be a better procedure to either include the obsolescence as a separate deduction from net income, or as a deduction from earned surplus.

Another method that has been suggested is that a reserve for contingencies be set up out of surplus for the amount of the obsolescence. Such a practice is not good accounting procedure since it would be making use of a reserve to obscure actual losses.

A third suggestion has been the inclusion of the loss due to obsolescence in deferred charges, followed by a writing off of the amount against future reserves. This method has been used only in the field of public utilities, and is often permitted by the Interstate Commerce Commission. The use of this practice results in charging losses to future revenues that should have been charged against revenue during the period when the asset was in use.

The final method that has been suggested is the capitalization of the loss due to obsolescence, as a part of the cost of the property replacing the plant eliminated.
The argument in favor of this method is that there is no such thing as a capital loss. "Every dollar of investment should be charged against output." (1) In order to charge the amount of the loss on retirement to future output, the loss must be added to the cost of the new property.

The opposition to this method is similar to that raised against the third method that has been described. Past losses would be charged against future earnings. This method also assumes that investment in an enterprise should be fully recovered. This is an erroneous idea, since there are numerous circumstances which can cause a loss in investment. It certainly is not good procedure to capitalize the amount of a fire loss not covered by insurance.

Retirement Policy as a Method of Depreciation

The retirement reserve method is based on the assumption that replacements should be paid for when they are made. This method has been used primarily by public utility companies on the basis that in a large public utility, the cost of replacement tends to become uniform from year to year and thus, the need for a depreciation reserve is not present.

The procedure is to charge the cost of repairs and replacements to operating expenses each year. The amount of the charge to operation each year for replacements is supposed to approximately equal what the depreciation charge would be, determined on an accrual basis.

The advocates of this policy cite several reasons in support of their theory. First, they say that it avoids the use of depreciation reserves and the necessary calculations which are required to determine depreciation charges. Second, it charges operations with exact amounts rather than estimates.

From a strictly theoretical point of view, the retirement policy seems adequate. However, the factors which make it a good theory are not always present. Property must be purchased in equally spaced installments, and always at about the same cost. The service life of each piece of property must be the same, and there must be no retirements except in connection with replacements.

Thus, from a practical standpoint, the theory has many drawbacks. It is not always practical to purchase property on equal installments. Price levels are in a constant state of flux. Therefore, it is impossible to purchase new property for the same amount that was paid for the old property.
The policy has been almost completely abandoned in recent years. The federal commissions which set up accounting procedures for various utilities now prescribe the depreciation accounting method because the retirement policy has been found to be inadequate.

Trachsel, in his study of public utility regulation, (1) discusses the use of the retirement policy in lieu of depreciation, and comes to the following conclusion:

"It does not measure the loss of service value or cover fully the depreciation of the property still in service."

There are several other arguments against the use of the retirement policy. It results in irregular charges to operations, with almost negligible charges in the early years of a new plant when maintenance and replacement expenditures are light. It is also objectionable from the standpoint of income tax regulations because of the irregularity of depreciation deductions.

Amortization of Emergency Facilities

During World War I, it was the policy of the Treasury Department to permit the writing off over a short

---

period of time facilities that were constructed primarily for war production. The Revenue Act of 1942 again gave this permission to the industries engaged in war work. The purpose of allowing this deduction was to induce industry to convert to war production with new machinery and equipment which might only be used while engaged in war work. Taxpayers were allowed to amortize the property over a period of sixty months (five years) or less.

Section 124 of the Revenue Act of 1942 defines emergency facilities as follows: (paraphrased by Prentice Hall) (1)

"An emergency facility constitutes land buildings, machinery or equipment, constructed, reconstructed, erected, installed or acquired after December 31, 1939, and certified by the government as necessary in the interest of national defense."

The period of sixty months could be shortened if the need for the facilities ended prior to the end of the sixty month period. In practice, the period was shortened in many instances by the issuance of a non-necessity certificate or by Presidential proclamation. The President issued the proclamation on September 25, 1945, and taxpayers were given until January 1, 1946 to terminate amortization.

As a result of termination, taxpayers were permitted

to accelerate amortization, so that the full amount could be deducted in the shorter period. This necessitated a recomputation of tax payments for previous years.

Taxpayers, who started to amortize emergency facilities, could stop doing so at any time, and resume normal depreciation deductions.

The basis for computation of amortization charges as explained by Prentice-Hall (1) was as follows:

"The amount deductible over the amortization period was the 'adjusted basis for determining gain' of the emergency facility at the end of the month within which the taxpayer elected to begin taking the deduction. This amount may have been less than the actual cost, since it was limited to such amount as was properly attributed to such construction, reconstruction, erection, installation, or acquisition after December 31, 1939."

The period during which emergency facilities could be written off has passed, and therefore is no longer any concern to management. Today, many corporations are using the "emergency facilities" in current operations. The stand taken by the AIA regarding the continued use of emergency facilities has been discussed previously.

1 ibid p. 2011.
DEPRECIATION METHODS

When the base to be depreciated has been decided upon, and the estimated service life has been determined, the problem of apportioning the amount to be depreciated over the various accounting periods must be taken into consideration. There are various methods of apportionment, the most important of which will be discussed in the following paragraphs.

Straight Line Method

The straight line method is the simplest and most common method in use today. Under this method, the cost or other basis of the property, less its estimated salvage value, is deducted in equal annual installments over the period of its service life. About 90% of all taxpayers use this method.

Working Hours Method

This method bases the annual depreciation deduction on the number of working hours that a machine is in use. This method recognizes the fact that the more a machine is in use the faster it wears out, and the less opportunity there is for proper maintenance. In order to determine the annual depreciation charge, the following procedure is followed:
1. The total number of working hours of which the machine is capable of operating is estimated.
2. The charge per hour is determined by dividing the cost less salvage value of the asset by the estimated number of working hours.
3. The rate obtained is then multiplied by the number of hours the machine was in use during the period.

This method is popular during periods of depression when it is desirable to keep overhead charges at a minimum. It has also been suggested that this method be used by companies that have fluctuating production schedules.

Production Method

This method is similar to the working hours method, except that the estimated number of units that a machine can produce is substituted for the working hours. The rate is obtained in a similar manner, and the units produced during the year are multiplied by the rate to determine the depreciation charge.

Reducing Charge Methods

Under these methods, the greatest amount of depreciation is taken in the first year of use, with continually decreasing amounts in later years. This theory is advocated by some accountants on the grounds that the cost of the use of fixed assets is composed of two elements, repairs and depreciation, and that the sum of these two elements should be
a fairly uniform amount year by year. This theory would be acceptable if repair charges increased in the same proportions as depreciation charges decreased, but such is not always the case.

There are three methods of providing a diminishing charge. These methods are:

1. Uniform rate on diminishing value.
2. Sum of years' digits or life periods.
3. Diminishing rates on cost.

Uniform Rate on Diminishing Value

The depreciation rate to be used is computed by the following formula:

\[ r = 1 - \frac{S + V}{C} \]

\( r \) — the rate
\( n \) — estimated service life
\( S \) — scrap value
\( C \) — cost

The solution of this formula requires the use of logarithms. When the rate is obtained, it is applied at the end of the first period to cost, and thereafter to the carrying value at the beginning of each succeeding year.

Sum of Years' Digits or Life-Periods Method

The depreciation charge using this method is computed in the following way:
1. Add all the numbers representing the periods of life (1\frac{1}{2} \text{ up to ten if the estimated life is ten years}). The number obtained is the denominator.

2. Use as numerators the same numbers taken in reverse order (for each year of life).

3. Multiply the fraction produced by the cost less salvage to obtain the depreciation charge for the year.

The following example will clarify the above explanation:

1. Assume a 10 year life
2. Cost less salvage value—$1000
3. The sum of the years—1+2+3+\ldots+10 = 55
4. The fraction for the first year would be \( \frac{10}{55} \)

5. The depreciation for the first year would be \( \frac{10}{55} \times \$1000 = \$181.81 \)

6. The depreciation for the tenth year would be \( \frac{1}{55} \times \$1000 = \$18.18 \)

If the service life of the asset is very long, the denominator can be obtained by use of the following formula:

\[ S = \frac{n(a+1)}{2} \]

\[ S = \text{the sum} \]
\[ n = \text{service life} \]
\[ a = \text{first year} \]
\[ l = \text{last year} \]
Applying this formula to the above figures, the denominator can be obtained very quickly.

\[ s = \frac{10(1+10)}{2} = 55 \]

**Diminishing Rates on Cost Method**

This method involves the use of the 150% rule mentioned in a previous discussion. The use of this method was recently approved by the Bureau of Internal Revenue. If the regular depreciation rate is 2.5% the taxpayer may depreciate at 15% of this rate or 3.75%. The following illustrating figures have been taken from Seghers' article on accelerated depreciation. (1)

1. Straight line rate - 2\(\frac{1}{2}\)%
2. Declining balance rate - 15% of 2\(\frac{1}{2}\)% = 3.75%
3. Service life - 40 years
4. Cost - $100,000
5. Salvage - $1000

<table>
<thead>
<tr>
<th>Year</th>
<th>Beginning of Year</th>
<th>Declining Balance</th>
<th>Annual Depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$100,000.00</td>
<td></td>
<td>$3,750.00</td>
</tr>
<tr>
<td>2</td>
<td>96,250.00</td>
<td></td>
<td>3,609.38</td>
</tr>
<tr>
<td>3</td>
<td>92,640.50</td>
<td></td>
<td>3,474.02</td>
</tr>
<tr>
<td>4</td>
<td>89,166.60</td>
<td></td>
<td>3,343.75</td>
</tr>
<tr>
<td>5</td>
<td>85,822.85</td>
<td></td>
<td>3,218.36</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td></td>
<td>26,243.75</td>
<td>984.14</td>
</tr>
<tr>
<td>37</td>
<td></td>
<td>25,259.61</td>
<td>947.24</td>
</tr>
<tr>
<td>38</td>
<td></td>
<td>24,312.37</td>
<td>911.71</td>
</tr>
<tr>
<td>39</td>
<td></td>
<td>23,400.66</td>
<td>877.52</td>
</tr>
<tr>
<td>40</td>
<td></td>
<td>22,523.14</td>
<td>844.62</td>
</tr>
<tr>
<td></td>
<td>Balance (undepreciated)</td>
<td>$ 21,678.52</td>
<td></td>
</tr>
</tbody>
</table>

The merits and disadvantages of this method have been discussed in Chapter III. It is sufficient to say here that the use of this method leaves a large undepreciated balance at the end of the service life of the asset.

Annuity Method

This method applies the theory that interest on investment should be included in the cost of production. The entry to record this procedure is a debit to depreciation and credits to interest and the depreciation reserve. The interest credit is based on the book value of the asset, and consequently decreases each year. The annual depreciation charge is the same, but the credit to the reserve becomes greater each year. A given percentage of the book value is subtracted each year from the depreciation charge in order to determine the income credit. The formula for computing the annual depreciation is as follows:

\[
D = \frac{C - (S \times p)}{P}
\]

\(D\) = Depreciation per period  
\(C\) = Cost  
\(S\) = Scrap Value  
\(p\) = Present value of $1.00 for "n" periods when "n" = estimated service life  
\(P\) = Present value of an annuity of $1.00 for "n" periods
There are two main objections to the use of the annuity method. First, it anticipates earnings, which is contrary to basic accounting principles. Second, the interest charge to operations does not appear as interest expense on the profit and loss statement, but as depreciation.

**Sinking Fund Method**

This method is based on the assumption that a fund will be established to replace the asset at the end of its service life. The fund is created by equal cash installments. The first problem is to determine the amount of the annual installment. The formula is as follows:

\[
S.F.C. = \frac{C-S}{A}
\]

- **S.F.C.** = Sinking fund contribution
- **C** = Cost
- **A** = Amount of an annuity of $1.00 for "n" periods
- **n** = Service life

The fund is usually accumulated at compound interest. The entries for the first year and the years that follow are:

**First year**

Dr. Sinking Fund Cash  
Cr. Cash (annual contribution)

**Subsequent years**

Dr. Sinking Fund Cash  
Cr. Interest  
Cr. Cash (annual contribution)
The debit to depreciation and the credit to the reserve for depreciation each year will be the amount of the annual increase in the cash value of the sinking fund. Since interest is compounded, the amount of the depreciation charge will increase each year.

This method is not used very widely due to the complexities of the calculations and the fact that it involves periodic increases in the annual depreciation. Its use has been almost entirely confined to the field of public utilities.
CHAPTER VI
VALUATION AND DEPRECIATION FROM THE POINT OF MANAGEMENT

In general, the point of view of management concerning depreciation is entirely different from that of the accounting profession. To them, depreciation is not a recovery of cost, but a reserve set up for future replacement of worn out or obsolete fixed assets. Therefore, they say that the depreciation reserve should be large enough to cover this need. Obviously, under present inflationary conditions, it is impossible to build up a sufficient reserve based on cost to meet the replacement requirements. It should be added, however, that a replacement reserve without cash to go with it is useless.

The annual reports sent out by the various corporations to their stockholders point out the inadequacy of depreciation charges. For example, the president of the Aluminum Company of America, in his 1947 Annual Report, said that something must be done to relieve the high cost of replacing equipment. He advocates increased depreciation allowances, or "some other method."

Business feels that the high profits that have been shown since the war are not true profits. These profits do
not allow for adequate deductions to meet replacement costs. Some companies even say that if adequate depreciation charges were allowed, there would be no profits. The chairman of the board of directors of Cities Service Company said the following in the company's 1947 Annual Report:

"A sound economy would require that those who use up or wear out a facility should pay for it, but under present accounting practices prescribed by the accounting profession and Federal tax regulations, plant and facilities are being amortized on an original cost, and not a replacement cost basis. These conditions require that current earnings be large enough to provide the capital needed to replace plant and equipment, if companies are to continue successful. When viewed in the light of the above, the earnings of oil companies are not excessive, and in some cases are not adequate."

Since the annual financial statements of many corporations show large earnings, and dividends are not commensurate with the amount of these earnings, management has had to explain to the stockholder why they have continued a conservative dividend policy. The 1948 annual report to the stockholders of the United States Gypsum Company states that a conservative policy must be followed, and that a large part of earnings must be retained in order to cover the increase in replacement costs of fixed assets. The president of General Foods Corporation, in the 1947 annual report, states that it is advisable to finance expansion from internal sources, such as depreciation and earnings, rather than from borrowed funds,
and says that is the reason a conservative dividend policy is being followed. Many other annual reports have made similar statements.

Some corporations, in their annual reports, present charts to show the stockholders how much larger capital expenditures are than the charges for depreciation, depletion, and amortization. It is a means of explaining to the stockholders why conservative financial policies must be followed, regarding dividends. Two large corporations, the Texas Company and Eastman Kodak Company, presented such charts in their 1947 Annual Reports. Below is the comparison shown in the Texas Company's report.

Figure 3.

Source: 1947 Annual Report of the Texas Company
The diagram shows that between 1938 and 1947 the differences between capital expenditures and asset write offs are not too significant, but in 1948 (estimated) there is a very large discrepancy between expenditures for capital goods, and the charges for depreciation, depletion and amortization.

Many companies say that they are having difficulty in obtaining new funds because investors are unwilling to put their money into an organization in return for small dividends. Investors are looking for good returns on their invested capital, and management says that it cannot give a large return, when it must retain a large part of its earnings to cover the inadequacies of the depreciation reserves. As a result, many corporations have either increased their funded debt, or borrowed from banks. This method of financing greatly increases the fixed charges of the companies, which is not a healthy position for any business, especially during periods of declining profits.

Many corporations have set up special reserves out of income or surplus which are not deductible for tax purposes, but are deducted in determining stockholders' dividends. Although they do not like this method, they have felt that they have no other choice, if they want funds for necessary replacements and expansion. In 1947, DuPont set aside over twenty million dollars, as an increased cost of construction
and replacement reserve. Other companies have followed the same policy.

Winthrop Aldrich, of the Chase National Bank, said that, although the reserve policy is sound, it does not recover, tax free, the purchasing power invested in the original equipment. Aldrich suggests a modification of the corporate tax laws to permit depreciation adjustments when the purchasing power of the dollar changes. He says, "Certainly, a solution to this problem must be found if American industry is to continue to have a dynamic equipment policy." (1)

Another industrialist has said that if the value of the dollar increases substantially in the future, when large depreciation reserves have been accumulated, these reserves could then serve as a "protection against operating losses and a springboard for the return of economic stability." (2)

Many industrialists, economists, and investment analysts have proposed solutions to the problem. Few of the suggested solutions have received recognition from either the Bureau of Internal Revenue or the accounting profession. Most

of the proposed remedies have sought changes in the tax laws. Few have asked for changes in accounting procedures, such as recording fixed assets on the books on a basis of replacement cost. Some of the proposals have asked for major changes; others merely ask for changes in existing laws, rather than the repeal of old ones and the passage of new laws. Following, are some of the solutions as proposed by various persons and groups. These are all from the point of view of industry.

Louis H. Kimmel in his article on depreciation and postwar expansion, (1) has attacked the problem from a different point of view. First of all, he believes that fixed assets should be carried at cost. He bases this conclusion on several factors. First, prices and costs never remain stable, and second, it would be very difficult to develop a workable method of applying price changes to fixed asset accounts. He also opposes the revaluation of fixed assets, on the grounds that it would be difficult to determine an adequate base for revaluation, and because the task is so great, it would take years to accomplish, and as a result, would seriously affect tax administration.

He proposes two possible solutions. First would be the setting up of replacement reserves that would be tax

exempt for a certain period of years. The solution he judges best is a change in the depreciation policy of the Bureau of Internal Revenue. He believes that the taxpayer should have more freedom in selecting depreciation rates, assuming of course some form of limitation. This method, he says, would encourage the investment of capital and at the same time speed up the examination of tax returns. This would shorten the length of time a company must have to set aside a fund for possible additional taxes. The decrease in tax revenue at the beginning would be large, but over a period of time would be insignificant.

Mr. Kimmel cites the following example of what happens when prices rise at a fast rate.

<table>
<thead>
<tr>
<th></th>
<th>Before Price Change</th>
<th>After Price Change (first year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Income</td>
<td>100,000</td>
<td>150,000</td>
</tr>
<tr>
<td>Cost of Goods Sold</td>
<td>80,000</td>
<td>120,000</td>
</tr>
<tr>
<td>Depreciation</td>
<td>10,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Net Income</td>
<td>10,000</td>
<td>20,000</td>
</tr>
</tbody>
</table>

Net income has doubled while gross income has only increased fifty per cent. The increase is unreal because the depreciation allowance is not large enough to maintain real capital. He goes on to say that the example above only applies during the transition period, when the adjustment of depreciation to the higher price merely lags behind. The difference would
be eliminated over a period of time, as assets are replaced at higher costs, which are reflected in higher depreciation allowances.

An article appeared in Fortune (1) recently, which discussed the problem at great length. The author of the article gives what he believes is the best solution, as well as solutions proposed by others. He mentions the suggestion offered by the American Institute of Accountants, which suggests the adoption of "standard rates," from which individual companies might digress twenty-five per cent. The Machine and Allied Products Institute has proposed that companies be allowed to recover the cost of an asset in two-thirds its productive life. The Brookings Institution suggests special tax-free replacement reserves to be used within ten years. Frederick Blackall, of the Taft-Peirce Manufacturing Company, says that the depreciation allowance should be recognized as what it is, a "capital recovery allowance," and that the useful life concept should be abandoned. George Terborgh, an economist, believes that investors are entitled to recover the economic, rather than the monetary, value of their investment. Another proposal is the adoption of a plan similar to LIFO, which has been adopted in accounting for inventories. Of this plan, an accountant said that what really is proposed is a

1 The Depreciation Dilemma, Fortune, January, 1949.
VIFO system (next in, first out), since plant not yet acquired would be written off against current income.

By accepting current value depreciation today, a firm would be committing itself to accepting smaller depreciation charges and heavier taxation when prices start going down. So far, no company has publicly professed a willingness to follow this course.

The author's (1) solution to the problem is that nothing be done now. He says that liberalizing depreciation policy would only add impetus to our present inflation. He believes that the liberalizing of our depreciation policy should come when the demand for capital goods begins to slacken, and an incentive or stimulus is needed to interest investment capital. At that time, control over depreciation should be relinquished, or the policy of the five-year write-off be permitted. Until that time, the author believes that the plan as suggested by the AIA, of standard rates with a twenty-five per cent digression permitted, should be adopted.

In their 1948 Annual Report, United States Steel proposes an "accelerated" formula. This formula was also followed by National Steel, and Allied Chemical and Dye Corpo-

1 ibid p. 68.
ration, in 1948. Under United States Steel's formula, the amount of accelerated depreciation is related to the excess of current operating rate over the corporation's long-term peacetime average rate of seventy per cent of capacity production. The rate is ten per cent of the cost of the new facilities in the year they were purchased, and ten per cent in the succeeding year, except that this amount is reduced ratably, as the operating average may decline, no acceleration being made at seventy per cent, or lower operations. Using that method in 1948, United States Steel deducted an extra $55,000,000 from income. Allied Chemical followed much the same formula, using five per cent, instead of ten per cent, as the accelerated rate.

Jones and Laughlin has advocated a short period of one to five years to write off fixed assets, instead of the present regulation requiring depreciation to be spread over ten to thirty years. (1)

The proponents of the accelerated plan hope to win government approval of their plan. However, today, when the government is looking for increased revenue, I doubt very much that the plan will be accepted. I do not believe that the AIA will give its approval of the plan either, unless they change their basic premise that the cost of an asset should be written off over the life of the asset.

1 Depreciation Seen Problem in Steel, New York Times, February 20, 1949
In 1948, the Chase National Bank published a financial analysis of thirty oil companies for the year 1947. (1) In analyzing the capital expenditures of the company it was found that $2,076,000,000 was spent for property plant and equipment in 1947. Of this amount, $867,000,000 was provided by capital extinguishment charges in 1947. The remainder was provided from reinvested earnings, outside financing, and other sources.

The analysis shows that the 2,076 million dollars used for capital expenditures amounted to only 840 million based on prewar construction costs.

The following chart shows the differences between actual expenditures of dollars and the value of the dollars based on prewar costs for the years 1934 to 1947.


The authors (1) made the following statements concerning capital extinguishments:

"Charges for depreciation, depletion, amortization, and retirements are designed theoretically to provide funds to maintain the productive enterprise intact; though not to expand it. If capital costs rise, this provision falls behind in the performance of its function, because it is calculated on the basis of original costs."

Capital extinguishments for the year 1947 amounted to $867,000,000. The authors calculate that on the basis of the current (1947) purchasing power of the dollar, the figure would amount of $1,630,000,000. This is $763,000,000 greater than the actual provision per books.

The following chart shows the trend of actual charges for capital extinguishments of the thirty oil companies compared with figures adjusted to the value of current dollars for the years 1934 to 1947. It should be noted that the differential of $763,000,000 between actual depreciation and current value depreciation is almost identical to the $794,000,000 of actual earnings that were retained in 1947.

1ibid p. 12.
CHAPTER VII

AN ANALYSIS OF INDUSTRIES

A discussion of valuation and depreciation would not be complete without an analytical study of the business establishments who are seeking solutions to the high costs of replacing and expanding facilities. A representative group of about two hundred corporations are included in this study which is a large enough group to show definite trends and policies of business as a whole. A majority of the information used has been obtained from the annual reports published by the corporations.

The managements of the various corporations have attempted several different solutions in attempting to solve the problem of high replacement and expansion costs. The solutions adopted are as follows:

1. The borrowing of funds to meet present and future capital expenditure requirements (includes bond issues).

2. The setting up of reserves out of income or surplus to supplement depreciation reserves based on cost.

3. The adding to present reserves for depreciation amounts deemed necessary to bring the reserves up to present price levels.

4. The adding to an existing reserve an amount not specified for the same purpose as in statement three.

5. The setting up of a special asset fund to be used for capital expenditures only.
6. The additional sale of stock to provide the necessary funds.

7. Capitalizing previous acquisitions that were charged to expense to increase depreciation reserves.

The following is a list of the corporations studied. The number after each corporate name refers to the solution adopted by that corporation. The lack of a number signifies that the corporation took no action. The list is based on 1947 annual reports, unless otherwise noted.

The Corporations Analyzed

<table>
<thead>
<tr>
<th>Name</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addressograph-Multigraph Corp. (7/31/48)</td>
<td></td>
</tr>
<tr>
<td>Air Reduction Co.</td>
<td></td>
</tr>
<tr>
<td>Allegheny Ludlum Steel Corp</td>
<td></td>
</tr>
<tr>
<td>Allied Chemical and Dye Corp. (1947, 1948)</td>
<td>3</td>
</tr>
<tr>
<td>Allied Stores Corp. (1/31/48)</td>
<td></td>
</tr>
<tr>
<td>Aloha Portland Cement Co.</td>
<td></td>
</tr>
<tr>
<td>Aluminum Company of America</td>
<td></td>
</tr>
<tr>
<td>Aluminum Goods Manufacturing Co.</td>
<td></td>
</tr>
<tr>
<td>Amalgamated Sugar Co. (9/30/47, 9/30/48)</td>
<td></td>
</tr>
<tr>
<td>American Agricultural Chemical Co. (6/30/48)</td>
<td></td>
</tr>
<tr>
<td>American Bakeries Co. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>American Bank Note Co. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>American Breakshoe Co.</td>
<td></td>
</tr>
<tr>
<td>American Car and Foundry Co. (4/30/48)</td>
<td></td>
</tr>
<tr>
<td>American Chicle Co.</td>
<td></td>
</tr>
<tr>
<td>American Colortype Co.</td>
<td>1</td>
</tr>
<tr>
<td>American Laundry Machine Co.</td>
<td></td>
</tr>
<tr>
<td>American Locomotive Co.</td>
<td></td>
</tr>
<tr>
<td>American Metal Co., Limited.</td>
<td></td>
</tr>
<tr>
<td>American Rolling Mill Co.</td>
<td></td>
</tr>
<tr>
<td>American Smelting and Refining Co.</td>
<td></td>
</tr>
<tr>
<td>American Snuff Co. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>Acme Steel Co.</td>
<td></td>
</tr>
<tr>
<td>American Telephone and Telegraph Co. (1947, 1948)</td>
<td>1</td>
</tr>
<tr>
<td>American Tobacco Co. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>American Woolen Co. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>Anaconda Copper Mining Co.</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Number</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Armour and Co. (11/1/47, 10/30/48)</td>
<td></td>
</tr>
<tr>
<td>Armstrong Cork Co. (1948)</td>
<td>2</td>
</tr>
<tr>
<td>Art Metal Construction Co.</td>
<td>2</td>
</tr>
<tr>
<td>Atlantic Refining Co.</td>
<td>6</td>
</tr>
<tr>
<td>Atlas Powder Co. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>Baldwin Locomotive Works</td>
<td>3</td>
</tr>
<tr>
<td>Barber Asphalt Co.</td>
<td></td>
</tr>
<tr>
<td>Beech-Nut Packing Co.</td>
<td></td>
</tr>
<tr>
<td>Bendix Aviation Corp. (9/30/47, 9/30/48)</td>
<td></td>
</tr>
<tr>
<td>Bethlehem Steel Corp. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>B. F. Goodrich Co.</td>
<td>4</td>
</tr>
<tr>
<td>Bohn Aluminum and Brass Corp.</td>
<td></td>
</tr>
<tr>
<td>Borden Co.</td>
<td>3</td>
</tr>
<tr>
<td>Borg-Warner Corp.</td>
<td></td>
</tr>
<tr>
<td>Boston Edison Co.</td>
<td>3</td>
</tr>
<tr>
<td>Briggs Manufacturing Corp.</td>
<td></td>
</tr>
<tr>
<td>Budd Co.</td>
<td></td>
</tr>
<tr>
<td>Burns Bros.</td>
<td>4</td>
</tr>
<tr>
<td>Burroughs Adding Machine Co.</td>
<td></td>
</tr>
<tr>
<td>California Packing Co. (2/29/48)</td>
<td>2</td>
</tr>
<tr>
<td>Cannon Mills Co.</td>
<td>1</td>
</tr>
<tr>
<td>Caterpillar Tractor Co.</td>
<td>1</td>
</tr>
<tr>
<td>Celanese Corp. of America</td>
<td>3</td>
</tr>
<tr>
<td>Chicago Pneumatic Tool Co.</td>
<td></td>
</tr>
<tr>
<td>Chrysler Corp.</td>
<td></td>
</tr>
<tr>
<td>Cities Service Co.</td>
<td></td>
</tr>
<tr>
<td>Coca Cola Co.</td>
<td></td>
</tr>
<tr>
<td>Colgate-Palmolive-Peet Co.</td>
<td></td>
</tr>
<tr>
<td>Columbia Gas and Electric Corp.</td>
<td></td>
</tr>
<tr>
<td>Columbian Carbon Co.</td>
<td></td>
</tr>
<tr>
<td>Commercial Solvents Corp.</td>
<td>3</td>
</tr>
<tr>
<td>Commonwealth Edison Co.</td>
<td></td>
</tr>
<tr>
<td>Consolidated Cigar Corp. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>Consolidated Retail Stores</td>
<td></td>
</tr>
<tr>
<td>Container Corp. of America</td>
<td></td>
</tr>
<tr>
<td>Continental Can Co.</td>
<td></td>
</tr>
<tr>
<td>Continental Oil Co.</td>
<td></td>
</tr>
<tr>
<td>Copper Range Co.</td>
<td></td>
</tr>
<tr>
<td>Corn Products Refining Co.</td>
<td>2</td>
</tr>
<tr>
<td>Crane Co.</td>
<td>2</td>
</tr>
<tr>
<td>Cudahy Packing Co.</td>
<td></td>
</tr>
<tr>
<td>Curtis Publishing Co.</td>
<td></td>
</tr>
<tr>
<td>Davison Chemical Corp. (6/30/48)</td>
<td></td>
</tr>
<tr>
<td>Deere and Co. (10/31/47, 10/31/48)</td>
<td></td>
</tr>
<tr>
<td>Dennison Manufacturing Co.</td>
<td></td>
</tr>
<tr>
<td>Detroit Edison Co.</td>
<td>1</td>
</tr>
<tr>
<td>Devoe and Raynolds (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>Douglas Aircraft Co., Inc. (11/30/47)</td>
<td></td>
</tr>
<tr>
<td>Eastman Kodak Co.</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Number</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>77. E. I. duPont de Numeurs Co.</td>
<td>2</td>
</tr>
<tr>
<td>78. Electric Autolite Co.</td>
<td></td>
</tr>
<tr>
<td>79. Electric Boat Co.</td>
<td></td>
</tr>
<tr>
<td>80. Electric Storage Battery Co.</td>
<td></td>
</tr>
<tr>
<td>81. Elgin National Watch Co.</td>
<td></td>
</tr>
<tr>
<td>82. Endicott Johnson Corp. (11/30/47)</td>
<td></td>
</tr>
<tr>
<td>83. Fairbanks, Morse and Co. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>84. Firestone Tire and Rubber Co. (10/31/48)</td>
<td></td>
</tr>
<tr>
<td>85. Freeport Sulphur Co. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>86. F. W. Woolworth Co. (1948)</td>
<td></td>
</tr>
<tr>
<td>87. General Electric Co.</td>
<td></td>
</tr>
<tr>
<td>88. General Foods Corp.</td>
<td>6</td>
</tr>
<tr>
<td>89. General Mills Inc. (6/1/47, 5/31/48)</td>
<td></td>
</tr>
<tr>
<td>90. General Motors Corp.</td>
<td>3</td>
</tr>
<tr>
<td>91. Gillette Safety Razor Co.</td>
<td></td>
</tr>
<tr>
<td>92. Goodyear Tire and Rubber Co. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>93. Great Western Sugar Co.</td>
<td></td>
</tr>
<tr>
<td>94. Hercules Powder Co.</td>
<td>3</td>
</tr>
<tr>
<td>95. Hudson Motor Car Co.</td>
<td>1</td>
</tr>
<tr>
<td>96. Industrial Rayon Corp.</td>
<td></td>
</tr>
<tr>
<td>97. Ingersoll-Rand Co.</td>
<td></td>
</tr>
<tr>
<td>98. Inland Steel Co.</td>
<td></td>
</tr>
<tr>
<td>99. Inspiration Consolidated Copper Co.</td>
<td></td>
</tr>
<tr>
<td>100. International Business Machine Corp. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>101. International Harvester Co.</td>
<td></td>
</tr>
<tr>
<td>102. International Minerals and Chemical Corp. (6/30/48)</td>
<td></td>
</tr>
<tr>
<td>103. International Nickel Co.</td>
<td></td>
</tr>
<tr>
<td>104. International Shoe Co. (11/30/48)</td>
<td></td>
</tr>
<tr>
<td>105. International Silver Co.</td>
<td></td>
</tr>
<tr>
<td>106. J. C. Penney Co.</td>
<td></td>
</tr>
<tr>
<td>108. Johns Manville Corp.</td>
<td></td>
</tr>
<tr>
<td>109. Keith, George E., Co. (10/31/47, 10/31/48)</td>
<td></td>
</tr>
<tr>
<td>110. Kelsey-Hayes Wheel Co. (8/31/47, 8/31/48)</td>
<td>1</td>
</tr>
<tr>
<td>111. Kennecott Copper Corp.</td>
<td></td>
</tr>
<tr>
<td>112. Kroger Co. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>113. Lee Rubber and Tire Corp. (10/31/48)</td>
<td></td>
</tr>
<tr>
<td>114. Lehigh Valley Coal Corp. (1947, 1948)</td>
<td>2</td>
</tr>
<tr>
<td>115. Lever Bros., Limited</td>
<td></td>
</tr>
<tr>
<td>116. Libbey-Owens-Ford Glass Co.</td>
<td>2</td>
</tr>
<tr>
<td>117. Liggett and Myers Tobacco Co. (1948)</td>
<td>2</td>
</tr>
<tr>
<td>118. Lone Star Cement Corp.</td>
<td></td>
</tr>
<tr>
<td>119. McKesson and Robbins Co. (6/30/47, 6/30/48)</td>
<td></td>
</tr>
<tr>
<td>120. Mead Corp.</td>
<td></td>
</tr>
<tr>
<td>121. Mohawk Carpet Mills, Inc.</td>
<td></td>
</tr>
<tr>
<td>122. Monsanto Chemical Co. (1947, 1948)</td>
<td></td>
</tr>
<tr>
<td>123. Montgomery Ward and Co.</td>
<td></td>
</tr>
<tr>
<td>124. Nash-Kelvinator Co. (9/30/47)</td>
<td></td>
</tr>
<tr>
<td>125. National Airlines, Inc. (6/30/48)</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Number</td>
</tr>
<tr>
<td>-----------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>National Biscuit Co.</td>
<td>2</td>
</tr>
<tr>
<td>National Can Corp.</td>
<td></td>
</tr>
<tr>
<td>National Cash Register Co.</td>
<td></td>
</tr>
<tr>
<td>National Dairy Products Corp.</td>
<td></td>
</tr>
<tr>
<td>National Distillers Products Corp.</td>
<td></td>
</tr>
<tr>
<td>National Lead Co.</td>
<td>5</td>
</tr>
<tr>
<td>National Steel Corp.</td>
<td>3</td>
</tr>
<tr>
<td>Otis Elevator Co.</td>
<td>2</td>
</tr>
<tr>
<td>Pacific Mills</td>
<td></td>
</tr>
<tr>
<td>Packard Motor Car Co.</td>
<td></td>
</tr>
<tr>
<td>Pan American World Airways</td>
<td></td>
</tr>
<tr>
<td>Pepperell Manufacturing Co.</td>
<td>(6/30/47, 6/30/48)</td>
</tr>
<tr>
<td>Philip Morris and Co.</td>
<td>(3/31/48)</td>
</tr>
<tr>
<td>Phillips Petroleum Co.</td>
<td></td>
</tr>
<tr>
<td>Pillsbury Mills, Inc.</td>
<td>(5/31/48)</td>
</tr>
<tr>
<td>Pittsburgh Consolidation Coal Co.</td>
<td></td>
</tr>
<tr>
<td>Pittsburgh Plate Glass Co.</td>
<td></td>
</tr>
<tr>
<td>Pittsburgh Steel Co.</td>
<td></td>
</tr>
<tr>
<td>P. Lorillard Co.</td>
<td></td>
</tr>
<tr>
<td>Proctor and Gamble Co.</td>
<td>(6/30/48)</td>
</tr>
<tr>
<td>Pullman, Inc.</td>
<td></td>
</tr>
<tr>
<td>Quaker Oats Co.</td>
<td>(6/30/48)</td>
</tr>
<tr>
<td>Radio Corp. of America</td>
<td>(1947, 1948)</td>
</tr>
<tr>
<td>Real Silk Hosiery Mills, Inc.</td>
<td>5</td>
</tr>
<tr>
<td>Remington Arms Co., Inc.</td>
<td></td>
</tr>
<tr>
<td>Remington Rand, Inc.</td>
<td>(3/31/48)</td>
</tr>
<tr>
<td>Republic Steel Corp.</td>
<td>2</td>
</tr>
<tr>
<td>Rexall Drug, Inc.</td>
<td></td>
</tr>
<tr>
<td>Richfield Oil Co.</td>
<td></td>
</tr>
<tr>
<td>R. J. Reynolds Tobacco Co.</td>
<td>(1947, 1948)</td>
</tr>
<tr>
<td>Safeway Stores, Inc.</td>
<td></td>
</tr>
<tr>
<td>Saint Regis Paper Co.</td>
<td></td>
</tr>
<tr>
<td>Schenley Distillers Corp.</td>
<td>(8/31/48)</td>
</tr>
<tr>
<td>Sears, Roebuck and Co.</td>
<td>(1/31/48)</td>
</tr>
<tr>
<td>Sheaffer Pen Co.</td>
<td></td>
</tr>
<tr>
<td>Shell Union Oil Co.</td>
<td>(1947, 1948)</td>
</tr>
<tr>
<td>Sherwin Williams Co.</td>
<td>(8/31/47, 8/31/48)</td>
</tr>
<tr>
<td>Simmons Co.</td>
<td></td>
</tr>
<tr>
<td>Sinclair Oil Corp.</td>
<td></td>
</tr>
<tr>
<td>Socony Vacuum Oil Co., Inc.</td>
<td></td>
</tr>
<tr>
<td>Sparks Withington Co.</td>
<td>(6/30/47, 6/30/48)</td>
</tr>
<tr>
<td>Standard Brands Inc.</td>
<td></td>
</tr>
<tr>
<td>Standard Oil of California</td>
<td></td>
</tr>
<tr>
<td>Standard Oil of Indiana</td>
<td>1</td>
</tr>
<tr>
<td>Standard Oil Co. of New Jersey</td>
<td></td>
</tr>
<tr>
<td>Stewart Warner Corp.</td>
<td></td>
</tr>
<tr>
<td>Studebaker Corp.</td>
<td></td>
</tr>
<tr>
<td>Swift and Co.</td>
<td>(11/1/47)</td>
</tr>
<tr>
<td>Sylvania Electric Products, Inc.</td>
<td></td>
</tr>
</tbody>
</table>
Name

175. Tennessee Corp. (1947, 1948)
176. Texas Gulf Sulphur Co.
177. Tide Water Associated Oil Co.
178. Timken Roller Bearing Co.
179. Union Carbide and Carbon Corp. (1947, 1948)
180. Union Oil of California
181. Union Tank Car Co.
182. United Fruit Co. (1947, 1948)
183. U. S. Envelope Co. (1948)
187. U. S. Smelting, Refining and Mining Co.
188. U. S. Steel Corp. (1947, 1948)
189. Western Air Lines Inc.
190. Western Union Telegraph Co.
191. Westinghouse Air Brake Co. (1947, 1948)
192. Westinghouse Electric Corp.
193. White Motor Co.
195. Willys-Overland Motors, Inc. (9/30/47, 9/30/48)
196. Worthington Pump and Machinery Co. (1947, 1948)
197. Youngstown Sheet and Tube Co.

On the basis of the above list, forty-six corporations adopted one of the solutions mentioned previously.

<table>
<thead>
<tr>
<th>Solution numbers</th>
<th>Number of Companies Using the Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
</tr>
</tbody>
</table>

One hundred and fifty-one (197-46) corporations decided to take no action. Therefore, 23.4% of the corporations took concrete action in attempting to find some solution to the problem of overcoming the high costs of replacement and expansion.
The following pages are devoted to a study of individual companies. An attempt has been made to discuss the important companies in various industries.

**Automobile and Parts Industry**

This industry is one of the largest in the country, and one that requires large plants and heavy equipment. Of the eight automobile companies studied, five have adopted some plan, while the other three are waiting possible revenue law changes, or changes in price levels. Three companies that took no action are Packard, Studebaker, and the White Motor Company.

In 1947, General Motors reverted to its policy used prior to January 1, 1945 of accruing depreciation on machinery and equipment, regardless of whether the age of any individual unit in service exceeds the estimated average useful life upon which the group rate of depreciation is based. The effect of this practice increased the 1947 depreciation figures by $10,544,124. This amount, of course, is not deductible for income tax purposes.

Chrysler Corporation began, in 1947, to deprecate fixed assets acquired since the war on an accelerated basis. This action resulted in additional depreciation of $5,166,126 for the year.
For the year ending September 30, 1947, Nash-Kelvinator included $10,000,000 of fully depreciated assets in its fixed asset account. This amount was also included in the reserve for depreciation. The net effect of this action eliminates the fully depreciated assets when the extension is made on the balance sheet. The only purpose that I can see that is accomplished by this practice is to show the gross assets that are still being used in the business.

In 1947 and 1948, Willys-Overland followed the practice of including in its fixed asset account machinery and equipment which had been fully depreciated for tax purposes because of their use in war work. They are now depreciating these assets at a much lower rate. The company has followed this procedure in order to show a larger depreciation reserve.

Hudson, the fifth company that has taken any action, has borrowed funds for expansion.

Of the nine parts and associated companies, only two have adopted a policy. The rest are awaiting future developments.

The Timken Roller Bearing Company, which supplies a large portion of the bearings used in automobiles and trucks,
set aside out of income $1,250,000 for replacement of plant facilities in 1947. This amount is over and above the regular depreciation reserve which is stated at cost.

The Kelsey-Hayes Wheel Company, which supplies parts for several assembly companies, borrowed funds for expansion.

Tobacco Companies

The Liggett and Myers Tobacco Company is the only one of the six tobacco companies studied that adopted a plan. In 1948, the company set aside $2,000,000 out of earned surplus as an appropriation for excessive costs of fixed assets. The remaining five companies either felt that they had sufficient funds to cover all needs or were waiting for possible changes in the tax laws.

Petroleum Companies

A study was made of fourteen petroleum companies. Of this number, three made special provisions, five mentioned the problem but made no special provisions, and three did nothing.

The Atlantic Refining Company sold additional stock in order to obtain additional capital for expansion. The
The company says the proceeds from the sale of stock plus depreciation, and retained earnings will meet their capital expenditure requirements.

The Union Oil Company of California borrowed $15,000,000 in 1947 from the New York Life Insurance Company, for expansion and replacement of facilities. The company makes note of the fact that it has followed accepted accounting standards by depreciating on the basis of cost.

Standard Oil of Indiana borrowed an unspecified amount in 1947 to meet expansion requirements.

Five of the companies mentioned the fact that depreciation reserves do not begin to cover the cost of capital expenditures. They call attention to the fact that they must retain large portions of their earnings to meet current replacement costs.

The Shell Union Oil Corporation cites the following figures to show the sources of the funds used for capital expenditures of $138,431,000 in 1947.

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profits</td>
<td>$59,875,000</td>
</tr>
<tr>
<td>Depreciation, depletion, and amortization</td>
<td>50,730,000</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>2,191,000</td>
</tr>
<tr>
<td>Securities and cash</td>
<td>55,941,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>168,741,000</strong></td>
</tr>
<tr>
<td>Less Dividends</td>
<td>30,309,000</td>
</tr>
<tr>
<td><strong>Total for Capital Expenditures</strong></td>
<td><strong>138,431,000</strong></td>
</tr>
</tbody>
</table>
The depreciation in the figures on the previous page is approximately $23,000,000, which is about 17% of the total sources used for capital expenditures.

STEEL INDUSTRY

Eight steel companies were studied. Of these, three set up special provisions, and five took no action.

In 1947, United States Steel set up an additional reserve of $26,300,000, which they figured would cover the increased costs of replacing facilities. This action did not receive the approval of the AIA or SEC. In 1948, the company adopted the accelerated depreciation method, which I have previously discussed.

Republic Steel Corporation set up a reserve for excess cost of property replacement of $4,000,000, in 1947.

National Steel Corporation added $3,500,000 to the regular depreciation reserve, which had been figured on the basis of cost.

The remaining five companies, including Bethlehem Steel, took no action.
FOOD INDUSTRY

In my discussion of this industry, I have included the sugar refining companies, since they are closely related to the consumption of food. I have also included the United Fruit Company and two manufacturers of chewing gum. Seventeen companies were studied in this group. Of this number, six took some kind of action and eleven took no action.

The National Biscuit Company set up a reserve for high cost of plant additions, of $6,000,000, in 1947. This amount was deducted from net income before transfer to surplus.

The Corn Products Refining Company set up a reserve for replacement of facilities, at current cost of $1,800,000, in 1947. This amount was also deducted from net income before transfer to surplus.

The California Packing Company set aside a reserve, for increased costs of replacement of plant and equipment of $1,250,000. This amount was deducted from net income before transfer to surplus, and the auditor's certificate took exception to the action of the company.

In 1947, the United Fruit Company set aside $7,000,000 in a reserve for abnormal construction costs. In 1948,
the company followed the same procedure, and deducted an additional $7,000,000 from net income. The 1948 annual report stated that the reserve set up during the year resulted in a decrease of 80¢ per share on dividends paid to stockholders. This procedure is not approved by the AIA.

General Foods Corporation announced in 1947 that they had obtained additional funds by the issuance of preferred stock. The receipts from the sale of stock, plus the depreciation reserve and earnings are deemed adequate by the company to provide funds for expansion.

The Quaker Oats Company took rather unique action in the year ending June 30, 1948. Previously, it had been the custom of the company to charge purchases of furniture and fixtures and minor equipment directly to an expense account. Retroactive to 1942, such items have been charged to a capital account, with the correct provision for depreciation being set up. The net prior years' credit arising from this change, $185,000, was included in the net income for the year. This action was approved by the company's independent auditors. The net result of the action was to increase the fixed asset account and the reserve for depreciation. The company feels that the additional depreciation will aid them in financing future capital expenditure.
As I have said before, eleven companies took no action. Included in this group are such large companies as General Mills, Standard Brands, and the Beechut Packing Company.

CHEMICAL AND RELATED INDUSTRIES

I have included in this group two large drug companies and the Celanese Corporation of America, which are closely related to the chemical industry. This group includes twelve companies, four of which took some action, and eight no action.

Probably the largest and most powerful of the chemical companies is the E.I. du Pont de Nemours Company. In 1947, this company set aside $20,900,000 to cover increases in construction costs. This amount equaled about 20% of the construction expenses for plant expansion during the year. This reserve, deducted from net income, had the effect of reducing the earnings of the common stock by $1.51 per share. The company continued the same practice in 1948.

In 1947 and 1948, the Allied Chemical and Dye Corporation transferred funds from the reserve for con-
tingencies to the regular depreciation reserve. These amounts were $3,581,969 in 1947, and $4,775,854 in 1948. In addition to these provisions, the company also transferred $20,000,000 from the reserve for investments and securities to an increased cost of replacement reserve. As I have mentioned previously, the company adopted the accelerated depreciation method in 1948, using a 5% rate instead of the 10% proposed by U.S. Steel.

In 1947, the Hercules Powder Company augmented their regular depreciation reserve, which is accrued on a per unit of output basis with an additional amount of $1,300,000. This action was not followed in 1948.

The Commercial Solvents Company has retained in its fixed asset account, and the related reserve for depreciation, fully amortized emergency facilities in the amount of $2,364,348. The purpose of this action was to give a clearer picture to the stockholders of the amount of fixed assets being used in the business.

The remaining companies, including Monsanto Chemical, Celanese Corporation of America, and McKesson and Robbins, took no action.
TEXTILE INDUSTRY

Seven of the largest companies in the textile industry were analyzed. Of these, only one took any action. The remaining companies, including the American Woolen Company, Cannon Mills, and the Industrial Rayon Company, are awaiting further developments.

In 1947, the Real Silk Hosiery Mills set aside a special asset fund of $1,500,000, for future capital expenditures. This fund consisted mainly of United States government securities.

MEAT PACKING INDUSTRY

Three companies were studied in this group. Of the three, only one, Swift and Company, took concrete action. The other two, Armour and Company, and Cudahy Packing Company made no changes.

Swift and Company set up a reserve for the high cost of additions to fixed assets of $12,000,000 in 1947. This amount was deducted from net income before transfer to surplus.
Three companies were studied in this group. Two of these, Procter and Gamble, and the Colgate-Palmolive-Peet Company, took no action.

Lever Brothers Limited, a British corporation, set aside a fixed asset replacement reserve of 3,636,891 pounds in 1947. This amount plus the previous balance made a total of 5,132,960 pounds at the end of 1947. A British pound is worth a little more than three dollars in United States currency. Therefore, in American dollars the amount of the reserve is about $15,000,000. This amount was subtracted from net income on the company's profit and loss statement. Such action is not sanctioned by the AIA.

Eight companies were studied in this group. Of this number, only one took any action. The others are waiting for possible changes in the tax laws, or for a stabilization of our economy.

Sears, Roebuck and Company continued, in 1947, the practice it adopted several years ago, of depreciating fixed
assets at rates in excess of those allowed for Federal income tax purpose. In 1947, this excess amounted to additional depreciation of $10,400,000. Since the adoption of this plan, about $39,000,000 has been taken as excess depreciation which can be deducted for income tax purposes in future years. No exception was taken to this policy in the auditor's certificate.

The remaining companies, which took no action, include such large organizations as F.W. Woolworth, Montgomery Ward, and J.C. Penney.

TIRE AND RUBBER COMPANIES

Five companies were studied in this group. Two companies made provisions, one company discussed the problem, and two companies took no action.

In 1947, B.F. Goodrich Company set up, as an additional reserve for possible contingencies, $6,500,000, of which a substantial part was for inflated cost of property and replacements.

Goodyear Tire and Rubber Company borrowed $100,000,000
to refinance its funded debt and provide funds for capital expenditures. The company stated that, in 1948, 2-3/4% of every income dollar was plowed back into the business as a reserve to meet higher costs of plant replacements.

The U.S. Rubber Company took no action in 1947 or 1948. However, in 1948, the annual report stated that the replacement value of the company's domestic facilities was $384,000,000, as compared to the gross book value of $244,614,522. The depreciated value was $146,000,000, as compared to the net depreciated book value of $75,057,670.

The Firestone Tire and Rubber Company, and the Lee Tire and Rubber Company did nothing during 1947 or 1948.

**AIRPLANE MANUFACTURERS AND AIRLINES**

Five companies were studied in this field. None of them took any positive action, and only one discussed the problem.

In its annual report for the year ending September 30, 1948, the Bendix Aviation Corporation said that for the three years since the end of the war, the $19,000,000 spent
for capital goods exceeded aggregate depreciation charges by about $11,500,000. This amount has been financed from accumulated earnings plowed back into the business.

The other large manufacturers and airlines took no action at all.

**BUILDING SUPPLIES COMPANIES**

I have included in the discussion of building supplies companies, most of the manufacturers of material used in the construction of both industrial and residential dwellings. Steel, which is an important part of any large building, has been discussed before. Ten building supplies companies were studied. Three have taken positive action, while two have merely discussed the question, and five have taken no action.

In 1947, the Armstrong Cork Company took no action, but stated in its report that under present conditions, the doubling of depreciation would bring the amount of depreciation necessary for replacement more into line. In 1948, the company transferred $2,185,000 to a reserve for the replacement of buildings and machinery out of profits retained by
the company. This is one of the few instances where the appropriation was made from surplus, and not deducted from net income. The company believes that this amount is adequate at the present time to maintain a strong competitive position.

The Libbey-Owens-Ford Glass Company set up a reserve of $2,000,000 for property and/or excessive cost of new facilities out of earned surplus in 1947.

Johns-Manville Corporation set up a "fund for deferred expenditures for future capital expenditures." The amount of this fund at the end of 1947 was $15,259,610. The fund consists of cash, U.S. Tax Notes, Treasury Notes and Bonds, postwar refund of Canadian Excess profits Tax, and a carry back claim for refund of federal taxes.

The U.S. Gypsum Company made no special provision, but is pursuing a conservative financial policy, in order to have the necessary funds to replace wornout facilities at present high prices.

The Pittsburgh Plate Glass Company has also retained a large part of its earnings which, they say, re-
presents the shrinkage in the purchasing power of the dollar. Some of the earnings retained are to be used in replacing fixed assets at an amount well above the original cost.

Included in the companies that decided to postpone action are two of the largest cement companies, and two of the largest paint products companies.

CONCLUSIONS ON THE ANALYSIS

In my discussion above, I have analyzed most of the corporations of any importance. I have made no attempt to discuss the problem faced by the railroads. The accounting systems used by them are closely regulated by the I.C.C. I have only touched on public utilities, which are also closely regulated. Industrial organizations, on the other hand, are not closely supervised as far as accounting systems are concerned, and it is with these that I have been mainly interested.

On the basis of the analysis, it is obvious that a large majority of American Corporations have been content to preserve the status quo. I do not believe that they have done so from choice. They feel that additions to reserves already in existence, and the establishment of new reserves
is futile. To them, bookkeeping entries mean nothing. Setting up a reserve does not put more money into the bank, or put up a new building. Of course, they would gladly set up these reserves if the Treasury would allow them to be deducted for tax purposes.

Those companies that have set up reserves have done so primarily for three reasons. The first, and probably the most important, reason is to demonstrate to the stockholders that it is necessary to retain funds for expansion and replacement at abnormal costs, and, thus, cannot pay the dividends the stockholders believe they should receive.

The second reason is an attempt to convince labor that their profits are not high enough to merit additional wage increases. This attempt has not been too successful as evidenced by labor's constant demand for more pay.

The third reason the companies have set up these reserves is to prove to government officials, who are contemplating increases in corporation taxes, that profits are not excessive. The corporations not only want to prove that profits are not excessive, but also want to convince the
government that tax rates should be lowered. They are especially interested in a change in the depreciation laws which would permit larger deductions.

Since the AIA and the S.E.C. have been consistently opposed to deducting additional depreciation reserves from income, rather than from surplus, many companies including U. S. Steel have adopted other plans, which they hope will meet with approval. Many companies are opposed to making any change in their accounting systems which do not conform to good accounting procedures.

The companies that have been able to issue stock have been in a fortunate position. They have been able to increase their funds without borrowing. The companies that issued bonds have greatly increased their fixed charges, which puts additional burdens on the companies, especially during periods of low income.
CONCLUSION

One basic conclusion that can be drawn from the preceding discussions is that the problem of accounting for fixed assets, as well as the problems involved in accounting for the other aspects of a business have greatly increased in complexity since the advent of the industrial revolution.

The accounting problems of the average business enterprise have grown from mere bookkeeping problems to complex accounting procedures. The way a company keeps its books is no longer its own private affair, but the affair of government commissions, the Treasury Department, the stockholders, and the public. For example, a company like United States Steel is responsible to almost all the federal commissions, plus the Bureau of Internal Revenue and its stockholders.

The problems involved in present day accounting procedure have changed the position of the accountant from a bookkeeper, to a position of importance in our economic system. Upon him falls the job of solving the various accounting problems that beset management. The accountant's job is now one of interpretation and analysis, rather than the more simple
job of making bookkeeping entries.

Over the years, accounting procedures and standards have been set up by the accounting profession to meet, in the best possible way, present day accounting problems.

One of the most important of these accounting problems has been the problem of accounting for fixed assets. I have attempted to discuss those problems involving fixed assets which to my mind, are of paramount importance.

Government regulations have an important effect on fixed asset accounting. Certain definite procedures have been set by the federal commissions and the Treasury Department from which little deviation is permitted. Although many people object to government regulations, I believe that they have made an important contribution in that they have forced the adoption of standard accounting procedures by American business. It is true that many of these procedures are contrary to some of the accounting theories that have evolved over the years, but at least they have brought some semblance of uniformity in the presentation of financial reports. The accounting procedures set up by the commissions are different in some
respects, since the companies under the jurisdiction of one commission have different problems from those who are supervised by another commission, but basically the accounting systems are very similar. For example, all the commissions require that fixed assets be recorded at cost, and that the straight line method of depreciation be used.

Besides the contribution of preparing difficult and complex financial statements, the accounting profession has done a great deal to standardize accounting procedures. Many of the accounting procedures adopted by federal agencies were recommended by the accounting profession.

The American Institute of Accountants and the other professional organizations have been constantly studying ways of improving accounting procedure. The research bulletins published by the AIA have done much to clarify and correct points in accounting methods, which have plagued management and the accounting profession.

The accounting profession has often been criticized for being too conservative to the point of being stubborn. This complaint has, for the most part, come from managements
who desire to have certain procedures changed for their benefit. This criticism is not justified. The accountant looks at problems from a long range point of view. Many corporations desire to use replacement cost as a basis for depreciating fixed assets, but the accounting profession will not sanction such a change because it will confuse, if not completely destroy the value of financial statements. I believe that it has taken a justifiable position.

Four methods or bases of valuation of fixed assets have been discussed. Each method is useful and necessary under certain conditions. For accounting purposes, the cost method or basis should be preserved. It is the only basis which is almost completely devoid of opinions. To value fixed assets by means of opinions on future earning power, would only confuse financial reporting. An opinion can be disputed, but facts cannot. Also, opinions change from day to day, while facts remain the same. These other bases have their merits, but not in the field of accounting for a going concern.

Various depreciation methods have been discussed. While all the methods are used to a certain extent, the straight line method is the most popular. It is the one sanctioned by
the federal commissions, and is found most frequently on tax returns. Its greatest attribute is its simplicity. It does not require complicated mathematical computations or complex bookkeeping entries. Its greatest drawback is that it writes off a fixed asset on equal installments when, in some cases, the asset does not depreciate the same amount each year. For example, a machine that is not used during the year will not depreciate as much as one that is used regularly during the year. While the straight line method has its drawbacks, these drawbacks are more than offset by the simplicity of application, and by the fact that it adequately covers the depreciation requirements of most fixed assets.

The study made of the one hundred and ninety-seven corporations indicate that, while industry has not been satisfied with present conditions as far as high costs are concerned, it is reluctant to take any positive action. Some companies have adopted policies to combat the high cost of fixed assets. Some of these policies have violated accounting principles, especially the cost principle of determining depreciation charges. An effort should be made by the auditors of the firms who have violated accounting procedures to induce the managements to return to the acceptable accounting standards. In
reading many of the annual reports of corporations, I have noticed that most of the audit certificates make no mention of faulty procedure that has been used in accounting for fixed assets.

In making this study of current problems in accounting for fixed assets, one thought stands out in my mind - the need for uniformity. Management and the accounting profession have made important progress in meeting this need, but there is still room for improvement. There are still many business executives who feel that the accounting profession is not co-operating with them. Some accountants feel the same way about management. In order to achieve better uniformity in financial reporting, complete co-operation between all parties concerned is necessary. Otherwise, the goal of a standard accounting procedure for all phases of accounting will never be reached.
Bibliography

I Books


II Periodicals and Articles


III Pamphlets


Depreciation on Appreciation, Bulletin #5. American Institute of Accountants, April, 1940.


Federal Communications Commission Reports, Volume 10, April 1, 1943 to June 30, 1945.


Interstate Commerce Commission, Uniform System of Accounts for Carriers by Inland and Coastal Waterways, 1945.


Interstate Commerce Commission, Uniform System of Accounts for Steam Railroads, 1943.

Reports of Tax Court of the United States, Volume 9, July 1, 1947 to December 31, 1947.

Reports of the United States Board of Tax Appeals, Volume 44, April 1, 1941 to August 31, 1941.

Reports of the United States Board of Tax Appeals, Volume 47, June 1, 1942 to October 31, 1942.


United States Treasury Department, Bureau of Internal Revenue, Bulletin "F", 1942.
Epstein, Robert
Tangible Fixed Assets

DATE | ISSUED TO
--- | ---
[Redacted] | [Redacted]

1615