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HISTORY OF LIFO

Abstract: The history of LIFO illustrates the interplay of taxes and the general acceptance of accounting principles. In this paper, the gradual acceptance of LIFO in the United States is traced. The study focuses on both the theoretical evolution of LIFO and its acceptance by taxing authorities and accountants.

Introduction

According to the American Accounting Association Committee on Accounting History,[1] the prime example of an historical study which deserves attention is "the evolution of last-in, first-out (LIFO) inventory accounting as an acceptable method of computing taxable income for Federal Income Tax purposes and its subsequent evolution as a 'generally accepted accounting principle.' " In this paper, the acceptance of LIFO in the United States is traced.

Historically, LIFO can be viewed as an outgrowth of the base stock method.[2] Therefore, a brief history of the base stock method in England and in America is presented before the history of LIFO.

The Base Stock Method—Development in England and America

Definition of Base Stock

A company that uses the base stock method defines a certain quantity of inventory as the normal amount necessary to continue operations. This quantity of inventory, sometimes called the "normal stock," is the minimum necessary as long as the business does not reduce or enlarge operations. Since the base stock is considered a permanent investment, any change in its value is ignored. In contrast, inventory above the normal quantity is intended for immediate resale and is thus a transitory investment. Goods sold are deemed to come from quantities purchased over and above the

I wish to thank David O. Green, Nathan Kahn, Kenneth Most, Hanns-Martin Schoenfeld, Norman Berman, and an anonymous reviewer for their helpful comments.

base stock. The company on the base stock method thus approximately matches the current costs of current purchases against current revenues.

The Base Stock Method in England

It is difficult to pinpoint the earliest appearance of the base stock method in England. Arundel Cotter, writing in 1940,[3] claims that "normal stock has been in use in Scotland, Wales, England and Holland for more than half a century." Taken literally, Cotter's statement places the beginning of the base stock method at no later than 1890. However, both the lack of any documentation and the popular nature of Cotter's book leaves one with the impression that Cotter may have been guessing.

Maurice Peloubet[4] stated: "The base stock method has undoubtedly been in use in England since the middle 80's of the last century." The fact that Peloubet was an auditor in England at the beginning of the twentieth century lends credence to his statement. In 1914 he audited a foundry in England which had been using the base stock method for a long time.[5] He discovered that the base stock method was used in the base metal trades and in textiles. Even though he does not give specific names, there seems to be no reason to doubt his assertion that the base stock method predates the twentieth century.

All writers on the subject agree that the base stock method was not a theoretical construct of accountants, but rather, was developed by businessmen in response to economic pressures. Income tax was one of these important economic pressures. English income taxes started in 1799 and were discontinued in 1813. The taxes were permanently reinstated in 1842. Base stock has a natural attraction for taxpayers because it matches current costs to current revenues and suppresses changes in base stock inventory. The result is a smoother income stream. "During the first World War, a combination of high prices and heavy income taxes led to a demand for recognition of the base stock method in determining taxable income."[6]

Why was fluctuating income considered evil? A company with higher reported profits has to pay more taxes than a company with lower reported profits. Since the higher profit does not necessarily correspond to a better cash flow, the company is forced to pay taxes at a time when the cash flow cannot support such high payments. Furthermore, given a graduated tax system or the lack of carryback-carryforward provisions, a company with fluctuating income pays more taxes in the long run than a company with non-fluctuating income.[7]

The fact that people tried to use the base stock method for taxes enshrouded its use in secrecy.

> Actual legal precedents for the use of the base stock method in England will not, I think, be found principally because the issue has not, so far as I know, ever been clearly litigated, and the evidence of its use on a permissive basis untested by court action would be most difficult to obtain.[8]

Obviously, a company will not publicize its use of an accounting method that has doubtful tax validity and favorable tax consequences. The publicity can have only deleterious effects. The avoidance of publicity explains the difficulty of pinpointing the exact beginnings of the base stock method.

In 1918, the question of the base stock method was examined by a Committee appointed by the Ministry of Reconstruction. This Committee rejected all proposals to extend the applicability of the base stock method. In the absence of a statutory definition of income, the Committee agreed to accept the base stock method only where its use had already been established.

It should be noted that the report of the Committee in 1919 was not unanimous. Four of the ten members of the Committee joined in the following reservation:

> We are of the opinion that the base stock method of eliminating from trading profits the fluctuations in stock values, is preferable to the creation of reserves from profits enhanced by rising markets, and using up such reserves against losses in falling markets, as the more accurate ascertainment, and more equal distribution of actual trading profits, over a longer period than one year, which results from the method, we advocate, stabilizes the business and enables loan, or preference capital, to be obtained on better terms.[9]

It is quite possible that the majority of the Committee also saw the merits of the base stock method. Carson[10] believes that the majority view was dictated by the necessity of collecting taxes. If everyone adopted the base stock method, revenue collection could become problematic.

The Committee's report, whatever its reasoning, effectively limited the growth of the base stock method in England.

The Base Stock Method in the United States

In the United States the beginning of the use of the base stock method can be established by the examination of published financial statements. In 1903, the American Smelting and Refining Company became the first company to adopt the base stock method.

> . . . the base stock method was started by at least one company in each of the years 1906 and 1913, by at least four companies during the following four years, by at least five companies during the 1920s, and by at least 15 companies during the period 1932 through 1937. An investigation of prevailing inventory practices made in 1938 by the National Industrial Conference Board showed that of 826 widely scattered enterprises selected for the study, 4 percent used a base stock method.[11]

Warshow, an officer of the National Lead Company, wrote two articles about his company's adoption and use of the base stock method.[12] The articles provide many insights into the base stock method and the following paragraphs draw heavily from them.

A Case History of the Use of the Base Stock Method

Because lead does not spoil, National Lead Company was not forced to move out its oldest materials first. To avoid multiple handling, the company usually loaded the most recently purchased materials into the manufacturing process.

Similarly, the company often shipped the most recently finished goods to customers. A last-in, first-out (LIFO) assumption as to the flow of goods was thus closer to the actual flow than a first-in, first-out (FIFO) assumption.

Since the manufacturing process of white lead covered a period of five to six months, there always had to be a certain amount of work in process inventory. A depletion of the work in process inventory would have caused a six month lag in production of finished goods. The minimum inventory was thus a permanent investment necessary for the business to continue as a going concern. This minimum quantity was the "normal stock."

A study was made by qualified experts to determine the normal quantity of each of the different kinds of inventories (raw materials, work in process, and finished goods) necessary for continued operation. The study took into account other factors, such as the inventory in transit and minimum inventories necessary to insure a delay-free flow of goods through the manufacturing process. The normal quantity was about 80 percent of the total inventories at the National Lead Company.

The normal stock inventory was valued at the lowest price of lead since the date of adoption of the plan in 1913. This valuation was accomplished in two ways. In 1913, the inventory was written down to the lowest value that could reasonably be anticipated. If the market fell below the 1913 book value, the inventory would be written down further to market.

Once the base stock is valued, the problem remains of valuing the difference between ending inventory and base stock inventory. If the quantity of ending inventory is greater than base stock, the excess is valued by using any conventional cost method. National Lead Company, for example, used a weighted average for valuing the excess inventory.

However, what is the accounting treatment when ending inventory, due to unforeseen shortages or other factors, is less than base stock? The theory of base stock is that the base stock is never sold. If base stock is depleted, the goods sold are regarded as being borrowed from the base stock. The goods borrowed must be returned to the base stock. Since the goods returned to the base stock will have to be bought at current market price, the current market value of the deficiency is charged to cost of goods sold and subtracted from the inventory.

A problem can arise when current market values are subtracted from base stock book values. If the base stock method is maintained over a long period of time, market value may be much higher than book value. Subtracting the current market value of the deficiency from the ending inventory can result in an understated or even a negative inventory.

A different approach can be used to avoid negative inventory values. The market value of the inventory sold from base stock is charged to cost of goods sold, but the book value is subtracted from the inventory. The difference between market and book value is treated as either a liability[13] or a deferred credit.

Did National Lead Company benefit from the use of the base stock method? Since the Internal Revenue Service never allowed the base stock method for income tax calculation, the company had to keep two sets of books. The company felt the extra work was well worth it. Between the years 1913 and 1920, the market price per pound of pig lead, National Lead Company's raw material, moved up from 3.4 cents to about 12 cents and back down to 4.75 cents. In its 1925 annual report, the company discloses that each one cent a pound change in the market price of lead would affect profit by $2 million. Since the company did not show any profits on the rise in the value of the inventories, it did not have to write down the inventories when prices fell. Profits were smoother than they would have been if National Lead had used the more conventional FIFO.

> A comparative statement of the two methods of valuation (viz., cost or market compared to the normal stock method) over a period of 10 years, 1913 to 1923, which was made for the National Lead Company shows practically no difference in the net profit for this period, due to methods of valuing inventories.[14]

Sanders starts with National Lead Company's reported base stock method income and calculates an adjusted income based on the lower of cost or market.[15] For the period 1915 to 1922, the reported net income varied between $2.7 million and $4.9 million. The adjusted income varied between a gain of $8.58 million and a loss of $2.1 million (see Figure 1).[16]

In the period of rising inventory value, the company was under no pressure to increase dividends and wages. When inventory values fell, National Lead was able to continue paying its dividend since it had maintained its liquidity when inventory values rose.[17] The company was thus satisfied that the base stock method stabilized earnings.

The Base Stock Method and Taxes

In 1919, the Treasury Department prohibited the base stock method for taxes.[18] The issue was not, however, settled until 1930, when the Supreme Court ruled on the legality of using the base stock method for taxes.

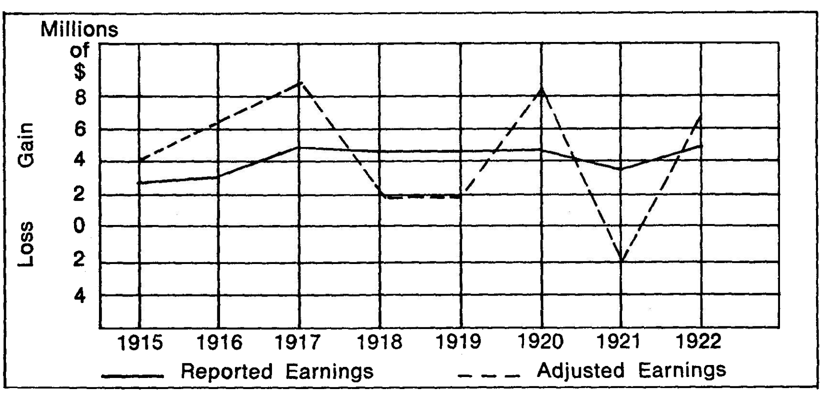
Kansas City Structural Steel Company fabricated steel items on special order. It kept an inventory of raw materials on hand to avoid delay in starting work on contracts. Materials were taken from inventory as needed and were subsequently replenished. The company contended that its income resulted from the performance of its contracts and not from the change in the value of inventories. The materials were only borrowed from the base stock. The District Court accepted the company's line of reasoning and compared the borrowing from base stock to borrowing from a neighbor.[19] Since the base stock must be maintained if the business is to remain a going concern, the base stock has to be replenished in the same way that a neighbor has to be repaid.

Figure 1

National Lead Company: Reported Net Earnings and Net Earnings Adjusted to Cost or Market Basis—1915-1922

	Reported Net Earnings	Excess over Value	Net Profits Inventory at Average Market
1914	$2,500,000	$ 800,000	$
1915	2,700,000	1,920,000	3,820,000
1916	3,000,000	5,440,000	6,520,000
1917	4,900,000	9,120,000	8,580,000
1918	4,700,000	6,400,000	1,980,000
1919	4,600,000	3,840,000	2,040,000
1920	4,700,000	7,520,000	8,380,000
1921	3,500,000	1,920,000	2,100,000*
1922	4,900,000	3,800,000	6,780,000

* Loss



Source: Sanders, T. H. "Some Variations in Inventory Valuations." *Journal of Accountancy* (December 1926), p. 433.

The Supreme Court, however, rejected this line of reasoning.[20] In 1930 the Court unanimously ruled that the base stock method was unacceptable for income tax purposes. Since the base stock is commingled with all other inventories, there is no clear line separating the base stock from the other inventories. Since the line is arbitrary and can easily be manipulated, income can be distorted. The Court decision disallowing its use for taxes sealed the fate of the base stock method.

Development of LIFO up to the 1939 Revenue Act

When the base stock method was disallowed for tax purposes, a search for a suitable alternative began. The acceptance of LIFO by professional groups and by Congress in the Revenue Acts of 1938 and 1939 represents the final phase of the early development of LIFO.

The Search for Alternatives to the Base Stock Method

When the base stock method was disallowed for taxes, motivations for its use had not disappeared since prices were still fluctuating. Using 1926 as the base year when prices equalled 100, the Wholesale Price Index in 1921 fell from 161.3 to 104.9. A survey of 468 companies shows that the average markdown of inventories in that year was over 26 percent.[21] Some industries were harder hit than others. Two studies of the tanning industry[22] show huge fluctuations of tanning income in the years between 1926 and 1936. Most of this fluctuation of income can be traced to the fluctuation in the value of inventory.

LIFO was created to smooth income. In ideal situations, the base stock method and LIFO give identical results. The base stock method is, however, difficult to administer from a tax collection viewpoint. Both the quantity[23] and value of the base stock are dependent upon management judgments and are thus subject to manipulation for tax avoidance.[24] On the other hand, LIFO sets up a simple rule: the last goods in are the first ones out. This rule is very easy to administer. There are no arbitrary divisions and valuations. The ending inventory is the value of the first goods purchased by the business. Since LIFO is identical to the base stock method in ideal conditions and yet is easy to administer, LIFO became the banner of the base stock method advocates when the base stock method was struck down by the Court in the Kansas City Structural Steel Company case.

Early Acceptance of LIFO

In August 1934, four years after the Kansas City Structural Steel Company case, the American Petroleum Institute received a report from its Committee on Uniform Methods of Oil Accounting. The Committee voted unanimously to recommend the approval of LIFO for petroleum companies.[25] In November of that year, the American Petroleum Institute passed a resolution which started out as follows:

> RESOLVED: That the Uniform method of valuing petroleum inventories called the "last-in, first out" system, . . . is hereby accepted and recommended . . . as a method of valuing petroleum inventories. . . .[26]

The 1936 edition of the "Uniform System of Accounts for the Oil Industry," published by the American Petroleum Institute, shows how LIFO should be used. The following are some important excerpts:

> CURRENT COSTS AGAINST CURRENT SALES: Current costs of crude oil and products should be charged against current sales as long as inventory quantities remain approximately unchanged, . . . VALUATION: In starting the "Last in, First out" inventory plan, the prices should be set at a conservative or reasonable figure. In the future, inventory prices should not be reduced to market prices, when lower than the regular inventory value. Where the market value of the inventory is less than that carried in the Balance Sheet, such condition should be shown in parentheses or as a footnote. . . .[27]

In 1936, the American Petroleum Institute's Committee collaborated with the Special Committee on Inventories of the American Institute of Accountants (now known as the American Institute of Certified Public Accountants) and submitted a report to the Institute. This report concludes: "The last-in, first-out method for the valuation of oil company inventories, as recommended by the American Petroleum Institute, constitutes an acceptable accounting principle. . . ."[28]

The old base stock practice of writing down the opening inventory was included in the recommendation. The write-down attempts to avoid any later write-downs resulting from the fall in market prices. One could almost have predicted that the write-down of opening inventories would, because of its arbitrary nature, be eliminated in subsequent tax legislation. Aside from this provision, the 1936 report marks the first acceptance by an accounting body of the basic principles of LIFO.

In 1938, the American Institute of Accountants' Committee on Federal Taxation issued a report recommending that LIFO be allowed for tax purposes provided six conditions are present.[29] One of the conditions is that the change in the price of raw materials should parallel the change in the price of finished goods. Another condition is that the inventory should be of a homogeneous nature. The four other conditions had nothing to do with LIFO *per se*. They guarantee the materiality of the difference between LIFO and FIFO. Surprisingly, the report does not distinguish between the conditions which guarantee the materiality of the difference between LIFO and FIFO, and conditions for which LIFO was considered appropriate. The report lists, for instance, the requirement that inventories be a significant percentage of assets. Obviously, if inventory is insignificant, the inventory valuation method is immaterial.

In discussing the effect on tax collections, the report claims that the companies using LIFO will not pay less taxes than companies using FIFO.[30] The only difference will be that LIFO companies will pay taxes more evenly. That is, since their earnings will be more level, their tax payments will be more level. This report assumes, as did almost all writers until the 1950s, that prices are cyclical but have no steady upward trend.

Recognition of LIFO for Taxes

Whatever its limitations, the 1938 report was very influential. In that year Congress made the first move to allow LIFO for tax purposes. Specifically, Congress allowed the use of LIFO for certain raw materials of tanners and brass smelters and refiners. Interestingly enough, the petroleum industry was not included.

Why were only certain industries allowed to use LIFO? The Treasury had argued that it would be impossible for them to draft adequate regulations if LIFO were allowed to a wide group of taxpayers.[31] Possibly, the industries allowed were the users of the base stock method for financial reporting purposes, but more likely the choice was political. These industries had been unsuccessful in getting the Internal Revenue Service to recognize one of their business practices, so Congress compensated them with LIFO.[32] The hearings for the 1938 Revenue Act indicate that LIFO was considered appropriate only under the conditions listed in the American Institute of Accountants' report of 1938.[33]

Many people complained that the Act was poorly drafted.[34] The inclusion of only certain industries was considered especially unfair. In response to these criticisms, Congress appointed a committee to rewrite the tax law relating to LIFO.[35] The committee's work resulted in the more general acceptance of LIFO in the 1939 Revenue Act. The quality of the 1939 Revenue Act may be judged by the fact that, except for a recent relaxation of the conformity rule, it has continued in the Internal Revenue Code without material change until the present day.

One of the most important features of the Revenue Act is the conformity rule—any company using LIFO for taxes must also use LIFO for financial reports. This is a unique feature in the tax laws. A company may use accelerated depreciation for tax purposes and at the same time use straight-line depreciation for its financial reports. But a company cannot use a non-LIFO method of reporting on financial statements and use LIFO for taxes.

Congress may have reasoned that since LIFO proponents claim that only LIFO presents a true picture of earnings, companies using LIFO for tax purposes must use it for financial reporting. Firmin[36] claims that the intention of Congress was to allow LIFO only when the actual flow of goods is roughly identical to LIFO. Congress believed that no auditor would certify statements of a company that was assuming a LIFO flow when the actual flow was FIFO. Firmin's line of reasoning, however, does not stand up to an historical analysis. The proponents of LIFO never claimed that LIFO represents the actual flow of goods, nor did they require that the actual flow of goods correspond to LIFO.

It may be true, however, that Congress believed that no company could get certified statements using LIFO if LIFO did not produce reasonable financial statements. *Accounting Research Bulletin Number 29,* issued by the Committee on Accounting Procedure of the American Institute of Accountants in July 1947, stated:

> Thus, where sales prices are promptly influenced by changes in reproductive costs, an assumption of the "last-in first-out" flow of cost factors may be the more appropriate. Where no such cost-price relationship exists, the "first-in first-out" or an "average" method may be more properly utilized.[37]

If auditors refuse to certify the financial statements of a company that uses LIFO inappropriately, the company would have to use FIFO for financial statements and would not be able to use

LIFO for tax purposes. Congress believed it was thus ensuring that LIFO would be used only where appropriate. It should, however, be pointed out that, in 1953, the above passage was eliminated from *Accounting Research Bulletin Number 29*. This omission means that the accounting profession rejected the premise that LIFO should be used only under appropriate conditions. In summary, if Congress had intended that the Certified Public Accountant make sure that LIFO was only used appropriately, the intention was thwarted.

In a recent case, Senior District Judge Hogan examined the purpose of the conformity requirement.

> Why did Congress, when it made the LIFO method available to all taxpayers, include a subsection requiring conformity of method? . . . Legislative and judicial history of the conformity requirement are of limited value. . . . The conformity requirement, in essence, is designed to establish prima facia evidence that at the time of its election, the taxpayer feels LIFO provides a clear reflection of income.[38]

All writers agree that the Internal Revenue Service did not make it easy for taxpayers to use LIFO. For instance, they only allowed LIFO for fungible inventories. Morrissey[39] claims that the Internal Revenue Service insisted on three other conditions before it would allow the use of LIFO: that the ratio of purchasing cost to selling cost must remain steady; that material cost must be a large part of total cost; and that inventory must be a large part of assets.

However, it is hard to believe that the Internal Revenue Service required these three conditions. If inventory is a small part of assets, why would the Internal Revenue Service bother to contest a LIFO election; and further, on what grounds would it contest the election? The writer is probably extrapolating from the American Institute of Accountants' report to the Internal Revenue Service.

The flavor of the Internal Revenue Service thinking becomes clear from a close reading of the Treasury Regulation issued December 28, 1939.

> Whether or not the taxpayer's application for the adoption and use of . . . [LIFO] should be approved . . . will be determined by the Commissioner in connection with the examination of the taxpayer's returns.[40]

This means that a few years may pass after the taxpayer elects LIFO before he finds out if his election has been accepted. The

Commissioner also reserved the right to make any adjustments which he deemed necessary.

The most important ruling of the Internal Revenue Service was that LIFO applied only to homogeneous inventories. This ruling led to the legal battle which resulted in a major redefinition and extension of LIFO.

Theoretical Development of LIFO-Retail

When LIFO was approved by Congress in 1938, only a handful of industries were permitted to use LIFO. Retailers were not among them. In 1939 Congress allowed anyone to use LIFO. Retailers, who were also concerned with cyclical profits, found that they had a problem even in 1939.[41] Since they did not deal in homogeneous inventories, the retailers would be forced to apply the LIFO concept to many small classes of goods called "pools." This would involve voluminous record keeping. Furthermore, because of the vagueness in the law defining what qualifies as a LIFO pool, the retailers were not sure how similar the goods in a pool had to be. Stringent interpretations of pools by agents in the field made matters even worse.

Furthermore, the original intent of LIFO proponents was obviously not to include retailers. Peloubet, an early supporter of LIFO, writes:

> Obviously any trade or industry where one type of material is completely disposed of, is not replaced, and another different type is substituted is not suited to the use of the LIFO method. . . . Responsible writers on LIFO do not generally advocate the indiscriminate extension of the method to all types of trade and industry. . . . LIFO is not applicable to merchandising businesses.[42]

Carman G. Blough, one of the three people who helped draft the 1939 Revenue Act, had this to say about the universal application of LIFO:

> Anyone who has given any consideration to the question of costing inventories recognizes that there are certain types of businesses to which . . . LIFO is not at all appropriate . . . ordinary retail stores, the usual manufacturing business, etc., would not qualify.[43]

Obviously, the early proponents of LIFO did not envision a LIFO-Retail. Early LIFO was envisioned as a flow assumption applicable only to homogeneous inventory.

Despite the inauspicious environment, a solution to the retailers' problems was devised by Thomas McAnly. Instead of viewing inventories as pools of homogeneous goods, an inventory, even of heterogeneous goods, is viewed as one basic inventory. This basic inventory is measured in dollars rather than in units. McAnly's method is similar to the retail inventory system. The retail inventory system dispenses with the pricing of individual units of inventory and instead multiplies departmental retail values by the markup percentages. Similarly, LIFO-Retail dispenses with individual units and instead considers only layers of departmental inventory. Each layer of inventory is restated into the base year price at which it was acquired. The rise in the value of the base inventory is removed from the inventory and charged to cost of goods sold.

Acceptance of LIFO-Retail

In 1941, two years after the passing of the 1939 Revenue Act, more than sixty retailers made the LIFO election for tax purposes.[44] The group used indices compiled by the National Retail Dry Goods Association to calculate the change in the dollar value of the inventory.[45] The indices were used to forestall the argument that individual retailers might manipulate income figures by manipulating the indices. The Commissioner of Internal Revenue rejected LIFO-Retail. In February 1942, the American Institute of Accountants' Committee on Cooperation with Controllers' Congress of the National Retail Dry Goods Association issued a report that retailers should be eligible to use LIFO for taxes.[46]

Since the Internal Revenue Service would not allow LIFO-Retail, the American Retail Federation chose the Hutzler Brothers case for a court test.[47] In 1947 the Court ruled for Hutzler Brothers, using the following line of reasoning: The law allows all taxpayers to use LIFO. The Internal Revenue Service accepts the retail method in lieu of specific identification. Thus, there is no reason why the retail method cannot be combined with LIFO. This ruling legitimized LIFO-Retail and resulted in an Internal Revenue Service ruling allowing retailers to use LIFO.[48] The ruling insisted that the only indices acceptable for LIFO-Retail are those of the Bureau of Labor Statistics.

Further Extensions of LIFO in the Basse Case

After the Hutzler Brothers case, all that remained was to allow the use of LIFO to businesses that have heterogeneous inventories but do not use a retail system.

The Basse case[49] in 1948 is the last major extension of LIFO. Basse was a wholesale grocer who used dollar value LIFO with his own indices. The difference between dollar value LIFO and retail LIFO is that the former does not include a markup. In 1949, the Treasury Department approved the universal use of dollar value LIFO.[50]

In the ten years from the Revenue Act of 1938 until the Basse case, the acceptance of LIFO expanded from a handful of industries to a universal acceptance.

Other Developments of LIFO

There have been many technical developments in LIFO, especially relating to the construction of indices and to the definition of LIFO pools. They are omitted in this paper because of their technical nature. Any good intermediate accounting text illustrates the different types of adjustments.[51] Three major theoretical developments of LIFO are discussed.

Involuntary Liquidations

During World War II shortages developed in many industries. The companies in these industries sold goods from their LIFO stock which had been acquired earlier at very low prices. Since the inventory could not be replaced because of the shortages, the companies were taxed on the difference between selling prices and LIFO stock cost. If the companies could have replaced the inventory, they would, of course, have been taxed only on the difference between selling price and replacement cost. The shortages thus subjected the companies to the high wartime tax rates on the difference between the low LIFO cost and the subsequent replacement cost. To alleviate this situation, Congress in 1942 amended the Revenue Act to provide that any taxpayer who had to liquidate inventories due to wartime conditions could elect to replace the inventories at a later date.[52] The election allowed the taxpayer to get a refund for all taxes paid on the difference between replacement price and LIFO cost. Congress later extended the involuntary liquidations for all liquidations occurring before January 1, 1948.

During the Korean War, Congress again passed relief provisions for all involuntary liquidations between June 30, 1950, and December 30, 1954. Both these laws specified dates by which the inventories had to be replaced. World War II liquidations had to be replaced before January 1, 1953. Korean War liquidations had to be replaced before December 31, 1954.

In response to recent energy shortages, Congress enacted a relief provision for a limited set of involuntary liquidations in tax years ending after October 31, 1979.[53] The relief provision applies to all liquidations attributable to either a "Department of Energy Regulation or request with respect to energy supplies, or any embargo, international boycott or other major foreign trade interruption."[54] The company generally has up to three years to replace the inventory.[55]

These Congressional relief provisions are important because they allow charging cost of goods sold with a replacement price rather than an actual price. The next goods bought are charged to cost of goods sold, which led to the name, next-in, first-out (NIFO).

The theory of NIFO may best be understood by an analogy. Assume a merchant must borrow some goods to make an important sale. Obviously, his cost of goods sold is the replacement value of the goods he borrowed. Thus, when a merchant liquidates his inventory, he is temporarily borrowing from it. He will have to return the goods borrowed. His cost of goods sold is thus the replacement cost. In effect, NIFO grafts a concept from base stock theory, that liquidations are only borrowed from base stock, onto LIFO structure, in which all inventory is said to comprise the base stock.

Fremgen[56] calls for the extension of NIFO to include all involuntary liquidations resulting from non-war shortages and strikes. In recent years, however, support for the extension of NIFO has abated.

Problems when Market Value Falls Below LIFO

As previously discussed, a taxpayer using LIFO for taxes must use LIFO for financial reports. A problem arose if market declined below the book value of the inventory. If no write down was permitted on the balance sheet, the inventory was overstated.

Arundel Cotter[57] suggested that when market value falls below LIFO book value, the solution is to write down the inventory on the balance sheet. The write-down does not flow through the income statement but rather, is set up as a reserve on the balance sheet. McAnly[58] echoed the solution of setting up a reserve for the decline in value of the inventory. A balance sheet write-down is specifically permitted by the Income Tax Regulations. "Use of the market value in lieu of cost . . . is not considered at variance with this [LIFO] requirement."[59]

An article in the *Arthur Young Journal* sheds some light on what auditors actually did when the market value of inventory fell below the LIFO cost basis.[60] When the inventory quantity of the company was at a normal level, Arthur Young allowed the decline to go unnoticed. The reasoning was that the normal quantity of inventory was not for sale, so the loss will not be realized, an argument reminiscent of base stock theory. Any excess quantity above the normal requirements was written down to market on both the balance sheet and the income statement. The write-down on the income statement was not matched by a write-down on tax returns, thus resulting in a timing difference.

McAnly[61] called for a provision in the tax code allowing the use of lower of cost or market in conjunction with LIFO. This combination is called HIFO, highest-in, first-out. Since for all other taxpayers write-downs to market are fully tax deductible, why should the LIFO taxpayer be discriminated against? The American Institute of Certified Public Accountants' Committee on Federal Taxation recommended the following change in the tax laws.

> The Code should be amended to permit taxpayers using the LIFO inventory method for income tax purposes to value their inventories at the lower of cost or market while the Excess Profits Tax Act of 1950 is in force, and for five years thereafter.[62]

The proponents of HIFO are not really presenting a coherent theory. If one accepts the base stock premise that changes in the value of inventory do not affect income, one cannot argue that losses in the value of inventory affect income. Why should gains in the value of inventory be excluded from income, if losses are included in income? In recent years there has been no support for HIFO.

The Conformity Rule: A Constant Conflict Finally Resolved

The conformity rule, which restricts the information that a LIFO taxpayer may report, has caused a number of jurisdictional conflicts. The first conflicts were with accounting rules. The write-down of LIFO inventory to market is one such conflict that has already been examined. Later there were conflicts with other government agencies that wanted a LIFO firm to disclose FIFO data. In each case the Internal Revenue Service issued a specific exemption allowing a taxpayer to disclose the FIFO information. Early in 1981, the Internal Revenue Service liberalized the conformity rule in general. The first two areas of conflict with the conformity rule stemmed from *Opinion 16* and *Opinion 20* of the Accounting Principles Board.

Opinion 16 lays down strict guidelines distinguishing between a purchase and a pooling. In a purchase, all assets of the acquired company are written up to market; in a pooling, all assets of the acquired company remain unchanged. Likewise, the tax laws distinguish between business combinations which are tax free—that is, the basis of all property remains the same—and between combinations that are taxable—that is, the difference between the book values and current market values are recognized and taxed. A problem arose because the tax criteria are not identical to the criteria of *Opinion 16.* Assume a company acquires another company in a tax-free combination that is treated as a purchase for accounting purposes. The parent company will have to write up the value of the inventory on its books, but for tax purposes the inventory will remain at its LIFO base price. Would the Internal Revenue Service disallow the LIFO election of the parent company since on its books the parent company has written up the inventory? In 1972, the Internal Revenue Service answered the question.[63] If there is a difference between tax and financial statements because of *Opinion 16*, the Internal Revenue Service requires only a footnote disclosure of the difference.

Accounting Principles Board *Opinion 20*, passed in 1971, required that a company changing to LIFO disclose *pro-forma* what the income of the firm would have been if it had retained its previous method of accounting. Revenue Ruling 73-66 states that such *pro-forma* disclosure is permitted in the footnotes.[64] However, Revenue Ruling 73-66 was issued in 1973 and *Opinion 20* was issued in 1971. A company wanting to adopt LIFO in 1971 or in 1972 was sailing between Scylla and Charybdis. Failure to give the *pro-forma* information would cause problems with the auditor's certificate and with filing for the Securities and Exchange Commission. Disclosing the required information ran the risk of having the LIFO election disqualified. The company did not know in 1971 that the Internal Revenue Service would allow footnote disclosure.

Soon after allowing an exemption to the conformity rule for *Opinion 20*, the Internal Revenue Service had to issue a more general exclusion[65] allowing a LIFO taxpayer to disclose any information required by Accounting Principles Board *Opinion 20, Opinion 28, Financial Accounting Standard 3, Accounting Series Release 159, Rule 3-07* of *Regulation S-X* and/or *Release 11079* of the Securities and Exchange Act of 1934, the latter three requirements all having been issued by the Securities and Exchange Commission. The above was followed by exemptions for data required by the Federal Trade Commission,[66] the Bureau of Census and the Bureau of Economic Analysis,[67] disclosure of replacement cost data required by the Securities and Exchange Commission,[68] reports made available to the Council on Wage and Price Stability,[69] and quarterly data required by the Federal Trade Commission.[70]

In 1981, the Internal Revenue Service substantially modified the conformity rule.[71] The new rule has a number of important features. One, supplementary disclosure of income is permissible on any basis, as long as LIFO income is the primary income presentation.[72] Two, in valuing the asset inventory on the balance sheet any method may be used. Three, even primary income may be reported using any method if the income report is to be used for internal management reports or for interim statements. Four, lower of LIFO cost or market may be used in calculating even primary LIFO income.

By allowing a broad range of disclosures while at the same time requiring that LIFO income should be the primary public reporting method, the Internal Revenue Service should avoid any future conflicts resulting from the conformity rule. The conformity rule in its present form will probably not require any further modifications.

FOOTNOTES

[1]American Accounting Association, Committee on Accounting History, p. 53.

[2]Most, pp. 329-330, argues that the base stock method and LIFO are ". . . conceptually two different approaches, since the base stock method involves determining a normal inventory quantity and LIFO does not." Although Most is correct that the two methods differ conceptually, historically LIFO is clearly an outgrowth of the base stock method.

[3]Cotter, 1940, p. 44.

[4]Peloubet, 1953, p. 246.

[5]Peloubet, 1971, p. 56.

[6]May, p. 5.

[7]Butters and Niland, p. 72. Paton, pp. 359-360.

[8]Peloubet, 1953, pp. 246-247.

[9]Great Britain, Ministry of Reconstruction, Committee on Financial Risks Attaching to the Holding of Trading Stocks, Report.

[10]Carson, pp. 8-15.

[11]Hoffman, pp. 134-135.

[12]Warshow, 1924. Warshow, 1941.

[13]The liability concept, while in keeping with the borrowing theory of the base stock concept, does violence to the concept of liabilities since the company is under no legal obligation to replace liquidated inventories.

[14]Warshow, 1924, p. 31.

[15]Sanders, pp. 431-433.

[16]Nickerson, pp. 61-62 has a similar table and chart.

[17]The retrenchment that followed the extravagance on the upcycle was one of the concerns of that era.

[18]Treasury Regulation 94, Article 22(c)-2.

[19]United States Circuit Court of Appeals, 11 B.T.A. 877, May 14, 1925. Quoted in Peloubet, 1929, p. 578.

[20]Lucas v. Kansas City Structural Steel Company.

[21]Iglauer, p. 4.

[22]Palmer. Dittmer.

[23]Even National Lead Company changed the quantity of its normal stock twice. In 1924, it changed the quantity from 80,000 tons to 96,000 tons and in 1932 it reduced its normal stock to under 50,000 tons. "Base Stock Inventories and Federal Income Taxation," p. 1433.

[24]Devine, p. 93.

[25]Hoffman, pp. 146-152. The phrase "last-in, first-out" appears to have started with committees representing the Petroleum Institute.

[26]Hoffman, pp. 147-149.

[27]American Petroleum Institute, p. 61.

[28]American Institute of Accountants, Special Committee on Inventories, p. 132.

[29]American Institute of Accountants, Committee on Federal Taxation, 1938.

[30]"Base Stock Inventories and Federal Income Taxation," p. 1441 echoes this claim. ". . . it is apparent that over a reasonably long period of years, the taxes paid by a company that is constantly making money will be the same whichever method is used."

[31]"Base Stock Inventories and Federal Taxation," p. 1431.

[32]Hoffman, p. 153.

[33]Senate Finance Committee, pp. 154-155.

[34]Peloubet, 1971, p. 60 claims that the LIFO provision in the Revenue Act of 1938 was ". . . in the opinion of almost everyone concerned with it, one of the worst pieces of revenue legislation that had been passed for some time."

[35]The Committee consisted of Carman G. Blough, research director of the American Institute of Accountants and formerly the chief accountant of the Securities and Exchange Commission, Edward A. Kracke, a partner in Haskins and Sells, and Roy B. Kester, head of the School of Business at Columbia University.

[36]Firmin, p. 270.

[37]American Institute of Accountants, Committee on Accounting Procedure, p. 198.

[38]Powell v. United States.

[39]Morrissey, p. 195.

[40]Treasury Decision 4959.

[41]McNair and Hersum, pp. 144-145.

[42]Peloubet, 1940, pp. 447-448. See also Peloubet, 1929, p. 571.

[43]Blough, p. 80.

[44]McNair and Hersum, Chapter 9, especially pp. 164-196 present an excellent detailed history of the acceptance of LIFO-Retail.

[45]Freudenthal, pp. 9-11.

[46]American Institute of Accountants, Committee on Cooperation with Controllers' Congress of the National Retail Dry Goods Association.

[47]Hutzler Brothers v. United States. The decision was not unanimous. Two judges dissented because there is no "physical matching of opening and ending inventory."

[48]Treasury Decision 5605.

[49]Basse v. Commissioner.

[50]Treasury Decision 5756.

[51]Kieso and Weygandt, pp. 408-409. Welsch, Zlatkovich, and Harrison, pp. 399-406. Davidson, Stickney, and Weil, Chapter 10.

[52]Hoffman, pp. 153-157.

[53]United States Tax Code, Section 473.

[54]United States Tax Code, Section 473, (c)(2)(B)(i).

[55]The Secretary may set a shorter period.

[56]Fremgen.

[57]Cotter, October 9, 1939. Cotter did much to publicize the use of LIFO. In a series on inventories he had five articles on LIFO between October 9, 1939 and November 13, 1939.

[58]McAnly.

[59]Treasury Regulation 1.472-2(e) prior to 1/16/81 amendment by Treasury Decision 7756.

[60]Weston.

[61]McAnly.

[62]American Institute of Accountants, Committee on Federal Taxation.

[63]Revenue Procedure 72-29, 1972-1, CB 757.

[64]Revenue Ruling 73-66, 1973-1, CB 218.

[65]Revenue Procedure 75-10, 1975-1, CB 389 amplified by Revenue Procedure 76-3, 1976-1, CB 542.

[66]Revenue Procedure 75-30, 1975-1, CB 756.

[67]Revenue Procedure 75-36, 1975-2, CB 565. Revenue Procedure 76-36, 1976-2, CB 659.

[68]Revenue Procedure 77-7, 1977-1, CB 540. Revenue Procedure 77-46, 1977-2, CB 579. Revenue Procedure 79-39, 1979-2, CB 501.

[69]Revenue Ruling 79-139, 1979-1, CB 190.

[70]Revenue Ruling 79-242, 1979-2, CB 219.

[71]Treasury Decision 7756 modifying Treasury Regulation 1.472-(2)(e).

[72]Treasury Regulation 1.472-(2)(e)(1)(i) and 1.472-(2)(e)(3). The latter section gives very detailed rules on what is allowed and what is disallowed. It even explains how management must answer questions at a meeting of financial analysts.

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A BRIEF HISTORY OF PROPERTY AND DEPRECIATION ACCOUNTING IN MUNICIPAL ACCOUNTING

Abstract: Generally accepted accounting principles require the exclusion of permanent property and the non-recognition of depreciation in most governmental funds. Although this issue was settled in the early 1930s fervent debate continued as to the merits of this practice from 1895 to around 1925. Several prominent accountants argued for the inclusion of permanent property and the recognition of depreciation in governmental funds during this earlier period.

Introduction

As might be expected, municipal accounting in the United States reflected developments in England in many ways up to about 1900. Indeed, local government in the United States was initially modeled after its English counterparts. The English Municipal Corporations Acts of 1835 and 1882 and the Local Government Act of 1888 explicitly enumerated the principal income and expenditure classifications for all English towns or boroughs. Since these Acts did not directly address the question of accounting for capital expenditures, English borough accountants actively debated this issue during the latter part of the nineteenth century.

By 1900, accountants and others in the United States concerned with the development of accounting systems for local government joined the debate. From 1900 to 1935 opinion on the issue of the proper accounting treatment of capital expenditures and depreciation was sharply divided. However, the issue was resolved with the issuance of the statement of Municipal Accounting principles by the National Committee on Municipal Accounting in 1935.

Positions taken by English Municipal Accountants

In the latter part of the nineteenth century, considerable difference of opinion about the preferred method of presenting capital expenditures on the balance sheet existed. One school of accountants maintained that all capital expenditures, regardless of their nature, should appear on the balance sheet as assets. Others held that only that portion which represented realizable property should be carried permanently, while other capital expenditures should be written down periodically on the balance sheet. In either case, the statement would also show the amount of money raised by loans remaining unexpended, the amount expended, the amount of the loans already repaid, and the amount remaining outstanding.[1]

James H. Parker, writing in *The Accountant* in 1895, stipulated three possible valuation bases for capital expenditures:

1. The original cost without a yearly write down for expiration
2. The original cost written down year by year by the amount of the sinking fund contribution
3. A revaluation each year or other period.

He vehemently attacked the revaluation method on the grounds that streets, sewers, bridges, and the like, while having no market value, are nonetheless valuable municipal properties. In Parker's view, the market value theory of valuation is tantamount to a statement of affairs in a liquidation, and hardly applicable to a viable municipality. All the capital assets must be valued as part of a going concern; and so long as they fulfill their intended purpose, their only real value should be original cost. Parker further contended that capital assets which are properly maintained through repairs and replacements should not be subject to depreciation.[2]

Parker argued against the idea, strenuously suggested by some accountants, that the amount set aside each year for a sinking fund contribution be applied as depreciation. To use the term of years of a loan as the criterion for deciding the period of usefulness of an asset, and to reduce the asset as the loan is paid off is illogical since the life of the asset is independent of the loan period.

Parker maintained that the purpose of the balance sheet would better be served by retaining the cost basis of the asset and transferring the sinking fund balance to a *Capital* or *Capital Surplus* account as the loans are paid off out of revenue. This account, increasing as the loan is paid off, would then represent or indicate the actual amount of assets on which all loans have been paid off, and it would gradually increase as other loans are redeemed.

Writing in *The Accountant* three months later, Swainson advocated a balance sheet which classified assets in the following manner:[3]

I. REVENUE BEARING PROPERTY

A. Realizable and intended for realization (Such as land and buildings in the line of street improvements)

B. Realizable, but not for realization (Such as land and building occupied by the corporation for public purposes—gasworks, waterworks, markets, town hall, tramways, docks and harbours)

II. NON-REVENUE BEARING PROPERTY

A. Realizable and intended for realization (Such as unoccupied lands for sale)

B. Realizable, but not for realization (Such as open spaces, parks, museums, and libraries and their contents)

Swainson did not favor writing down assets as the loans against them are paid off, nor did he favor recording depreciation on any class of assets as long as, ". . . all assets of value . . . are kept up out of revenue equal to cost price."[4] Swainson was indifferent about the valuation basis. He considered either the cost basis or periodic appraisal satisfactory, so long as the method chosen is disclosed in the balance sheet.

Another article in *The Accountant* recognized the possibility of the functional factors in depreciation:

> The only possible point upon which it occurs to us that there is something to be said on the other side is with regard to those works which, although in a sense they may be regarded as permanent, are yet known to be of such a nature that, in the ordinary course of events, it is only reasonable to suppose that such advances in the way of invention will be made in the course of time, that it may reasonably be considered certain that the whole work will eventually require to be superseded by other and more modern construction. In such a case as this it certainly seems desirable that the original cost should be written down from time to time, so that the whole burden of the improvement may not fall upon the ratepayers who actually make the change.[5]

Against those supporting the method of reducing the asset by the amount of sinking fund installments, the writer argued that, ". . . if convenience in keeping the accounts is offered as justification for the use of the method then no sufficient case had been made."[6] His suggestion is to debit *Revenue* and credit a *Surplus* or *Surplus Capital* account when certain of the liabilities are redeemed, ". . . out of accumulations of revenue." A more suitable name for *Surplus* or *Surplus Capital,* according to this article, would be "Common Fund." The existence of a large amount in this account would constitute tangible evidence of the credit worthiness of the municipality.[7]

The debate over capital asset valuation is curious inasmuch as the English municipalities had no intention—and little capability—to sell their permanent property. Most arguments concerned the necessity for retaining permanent improvements on the balance sheet after the debts incurred to purchase the improvements had been retired. Some accountants favored showing permanent properties on the balance sheet because the outlay represented "value" to the borough; other accountants held that such outlays did not represent "value" because those sums were not realizable.

Most late nineteenth century English accountants favoring retention of permanent properties on the balance sheet preferred a single statement showing all assets and liabilities of the borough. Other accountants preferred the use of two balance sheets—one showing the permanent properties opposite the liabilities incurred to acquire them, and the second showing the remainder of the assets and liabilities of the borough. A review of the financial statements of several English boroughs revealed a wide variety of statement preparation formats. Evidently, the accountant of each borough exercised wide latitude in the form and manner in which the statements were prepared.

The concept of depreciation did not seem to be well understood. Even among accountants favoring showing permanent properties on the balance sheet, opinions were divided as to the need for recognition of depreciation in municipal accounting. While some accountants apparently viewed depreciation as a rational and systematic cost allocation over the useful life of the asset, the majority associated depreciation with the sinking fund provisions to retire the debt incurred to acquire the asset. Other writers saw no necessity of recognizing depreciation. They seemed to believe that no depreciation occurred so long as proper maintenance was performed, and one writer recognized that certain assets actually increase in value over time. Others believed that periodic revaluation of the capital assets was the only proper method of fixed asset presentation.

Discussion in the United States: 1900-1920

By the early 1900s, considerable interest in municipal accounting had been generated by the activities of the National Municipal League. Treatment of permanent property and depreciation—as well as other topics—was fervently debated.

Writing in 1906, Duncan MacInness severely criticized the League's advocating the creation of a balance sheet for a municipality. For a balance sheet to have a reason for being, MacInness wrote, a "positive and essential" meaning must attach to the balances included. Only such values as can be measured, and which represent the value of a significant and appreciable "fact," should be included. While MacInness saw no necessity for a municipal balance sheet, he recognized that, ". . . the demand for such a balance sheet suggests the possibility of there being such a thing."[8] The inclusion in the municipal balance sheet of such items as parks, bridges, schools, police stations, and other possessions of the municipality, broadly labeled as "Unavailable" or "Fixed Assets," was absurd in MacInness' view. A supplementary schedule arraying these types of properties would be acceptable, ". . . but to include such as an integral part of a municipal balance sheet would be in fact to repeat values that were already merged into and had become a part of the values of the taxable real estate on which the faith and credit of the municipality was based and which measured its legal right to or precluded it from engaging in further public undertakings."

MacInness' notion of a balance sheet would simply show the "floating status" of a municipality. Such status would be determined by the difference between the cash on hand plus other realizable assets (such as receivables for taxes, assessments, water, rent, and miscellaneous revenue included in the accounts) and the "cash liabilities," admitted claims, and contingent liabilities reported by the various departments. In justification of his argument, MacInness observed that the main purposes of a municipal balance sheet should be to show the possibilities of realization to liquidate current liabilities and to show clearly the legal margin of its borrowing capacity; therefore, prospective bondholders and taxpayers alike may know at once the measure of a city's right to engage in public undertakings. If the right of a municipality to engage in permanent improvements is determined by the *Capital Surplus* (arrived at by offsetting the cost of streets, parks, bridges, public buildings, and equipment, against the sum of the unliquidated liabilities), many cities might be led into an inordinate increase in their public debt.[9]

In retort to MacInness, Frederick Cleveland stated that frequently pavements and sewers have been cited as forms of improvements for which no capital accounts are to be carried. Admittedly, no relation can be made to the public debt; but, administratively, the sewer has a present value which should be represented in the accounts. The money paid for a sewer, which will last ten years, belongs to the same category as money paid in advance for the insurance of a building for ten years, Cleveland admonished.[10]

Cleveland seemed unable to decide if depreciation is inevitable. While suggesting that depreciation is postponable he alluded to the necessity for computing depreciation on an actuarial basis. He favored the recognition of depreciation in the accounts if depreciation actually occurred. After determining the annual charge, this amount should be set up as a reserve for depreciation, with the cost of repairs being charged against the reserve.

The *Handbook of Municipal Accounting,* published in 1913 by the New York Bureau of Municipal Research, and hailed as the most significant contribution of the 1910 decade, also addressed the question of the proper treatment of property accounts. In the *Handbook,* the Capital Account Balance Sheet and related property accounts are treated rather briefly. Permanent properties are inventoried and set up by debits to respective asset accounts for their estimated cost. A credit is made to *Reserve for Depreciation* so that the net of the debit and credit equals the book value of the permanent properties. Such net amounts are then credited to *Capital Surplus.*

The *Handbook* favors the recording of depreciation on property that is "continually undergoing deterioration." The text indicates that the journal entry would be:

Depreciation	XX	
Reserve for Depreciation		XX

This entry would be recorded at the beginning of the fiscal year. Depreciation is viewed as a method of providing replacement funds. The *Handbook* states that provision for this charge should be included in the budget of expenses so that, at the end of the estimated life, resources will be available to replace the asset.[11]

A reconsideration of positions by advocates of the publication of municipal balance sheets and those who believed such presentation was useless or misleading began about 1915. Henry Fernald presented a middle position in a 1918 article. Fernald agreed that the *Surplus* account, which by this time was fashionable in municipal financial reporting, is misleading to the average reader.

By the inclusion of town properties as an asset on the balance sheet, wrote Fernald, many towns, ". . . have been lulled into a false sense of security by showing a large surplus."[12] To demonstrate this point, a "typical" balance sheet of a town is shown in Illustration 1.

According to Fernald, the "surplus" of $1,000,000 is generally regarded as showing that the finances of the town are in excellent shape. Citizens and financial officers may mistakenly assume that improvements which may have been authorized are to be paid for out of this "surplus." By the time a new finance committee looks at the "assets" to determine where the money is coming from, faith in the million dollar surplus is, ". . . very much shattered and the so-called assets are looked at with great distrust."[13]

A rearrangement of the information presented in the balance sheet to show the assets from a realization point of view, and with the cost of projected future outlays included in the computation, conveys a quite different impression. Illustration 2 indicates the amount to be raised by future taxation if the city is to remain solvent.

Such a calculation shows the reader that, in reality, the town has very little in the way of liquid assets except the power to tax. Fernald reasoned that if depreciation on properties is recognized,

Illustration 1

"Typical" Balance Sheet of a Town

Assets		Liabilities	
Revenue Assets:		Current Liabilities:	
Cash	$ 50,000	Accounts Payable	$ 50,000
Taxes Receivable	100,000	Notes Payable	200,000
Sundry Accounts	50,000	Bonds Outstanding	1,500,000
Improvement Accounts	200,000	Total Liabilities	$1,750,000
Capital Assets:		Surplus	1,000,000
Town Properties	2,000,000		
Sinking Funds	350,000		
Total Assets	$2,750,000	Total	$2,750,000

Source: Henry Fernald, "Capital Accounts of a Municipality." *The Journal of Accountancy* (October 1918), p. 274.

Illustration 2

Amount to be Raised by Future Taxation

Total Liabilities		$1,750,000
Realizable Assets:		
Cash	$ 50,000	
Taxes Receivable in the Near Future	75,000	
Improvement Assessments from Property Owners	100,000	
Sinking Funds	350,000	
Total Realizable		575,000
Excess of Liabilities over Realizable Assets		$1,175,000
Add Estimated Amount for Projected Improvements		225,000
Amount to Be Raised by Further Taxation		$1,400,000

Source: Henry Fernald, "Capital Accounts of a Municipality." *The Journal of Accountancy* (October 1918), p. 275.

the inclusion of the capital surplus may be of some benefit. But he cautioned against the increasing practice of attempting to follow too closely the form of commercial balance sheets advocated by Cleveland and others. Fernald saw a distinct value in arranging the data in municipal financial statements to clearly state the fundamental differences between the two types of entities. Fernald's proposed statement emphasized liquidity and working capital.

The Shifting Emphasis Toward Liquidity: 1921-1935

Francis Oakey wrote *Principles of Government Accounting and Reporting* in 1921. Oakey acknowledged that land, buildings, and equipment are "assets" of the government but asserted that they have no place in the balance sheet. The permanent properties owned by the government cannot be measured in dollar value; the value of such assets can only be measured in terms of capacity. The concept of a capital balance sheet is thus fallacious. Since the fundamental principle of such a statement is the comparison of the book values of permanent property with the amount of outstanding bonded debt, there exists no true common denominator for expression. Furthermore, the surplus of such a fund is meaningless. The book value of permanent properties may be twice the amount of bonded debt, but no action can be taken on the basis of this fact. Such assets are not available for expenditure and should not be treated in the statements in such a way as to affect expendable surplus.

Oakey opposed the recognition of depreciation on permanent property. Undepreciated cost is the most desirable basis on which to carry permanent properties because it is the simplest, most accurate, and most reliable asset measure, and it is, in itself, a standard derived from reliable sources.

Governmental financing methods do not depend on internally generated resources to replace deteriorated or obsolete properties. Therefore, recording depreciation of permanent properties serves no useful purpose unless a legislative body has authorized that certain portions of the resources be set aside annually to provide a fund for replacements. Setting up a reserve for depreciation has no effect on the resources, since those resources cannot be applied to the purpose for which the reserve was created.[14]

Shortly after the publication of Oakey's work, R. G. Walker published an essay summarizing and contrasting the major positions in the controversy over the content of the municipal balance sheet. According to Walker, the major arguments are those articulated by Cleveland, MacInness, and Oakey.

Walker's essay presented a strong position for a municipal balance sheet to include only realizable assets associated with expendable funds. Walker argued that since there is little that is self-sustaining within the municipal entity's supervision and control, it must periodically be supplied with a renewal of resources. According to Walker, the municipal organization enjoyed a perennial source of revenue which it may command as wants dictate.

It logically follows then, according to Walker, that fixed assets and bonded debt cannot be admitted into the municipal balance sheet. Offsetting of unrelated assets and liabilities is misleading and is to be avoided, since it communicates an erroneous idea concerning the source of the means of liquidation of liabilities and suggests, in a surplus figure, an availability of capital which is not true. A "dangerous" practice is being followed when the same term is given more than one meaning in the same accounting exhibit, as would be the case in a balance sheet showing both a current or general surplus and a capital surplus.[15]

Apparently, all other objectives of the accounting system are overridden by the emphasis on liquidity. For that reason only current assets and current liabilities should be encompassed in

Walker's formal accounting system. Long-term debt and permanent properties are relegated to supplemental records outside the formal accounting system. It seems reasonable to assume that Walker's position on long-term debt and fixed assets led to what is now referred to as the general long-term debt and general fixed asset groups of accounts. Walker concluded that municipal accounting is primarily concerned with the operation of expendable funds, of which all expenditures are decreasing elements and all revenues are increasing elements.[16] Walker's ideas were not revolutionary, but his advocacy of a limited balance sheet seems to have ended the trend toward a commercial method of presentation.

Morey suggested that property owned by a municipality should be included in the accounting records at cost. However, the property accounts should be kept separate from the accounts of expendable resources. Especially, any surplus arising from the investment in fixed assets must be kept separate from surplus available for expenditures.[17]

Morey argued against the recognition of depreciation on most municipal properties for the following reasons:

1. There is no particular occasion for knowing the current value of government property, since the government does not depend for credit or for any other purpose on the valuation of the property owned by it.
2. The chief item of interest in accounts with permanent property is 'What did that property cost the government?'
3. Since no accounts are kept with profit and loss, there is no occasion for accounting for depreciation as an expense.
4. A reserve for depreciation would be useful only if it could be funded and carried forward to provide for replacement of the property when worn out. This is impossible; first, because governmental revenues for the most part are fiscal in character and must be expended during the fiscal period; and, second, because the greater part of public property is acquired through bond issue and it would be impossible to raise by taxation an amount to provide for depreciation in addition to paying the principal of the bonds.[18]

Depreciation should be recorded for any municipal activity in which profit and loss is involved, such as a public utility or similar enterprise. Depreciation should be entered as an expense in such instances by a debit to *Depreciation* and a credit to *Reserve for Depreciation.* If depreciation is to be recorded on general properties of the municipality, *Surplus Invested in Fixed Assets* should be debited and *Reserve for Depreciation* should be credited.

Carl Chatters' *Accounting Manual for Small Cities,* published in 1933, contains a note that it is "Publication No. 1" of the Municipal Finance Officers Association of the United States and Canada. Chatters also generally followed Morey's recommendations for fund groupings and the use of the "simplified" system of journalizing. However, Chatters' method of recording transactions in the Bond Issue Fund was materially different from Morey's. In addition, permanent properties were not shown in Chatters' presentation; and Chatters included the bonded debt principal as a liability of the Bond Issue Fund as opposed to Morey's system of grouping the bonded debt principal with the property accounts.[19] Chatters' exclusion of permanent property was a significant departure from the prevailing practice of his time and it gave impetus to the development of the modern treatment of excluding general permanent property in fund balance sheets and the establishment of a separate account group for general permanent property.

The National Committee on Municipal Accounting was constituted and held its first meeting in early 1934. Nine principles of municipal accounting were adopted on a tentative basis at this meeting. Principle 2B addressed the question of permanent property as follows:

> 2 B — Asset accounts for permanent property not available to meet expenditures or obligations should be segregated from other fund assets and the equity represented by them not included in the current surplus of any fund.[20]

Principle 8 indicated property accounts should be maintained on the basis of historical cost, but ". . . it is not considered necessary to account for depreciation of general municipal property, except for unit cost purposes, unless cash can be legally set aside for replacements."[21]

Within two years after the adoption of the first tentative set of municipal accounting principles, several articles appeared which discussed and explained the principles and served to disseminate them to accountants and others. In an article published in December 1934, Morey discussed all nine principles separately and in considerable detail. Certain comments by Morey bear repeating:

> Principle #2—The accounts of a fund include all assets, liabilities and proprietorship . . . . No system which does not maintain the identity of the various funds can be accepted as satisfactory. No plan of consolidated statements in which the various funds are merged or concealed is adequate . . . . There is no one figure of surplus in a municipality.
>
> Principle #8—There is a marked variation of opinion as to whether the valuation of fixed assets should be included in the municipal balance sheet . . . . The National Committee has not yet attempted to pass in a final way on this point. If values of fixed property are included in the balance sheet then the essential thing is to separate the surplus or equity represented by them from that represented by expendable assets . . . . The Committee has reached the conclusion that to include depreciation in the accounts and reports accomplishes no significant end . . . . In unit cost accounting depreciation . . . is essential . . . and could be carried on records auxiliary to the general budgetary accounts.[22]

Four additional principles were added by the Committee in 1935. With these additions the tentative set of principles effectively constituted accepted municipal accounting principles until the publication of *Governmental Accounting, Auditing, and Financial Reporting* in 1968.

Summary

The impetus provided by the discussion of permanent property and depreciation by English accountants in the late nineteenth century sparked continued debate on the subject by accountants in the United States shortly after 1900. The prevailing opinion until the early 1920s was to treat capital assets of a municipality in the manner dictated by accounting theory applicable to for-profit entities.

The focus on liquidity, advocated by Walker and strongly and continuously reinforced by Morey, led to the exclusion of permanent property from the municipal balance sheet by 1935. No significant changes have occurred since that time in municipal accounting principles which affect the National Committee's initial positions on the matter.

FOOTNOTES

[1]Clare, p. 110.
[2]Parker, p. 263.
[3]Swainson, pp. 582-583.
[4]Swainson, p. 582.
[5]"Form of Municipal Accounts," p. 293.
[6]"Form of Municipal Accounts," p. 294.
[7]"Form of Municipal Accounts," p. 294.
[8]Chapman and MacInness, pp. 15-16.
[9]Chapman and MacInness, p. 137.
[10]Cleveland, pp. 148-149.
[11]Bureau of Municipal Research, pp. 56-57.
[12]Fernald, p. 275.
[13]Fernald, pp. 274-275.
[14]Oakey, pp. 276-277.
[15]Walker, pp. 195-197.
[16]Walker, p. 199.
[17]Morey, *Introduction to Governmental Accounting,* pp. 192-193.
[18]Morey, *Introduction to Governmental Accounting,* p. 196.
[19]Chatters, *Accounting Manual for Small Cities,* pp. 75-76.
[20]Chatters, *Municipal Accounting Progresses,* pp. 101-102.
[21]Chatters, *Municipal Accounting Progresses,* pp. 101-102.
[22]Morey, *Principles of Municipal Accounting,* pp. 32-34.

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"THREEFOLD BOOKKEEPING" BY MATTHÄUS SCHWARZ

Abstract: In 1518, when nothing but Paciolo's "Summa" had been printed in the world of bookkeeping, Matthäus Schwarz, who was a bookkeeper of the Fuggers, wrote a manuscript on bookkeeping known as "Threefold Bookkeeping." This manuscript showed an illustration of three kinds of bookkeeping methods, of which the first and second methods aroused the most interest and research in ways of comparison with one another. This paper will attempt to show how the first and second methods are an integrated part of and incorporated into the third method of "Threefold Bookkeeping" system as a whole; and to exemplify the superiority that "bookkeeping in practice" has to "bookkeeping in text."

Introduction

The earliest text on bookkeeping, "Summa," was published in 1494 in Venice by Paciolo. Twenty-four years later in Vienna, Grammateus, second only to Paciolo, wrote a draft of a bookkeeping text which supposedly was not published until 1521 in Nuremberg.[1]

During the same year, 1518, Matthäus Schwarz,[2] a bookkeeper of the Fuggers, completed his manuscript known as "Dreierlay Buchhaltung" (herein referred to as "Threefold Bookkeeping"). Until the completion of Schwarz's manuscript, Paciolo's text had been recognized throughout the world as the only printed book on bookkeeping.

There are several reasons why Schwarz's manuscript is now regarded as a valuable document written during the infancy of bookkeeping texts. The fact that the manuscript was written nearly 464 years ago is only of secondary importance historically. Of primary importance is that Schwarz's manuscript gives clear examples of the character of practical bookkeeping during that period in comparison with the methods of Paciolo and Grammateus, because it holds some characteristics of practical bookkeeping attained by a practitioner who had an advantage over scholars.

It is also noteworthy that the Fuggers, who employed Schwarz, had wielded such great economic powers that the period became known as the "Era of the Fuggers."[3] This era still remains as a milestone in the history of the German economy. It is suggested that the Fuggers' power had influenced even the election of the Holy Roman Emperor;[4] however, the accounting data that would exhibit such powers of the Fuggers at that time have only survived in fragments.[5] Inasmuch as Schwarz's manuscript was written during his employment by the Fuggers, one is able to ascertain the Fuggers' level of accounting to some extent, and it is for this reason that systematic and comprehensive research on his manuscript in the field of bookkeeping history has been urged in the field of business and economic history.

The Structure of Schwarz's Manuscript

Since Schwarz's first manuscript[6] put considerable emphasis on illustrations as opposed to explanations of his "Threefold Bookkeeping" system, there have been various interpretations of his manuscript.

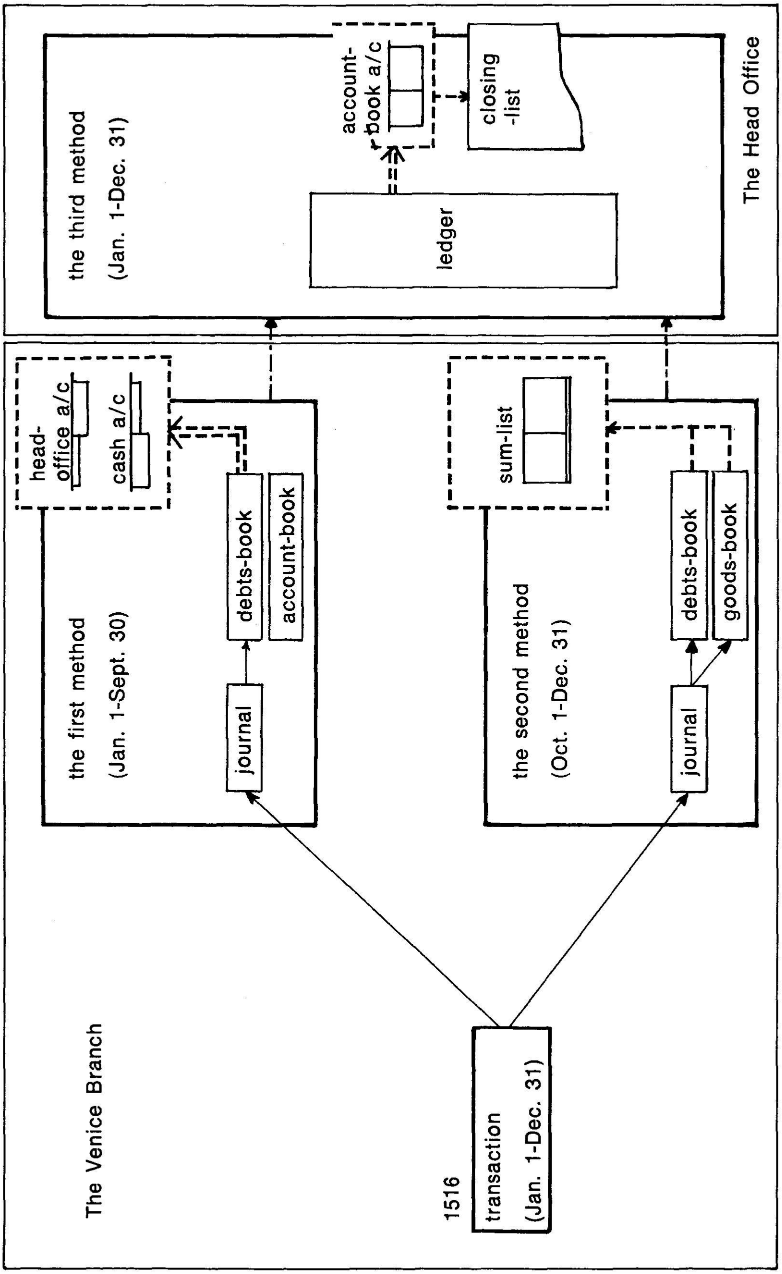
According to previous researchers' interpretations, as shown in Figure 1, Schwarz selected the Venice Branch of the Fuggers as the place to keep original books, and divided the year 1516 into two periods. The first period was from January 1 to September 30 while the second was from October 1 to December 31. Schwarz illustrated "the Italian system" as the first method for the first period, and "the German system" as the second method for the second period.

The first method began with an investment by the Fugger Head Office in Augsburg in the Venice Branch. It consisted of a "Zornal" (journal) and a single ledger named "Schuldbuch" (debts-book), which kept the transaction on those books with a personified debit-credit concept consistently similar to current bookkeeping procedures. On September 30, all account balances were transferred, with the exception of the cash account balance, to the head office account on the debts-book. The settlement was closed by verification of the credit balance in the head office account with the debit balance on the cash account. Within the first method, there was one more book used called "Rechnung" (account-book), the function of which has been little mentioned by previous writers.[7] It is said that this account-book is "a detailed capital account"[8] and "seems redundant."[9]

The second method began with the transferring of the account balances from the last period to this period, and consisted of a "Zornal" (journal), and "divided ledgers" peculiar to the German system. The German system divided the ledger into two separate books, the "Schuldbuch" (debts-book) and the "Capus" (goods-

Figure 1

The Framework of Schwarz's "Threefold Bookkeeping"



book). These books used in the second method were not entered with a personified debit-credit concept as consistently as in the first method, which was called "the Italian system." All transactions were recognized and entered as an increase or decrease in their elements. For example, this method involved not the debit-side but "Einnemen/Empfahung" (incoming/receiving) side of an account when a commodity was purchased. On December 31, all open accounts were not balanced, but summarized and verified in a statement; the left-hand side heading as "Summa Einnemen" (sum of incomings) while the right-hand side heading as "Summa Ausgeben" (sum of outgoings). For future reference, this will be referred to as a "sum-list."

Besides the books found in the first and second methods, there was one more method in which another "Haubtbuch" (ledger) was maintained. This ledger was kept at the Fugger Head Office in Augsburg. "No day-book is necessary here, as Schwarz says, since the balances supply about the same information as the day-book."[10] In this ledger, all accounts combined the information in the above two methods, and were "summarized in a main account"[11] headed "Rechnung" (account-book). Based upon these accounts in the ledger, one more statement named "Beschlus des Haubtbuchs auf ein general rechnung" (closing the ledger on a general accounting) was prepared. This statement will be referred to as a "closing-list" in this paper. Such procedures constituted the third method, which existed for the whole year 1516. As for this third method, the "discussion is brief; Schwarz says that it is difficult to explain the procedures in writing."[12]

Because of the three methods employed, Schwarz's "Threefold Bookkeeping" has been apt to be individually or separately interpreted. Therefore, the first method, "the Italian system," used in the first period and the second method, "the German system," which was used in the second period, have received more attention by researchers. This paper[13] will attempt to show a mutual relationship among the three kinds of bookkeeping methods as an integrated system and its historical meanings which have been lost.

The Special Function of the Account-Book in the First Method

In the first method, as mentioned before, a journal and a single ledger (or debts-book) were prepared, and the transactions were journalized and posted in them in a manner similar to current methods. On September 30, after all account balances, except the cash account balance, had been transferred to the head office account, the settlement was closed in the debts-book by verifying a credit balance on the head office account with an equal debit balance on the cash account.

As previously mentioned, one more book, the account-book was kept in this first method. As a result of analyzing the entries, it became evident that this book was based upon the journal. With that in mind, this account-book seems to have been similar to a ledger named the debts-book, and seems to have been "redundant." It was also noticed, however, that there is a decisive difference between the account-book and the debts-book. To understand this difference, an actual example of entries from the manuscript will be highlighted.

Example I

In the Debts-Book (summarized)

Herr Jacob Fugger Soll vns		
1516	Sept. 30, Cassa,	85. -.-
	Sept. 30, Cassa,	156.12.-

In the Account-Book (summarized)

Vns Soll herr Jacob Fugger		
Augsburg.	Sept. 30,	85. -.-
Vnkost.	Sept. 30,	156.12.-

On September 30, a journal entry such as the debit to the head office (Herr Jacob Fugger) account and the credit to the cash (Cassa) account was made twice. According to the journal description, one entry (85.—.—) was made for the transaction in which business expenses were paid in cash, and another entry (156.12.—) was made for living expenses. In these two journal entries living expenses were put in the same category as business expenses and the cost of the Venice Branch was directly burdened to the head office. Both of these journal entries were posted to the debit-side of the head office account and to the credit-side of the cash account in the debts-book, or ledger. On the posted account-book, however, instructions were additionally given, that business expenses should be applied to the head office in Augsburg as journalized, but living expenses were to be treated as a "Vnkost" (cost) of the Venice Branch (see Example I).

In the first method, the debts-book, or a ledger, was posted from the journal formally or mechanically, and the account-book was entered in respect of items[14] equivalent to present-day adjustments, although it was based upon the journal.

The ledger in the third method was kept by the instructions found in the first method's account-book. As for the example above, in the third method business expenses were posted to the debit-side of the head office account and living expenses were posted to the debit-side of the cost account in the ledger. The account titles as well as the account contents in the ledger in the third method became different from those found in the debts-book, or ledger, in the first method.

On September 30, accounts in the ledger in the third method were all summarized in the special account headed "an account-book No. 1," and each account balance in the debts-book from the first method was in principle posted to the head office account. According to today's bookkeeping terms, therefore, the head office account in the debts-book of the first method corresponds to a trial balance before adjusting entries; the account-book in the first method corresponds to an adjusting entry book; and the account-book No. 1 account in the ledger of the third method corresponds to a trial balance after adjusting entries.

It is therefore evident that the account-book is an indispensable part which assumes an important role in the connection of the first method with the third method. Neither can the account-book's function of adjusting entries be ignored.

The Dual Function of Divided Ledgers in the Second Method

In the preceding section, the relation between the first and the third methods was described; however, there is also a connection between the second and the third methods.

In the second method, as noted, one journal and two ledgers were prepared. Accounts in the debts-book from the first method were divided into two separate books in the second method. Cash account and personal accounts, etc., were contained in the debts-book (first ledger); goods accounts and accounts for the head office and branches were found in the goods-book (second ledger). Since accounts on these books were posted from the journal and summarized in a sum-list at the end of the second period, a book such as the account-book found in the first method was not prepared in the second method. If this was so, for the second period beginning October 1, would not the second method have made such an adjusting entry as the first method had done to connect the second method with the third?

The second method did make such an adjusting entry, and connection with the third method. In the first method, an account-book was prepared and entered in parallel with a debts-book posted from a journal. After posting, in order to eliminate unnecessary steps, accounts in the two separate ledgers were again verified with the journal entries and adjusting entries were added directly to the accounts.[15]

For example, on November 10, the Venice Branch received silver from another branch of the Fuggers and paid cash (15.—.—) for silver handling expenses. The transaction was then journalized as a debit to the head office (Herr Jacob Fugger) account and a credit to the cash (Cassa) account. According to this journal entry, it also debited the head office account in the goods-book, or second ledger, and credited the cash account in the debts-book, or first ledger. The Venice Branch treated the silver handling expenses as a deduction from silver sales, so as not to burden the head office. The Venice Branch also made an additional entry on the debit side of the head office account later, by adding onto the November 10 posting so that the amount of the silver handling expenses was transferred to the debit side of the silver sales account (see Example II).

Example II

In the Goods-Book (summarized)

Herr Jacob Fugger or Augsburg*
Silver. Nov. 10, we paid, 15.-.-

*rewritten in the conventional format.

Based upon the divided ledgers found in the second method which were so adjusted, the ledger in the third method was entered. For example, the silver handling expenses were posted to the debit side, not of the head office account, but of the silver sales account in the ledger for the third method. Therefore, the divided ledgers of the second method were also charged with the same function as the account-book in the first method had been charged.

Accounts in the third method's ledger for the second period were summarized on December 31 in a special account headed "an account-book No. 2." As a result, the sum-list was simply based on the not yet adjusted ledgers from the second method. The account-book No. 2 account in the third method's ledger differed in respect to the account titles and account contents. The relation between the sum-list and the account-book No. 2 account corresponds to that between two trial balances before adjustments and after adjustments. If the second method is seen as an integral part of the third method, the dual function woven into the second method's divided ledgers must be realized then. Namely, one is the function of a mere ledger for the journal, while the other is that of the function of the account-book found in the first method.

The Relation Between the Ledger and the Closing List in the Third Method

Thus, the account-book No. 1 account in the third method became the trial balance after adjustments for the first period of 1516, and the account-book No. 2 account for the second period. If both accounts are combined, the trial balance after adjustments may be made for 1516 for the whole year, which may be connected to the closing list which Schwarz illustrated at the end of his manuscript. In seeking the relation between two account-book accounts and the closing list in the third method, it was noticed that adjustments were made again.

The Venice Branch carried out transactions in three kinds of commodities: textiles, copper, and silver. The Venice Branch received copper and silver from another branch of the Fuggers and sent them to the other branches relatively often. In the first method (January 1 - September 30), values were assigned to such inter-branch movements of commodities. In the second method (October 1 - December 31), however, values were omitted and only a quantity entry was made for the inter-branch transactions. It is said that the "consequence is that no profit calculation(s) can be shown in the accounting system."[16]

As Schwarz explains, this procedure is one of differences between the two methods. Consequently, values have to be assigned in respect of items for which they were omitted in the second method. Such adjustments[17] are made here. An example of this case will herein be cited.

Example III

(a) In the Goods-Book of the Second Method (summarized)

Silver empfangen

Hall, 3508 marks 4 lots, Oct. 20, -.-.-	
Hall, 810 marks - lots, Nov. 10, -.-.-	

(b) In the Ledger of the Third Method (summarized)

Hall Sollen wir

	4318 marks 4 lots, Oct. 20 and Nov. 10, empfangen, angeschlagen, 31310.-.-

(a) On November 10, as shown in the preceding section, the Venice Branch received from "the Hall," another branch, silver weighing 810 marks. The transaction for silver handling expenses was journalized and posted, but the entry on the silver account itself was that of the weight, 810 marks.

(On October 20, the Venice Branch had also received silver from the Hall Branch and made only a quantity entry.) (b) Therefore, in accomplishing the final settlement, the cost had to be entered in monetary terms in the ledger as a debit to the silver account and a credit to the Hall Branch account.

Such an entry illustrates the contents of the adjustments in the third method; such an adjusting entry was made to accounts in the ledger of the third method (see Example III).

After these adjustments were entered and nominal accounts of revenues and expenses were, in principle, eliminated, a closing list remained, which Schwarz illustrated at the end of his manuscript. This list corresponds to today's balance sheet from the viewpoint of bookkeeping mechanism. The item "mer einzunemen weder zuzaln" (more incomings than payments) on the list means that, for the period from January 1 to December 31, 1516, the Venice Branch of the Fuggers made a profit.

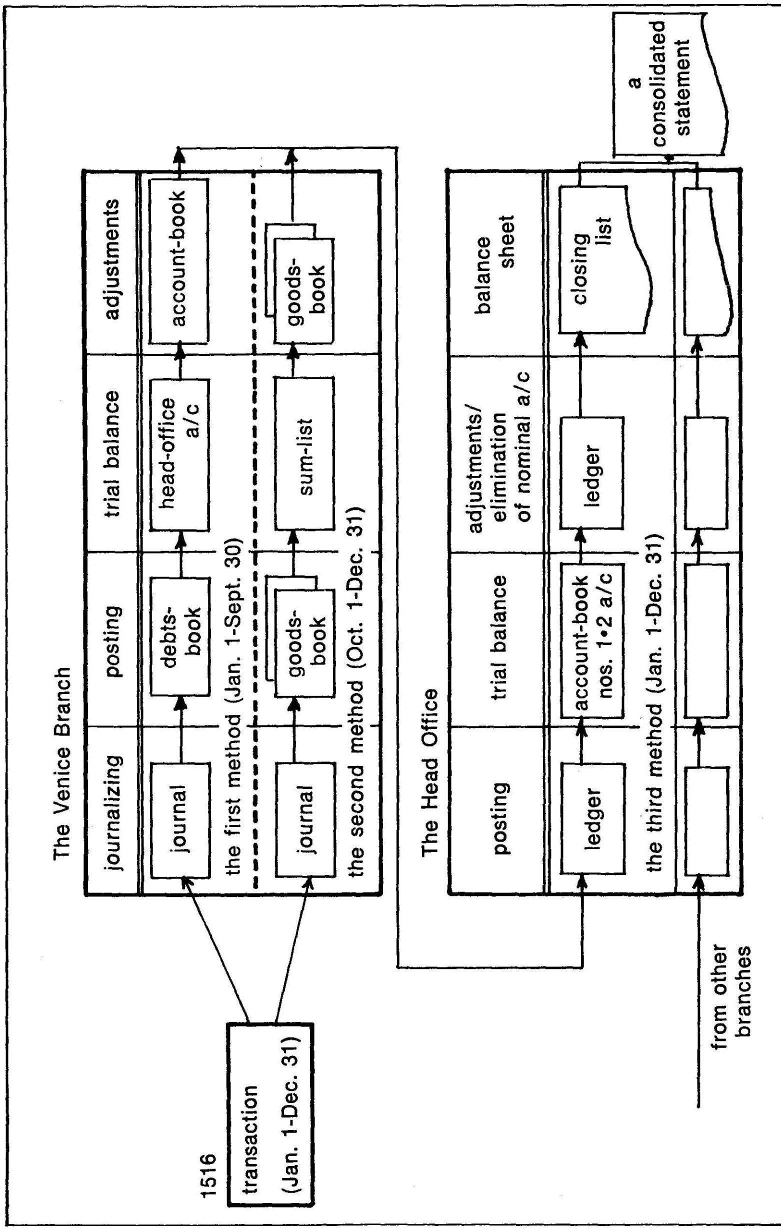
Conclusions

Following the illustration in Schwarz's "Threefold Bookkeeping," his manuscript explains how a consolidated settlement could be accomplished at the head office in Augsburg, based upon statements made by branches. As indicated by Professor Penndorf[18] these settlement procedures at the head office were very similar to real ones[19] carried out in 1527 at Jakob's death.

By studying Schwarz's illustrations and explanations and summarizing the bookkeeping systems of the head office and branches, one could come to the following conclusion as shown in Figure 2; the first and second methods heretofore favored for research would have been located at the starting point of Schwarz's bookkeeping system. The reason is not clear why Schwarz gave two alternative methods for keeping the accounts of one branch. He might expect this manuscript was used for instructional purposes, because two methods were put in contrast as follows.

Figure 2

The Functional Aspects of Schwarz's "Threefold Bookkeeping"

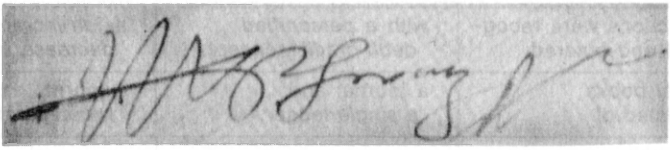


	the first method	the second method
transactions were recognized and entered	with a *personified debit-credit concept.*	as *an increase or decrease in elements.*
general books consisted of	a journal and *a single* ledger.	a journal and *two separate* ledgers.
to inter-branch movements of goods, values	were *assigned.*	were *omitted.*
at the end of accounting period	with the exception of the cash account balance, all account *balances* were transferred *to the head office account* and verified. Accounts were *closed.*	the *totals* of debits and credits in each account were summarized and verified *in a statement.* Accounts remained *open.*
in connection with the third method,	a *special* book was *prepared.*	a *general* book was *diverted.*

Schwarz's bookkeeping system may not have been noteworthy in comparison with present technical levels. It was, however, highly developed and had good features when compared with those of scholars 460 years ago. The most outstanding feature was the weaving of adjustments, such as the separation of business expenses from living expenses, into the system.

When analyzing the contents of new adjustments, one notices that the adjustments were concentrated exclusively on the transactions among the head office and branches. The concept of controlling entries on the transactions among the head office and branches had been used well before the adjustments were woven into the system in Schwarz's manuscript. His methods led to the idea of present profit-center accounting.

Schwarz states that his manuscript was made "zu ainer gedechtnus meiner jugendt" (as a memory of my youth).[20] What the author could feel there, however, was not sentimental memory, but rather professional ability. Thus, when Schwarz's "Threefold Bookkeeping" is distinguished as an integrated bookkeeping system, one can picture Schwarz as a bookkeeper, faithful to the Fuggers' particular business activities through more than 80 branches, an enterprise which in its golden age spread over Europe like a spider web.



The Signature (1534) of M. Schwarz; in the Fuggers' Archives at Dillingen a.D., Germany

FOOTNOTES

[1]Inoue, "The Oldest German Bookkeeping Text," p. 52.
[2]Reichard and Fink detail Schwarz's biography.
[3]Ehrenberg named it and analyzed its business activities.
[4]Reinhardt (pp. 21-22) reproduced the letter from Jakob Fugger to the Emperor.
[5]Pölnitz, p. 658 and Kellenbenz, p. 623.
[6]Schwarz wrote two manuscripts; the first in 1518, the second, a secret book in 1550. See Inoue, "The Secret Book by Matthäus Schwarz," pp. 62-65 for the latter.
[7]Hartsough, p. 546.
[8]Penndorf, p. 53.
[9]Yamey, p. 55.
[10]Hartsough, p. 546.
[11]Penndorf, p. 55.
[12]Yamey, p. 57.
[13]Schwarz's original manuscript is said to have disappeared earlier, and some of the three copies which had survived until the 1930s cannot be confirmed at present. In 1931, Dr. Weitnauer referred to all copies and converted the handwriting into modern spelling in his own book. In this paper the author as well as other researchers, except Professor Penndorf (1913), have relied upon Weitnauer's work (1931, pp. 174-272) for reference.
[14]All of these items are explained in Inoue, *A History of Bookkeeping and Accounting in Germany,* pp. 86-88.
[15]See Inoue, *A History of Bookkeeping and Accounting in Germany,* pp. 92-94 for a comment on all adjustments.
[16]Yamey, p. 55.
[17]Inoue, *A History of Bookkeeping and Accounting in Germany,* pp. 97-101 detail all of these.
[18]Penndorf, pp. 56-61.
[19]Strieder, pp. 57-114 reproduced all of the original statements of 1527 in modern spelling.
[20]See Weitnauer, p. 184 for detail.

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THE FINAL EXAMINATIONS OF THE INSTITUTE OF CHARTERED ACCOUNTANTS IN ENGLAND AND WALES, 1882-1981

Abstract: This study considers the final examinations of the Institute of Chartered Accountants in England and Wales, from 1882-1981. Discussion of the likely purposes of the examinations, and of possible ways of assessing their efficiency, is followed by a review of the final examination structures from 1882 onwards. Finally, material on the achieved pass rates is presented. The structural changes illustrate some shift in emphasis from bookkeeping and law towards managerial accounting and economics, taxation, and systems and data processing. Pass rates have declined from around 60 percent to around 40 percent over the period, though not evenly.

Introduction

This study stems from a project carried out for the Research Committee of the Institute of Chartered Accountants in England and Wales (henceforth the Institute). Most of the work was done in 1977 and 1978, although there have been subsequent additions to the data on examination results to bring them through 1980. The Institute was granted a Royal Charter in May 1880, and held its first examinations for admission in 1882. This study is confined to the final examinations of the Institute from 1882 to 1981, and has four aims. First, it considers what might be the purposes of Institute examinations. Second, it indicates some of the problems arising from attempts to appraise its success or failure in achieving those purposes. Third, it outlines and seeks to explain the principal structural changes that have occurred in Institute final examinations from 1882 to 1981. Fourth, it reviews the final examination pass rates over the period 1882 to 1980. As mentioned, this study concentrates on the final examinations of the Institute, which represent its central examining function. However, it should be mentioned that the Institute has held preliminary, intermediate and post-qualifying examinations for varying periods since 1882.

Throughout the history of the Institute, professional training has been based on apprenticeship, known first as articles of clerkship and later as training contracts. The trainee works for a chartered accountant in public practice, who undertakes to offer relevant work experience and some paid opportunities for private study. Currently, United Kingdom graduates serve a three year training period, and others, usually those leaving school at eighteen years of age, a four year training period.[1] Public examinations, particularly the General Certificate of Education, have replaced the Institute's own preliminary examinations as a test of general, non-vocational, educational attainment. During the training period, trainees (except United Kingdom graduates in Accounting) sit an intermediate examination, or pursue a course which grants exemption from it. All trainees must sit the final examinations, which are the subject of this particular study.[2]

The Purposes of Examinations

Examinations have several different possible purposes, more than one of which may be present in any one examination. Rust and Harris[3] identified the following four purposes:

(1) to provide an incentive to effort;
(2) to measure attainment;
(3) to predict future success;
(4) to select or license to practice.

With particular reference to professional bodies, they stated:

> Among the functions commonly acquired by professional societies is that of examining candidates for membership. Such an examination is clearly for selection. It may have no pretence at general education. Its aim is to measure competence to carry out vocational and professional duties.[4]

Two purposes may be identified directly from the above quotation—(2) to measure attainment and (4) to license to practice. The former purpose would tend to lead the professional body to rank all candidates in order of their individual attainments. The latter would require no more than the setting of a minimum level of competence, which, if achieved, would license a candidate to practice in the profession.

Exactly how such a minimum level of competence is to be set is unclear. Presumably, it ought to be based on a variety of factors which revolves around purpose (3), the prediction of future success in the profession. This may be translated, for example, into examination conventions which lay down that the candidate must attain a predetermined score in each paper. Whether the standard which lies behind such precise conventions can be determined *a priori* is doubtful, so that the standard set, and the marking to that standard, will tend to be determined in the light of experience. If this were a completely fixed and absolute standard, the proportion of candidates which achieves it might reasonably be expected to vary, possibly considerably, from year to year.

However, the absolute standard itself is likely to change as the profession adjusts to changes in its environment. Also, over the years, the abilities of aspiring entrants to the profession are likely to conform more closely to the perceived entry standards. Those with poor entry qualifications will either be barred from entry, or will not bother to begin training, or may be filtered out during training. It is, therefore, possible that the proportion passing the standard will oscillate around some normal proportion. Alternatively, this normal proportion may be predetermined by the profession as a means of restricting entry. Following the introduction of the revised examination structure in 1947 and a fall in the pass rate in the final in 1947, 1948 and 1949 (see Table III) compared with earlier years, the Council of the Institute issued the following statement:

> The Council understands that the low percentage of passes in the Institute examinations has given rise to suggestions that admission to the Institute is being regulated by increasing the requirements for a pass.
>
> The Council wishes it to be known that no such policy has been or is being contemplated and that there has been no alteration in the requirements for a pass in any of the examinations.
>
> The Council has been concerned with the large number of candidates who fail to pass the examinations. As a result of statistics prepared for the Examination Committee, the Council is satisfied that the low percentage of passes is due to the abnormal conditions obtaining as a result of the war.[5]

However, Rust and Harris stated:

> The explanation of the high failure rate in professional body examinations could lie in a failure to provide or assist suitable courses of study. It could also lie in undiscovered weaknesses of the examination system; or in . . . an exami-

> nation structure which does not match the examination with the professional practices and procedures learned.[6]

A profession which wishes to maintain its standard of service to the community will attempt to restrict entry to the more able. Thus, by reason of the demand for its services, the skill with which it performs them, and the restricted supply of highly-skilled practitioners, the rewards to those practitioners will tend to be high. In this sense, examinations are being used for purpose (1), as an incentive to effort, because only by passing examinations of a standard high enough to result in a restricted entry, will the candidate be able to join the ranks of those who benefit from the high rewards.

It seems probable, therefore, that to varying extents, professional examinations serve all four of the identified purposes. In the context of the examinations of the Institute, purpose (4) is likely to be paramount and to be closely linked to purpose (2). The "selection and licensing to practice," purpose (4), is based primarily on success in the examinations, and also on proof of adequate relevant experience and of good character. Yet, the Institute offers a series of prizes for high attainment [purpose (2)] in its examinations and has ranked candidates for its intermediate examinations, thereby incorporating a differential attainment measure as well as the simple attainment measure of pass or fail. The Institute's 1882 Annual Report stated:

> The Council have [*sic*] decided, for the encouragement of Students, to issue Certificates of merit to all Candidates who have obtained or shall obtain more than a specified number of marks at the Final Examinations.[7]

Purpose (1) may be inferred from this statement and also from the Institute's concern to further the standing and importance of the profession. Purpose (3), the prediction of future success is an aim peculiarly sensitive to definitions and measures of success, but it would not be unreasonable to expect that there might be some relationship, however remote, between success on the examinations and success in the profession. It is quite certain that failure on the examinations will result in failure to become a qualified member of the profession.

It is, of course, difficult, not to say artificial, to separate examinations from education and training, as has been done in large measure in this article. However, the Institute has, until very recently,[8] been an examining body rather than one which, like the Scottish Institute, involved itself closely with the education and training of potential members. The short-lived tuition scheme in the late 1930s was an attempt to do this,[9] but, for the most part, the Institute has relied upon the contributions made by private sector colleges, universities, polytechnics, students societies, and professional firms themselves. Its influence on education has therefore been indirect: through the medium of examination reports and syllabi and, later, stated examination aims and recommended texts; through membership of bodies such as the Advisory Board of Accountancy Education; and through the accreditation of university, polytechnic and private tutorial college courses. The Institute, through most of its history, has been content to ensure that those entering into articles or training contracts have had a reasonable level of general, non-vocational, education, by way of its own preliminary examinations, the General Certificate of Education, or, increasingly, university and polytechnic degrees. It has then set hurdles in the form of the intermediate and final examinations, towards which most of the training effort has been directed. There are signs that the Institute may either increase its direct involvement or withdraw almost completely and confine itself to a single test of professional competence and perhaps some assessment of the candidate's general suitability for the profession.[10]

The Efficiency of Examinations

Once the purpose of the Institute's examinations have been identified, is it possible to estimate the efficiency with which these purposes have been met? This question about the efficiency of the examinations contains two elements. The first is the validity element, which deals with the question: does the examination do what it is intended to do? It is, therefore, closely related to the purposes of the examination. The second is the reliability or consistency element, which asks: does the examination measure accurately what it is intended to measure? The relationship between the two is asymmetrical, for low reliability *must* lead to low efficiency, but high reliability does not guarantee high efficiency. Reliability implies that similar examinations would yield consistent results on successive occasions, an attribute which may be capable of being tested statistically.

An efficient examination should have the following characteristics:

(a) it should contain a representative sample of every aspect to be assessed (usually, attainment of knowledge, ability to communicate, ability to apply knowledge, and ability to memorise, organise and present material under stress conditions);

(b) its content and organization should enable a reliable evaluation of candidates' achievements;

(c) the final outcome should be a classification of results which meets the requirements of those setting the examination;

(d) the influence of the examination on the work of teachers and those being taught should be beneficial.

It is doubtful whether enough material exists for the Institute's examinations to be measured, *ex post,* against each of these efficiency characteristics. Some progress could be made on (a) and (b) by comparing syllabi and occasional Institute statements with the examination papers and by assessing the development of the demands made on candidates' abilities in the question papers. Characteristic (c) would be hard to assess because it would involve detailed monitoring of the examining process; otherwise it would amount to saying little more than that the Institute wishes to maintain and improve professional standards and so sets what is primarily a pass-fail examination which candidates either pass or fail. Characteristic (d) is a matter for considerable and continuing debate, particularly as the term beneficial has meaning only in the context of the aims and purposes of the professional, educational and training bodies involved.

Part of the validity of the Institute's final examinations rests upon the extent to which they test knowledge in areas with which a qualified practitioner would be expected to deal. Within a very short time of passing the examination the successful candidate may be offering advice to clients as a fully-qualified professional accountant, and should, therefore, possess up-to-date knowledge of professional subjects. The policy of the Institute has long been to allow a time lapse of about six months between the passage of new legislation or other changes, and the setting of questions on the new legislation in the examinations. In 1940, the Institute stated:

> In respect of both the Final and Intermediate Examinations the usual practice will continue to be observed and questions will not be asked in respect of any legislation which has not been on the Statute Book for six months at the date of the examination.[11]

For example, on 12th August, 1967, the Council issued the following statement:

> the Examination Committee has decided that questions involving the requirements of the Companies Act 1967 will not be included in examinations until after May 1968[12]

which in practice meant the September Intermediate and the November Finals. Nevertheless, despite such attempts to ensure that newly qualified chartered accountants were reasonably up-to-date at the time of qualification, it was only in 1978 that continuing professional education was introduced in an attempt to ensure that they remained up-to-date throughout their careers. In normal circumstances, success in the final examination meant a lifetime qualification.

The Major Structural Changes 1882 to 1947

In Europe, written examinations were slow to appear. No record has been found of written examinations before 1702 when Bentley introduced one at Trinity College, Cambridge. The tradition of oral examinations was strong and to this day remains a feature of some examinations in the United Kingdom, and particularly in mainland Europe. Oral examinations were conducted by the Institute in the final examinations at least until 1892, but had never been a major element, having been at the discretion of the examiner and having been limited to further explanations of the printed questions. They were revived briefly at the end of the Second World War in order formally to examine ex-prisoners-of-war who had written Institute examinations in German prison camps.[13] Not surprisingly, it was difficult to maintain the oral tradition in the face of mass education and the large numbers of examinees, for which written examinations were held to be more suited.[14] The English Bar introduced written examinations in 1872, and the Institute held its first examinations in July 1882, some two years after its formation.

Table I sets out the main structural changes to the final examinations up to, and including, the latest change in 1981. Table II summarises the main examination topics following each structural change. The information was obtained from an inspection of the examination papers for the period, and the structural changes there identified were checked against reported changes in the examining structure. The first final comprised six papers over three days, in Bookkeeping, Partnership and Executorship Accounts, Auditing; the Rights and Duties of Liquidators, Trustees and Receivers; Bankruptcy and Company Law; and Mercantile Law and the Law of Arbitration and Awards. The first Bookkeeping paper had ten questions to be answered in a probable three hours. Of these, seven did not involve any direct use of quantitative data, as for example question one: "What should be the chief aim and object of a bookkeeper?" Of the three remaining questions which did involve quantitative data, only one actually gave the data. The other two were do-it-yourself questions of the type: "Give an example of a mercantile balance sheet and profit and loss account." The Auditing paper contained ten questions. One gave the accounts of a branch of the Woman's Suffrage Association and asked whether they were correctly drafted. The last question dealt with a macabre subject;

> A Cemetery Company working under Table A of the Companies Act, sells the right of burial in grave spaces. What part of the proceeds of the sale should be distributed among the shareholders? Answer this question as showing the Auditor's duty with regard to the distribution of capital.

The marking weight attaching to each question was not shown (nor was it until 1947), nor was the time allowance for the whole paper. The 1909 papers, however, indicated three hours each for Bookkeeping papers and two hours for each of the others. These time allowances were apparently unchanged until 1922.

The first structural change occurred some forty years later, in 1922. It is probable that the advent of the First World War delayed the change, because in the years prior to the war, pressure for change was beginning to build up. A. E. Cutforth,[15] in an address in 1912 to the Chartered Accountants' Student Society of London entitled "Can the Institute Examinations be Improved Upon" asked

> Is the present examination syllabus the best that can be devised for ensuring that the most efficient and best equipped men are admitted to the profession?[16]

Cutforth, already a well-known accountancy author, and later to become President of the Institute, compared the examination papers of the Institute of Chartered Accountants of Scotland and the Society of Incorporated Accountants and Auditors with those of the Institute. He concluded that the Institute set too high a premium upon speed of answering accountancy and auditing questions, and that, therefore, the time allowed should be increased. He considered the possibility that the Institute should introduce a paper on Actuarial Science, and was strongly in favour of the introduction of Economics and General Commercial Knowledge:

> Many a student can recite the graduated percentages of Estate Duty, but does not know what the Bank Rate means; he can tell you the amounts of the various penalties laid down in the Companies Act, but he has hardly heard of the laws of supply and demand; he has the Acts of Bankruptcy

> at his fingers' ends, but is incapable of writing even a passably good letter or report upon the most simple of matters.[17]

In a lecture in the following year, 1913, to the Chartered Accountants' Students Society of Bristol, entitled "The Organization of an Accountant's Department," he presaged the introduction of foreign exchange into the examinations, noting:

> The closer business relationships and community of interests which exist between the various countries of the globe, the consequence of which is that transactions tend to become more complicated, and their effects more obscure.[18]

Cutforth also commented:

> if we are to maintain the reputation which we at present enjoy, if our services to the public are to be no less valuable in the future than they have been in the past, we must move with the times. We must equip ourselves to undertake the altered duties and responsibilities which the altered conditions impose upon us.[19]

The revised final examination structure introduced in 1922 is a remarkably close reflection of Cutforth's ideas. As Table I indicates, the time allowance for most papers was increased from two to three hours. In both the "Advanced Bookkeeping and Accounting" candidates were informed that "special value will be given to the first four questions. Of the remaining six questions Candidates must NOT attempt more than four." Cost accounting was given more emphasis. There was no separate paper on the Rights and Duties of Liquidators, Trustees and Receivers. Perhaps most importantly, candidates were required to choose to be examined in one of three optional papers, Economics (three hours); Banking, Currency and Foreign Exchanges (three hours) and Actuarial Science (two hours). In 1924, however, the Mercantile Law paper reverted to two hours, and in 1930, the Actuarial Science option was abandoned, as a foretaste of the 1934 structural changes.

The abandonment of the Actuarial Science option was called for by E. E. Spicer in a 1927 lecture entitled "The Articled Clerk in Relation to Education";

> Actuarial Science might be dispensed with without disadvantages, and . . . the two other optional subjects, *viz.*

> Banking, Currency and Foreign Exchanges, and Economics, should be made compulsory, but should form the subject of a separate examination.[20]

This is exactly what was to occur in the 1934 restructuring. However, Spicer went on to state that it should be possible to take the examination at any time during articles, or

> even after the completion of articles and the passing of the Intermediate and Final Examinations, but admission to membership of the Institute would be withheld until this examination had also been passed.[21]

Spicer suggested even more far-reaching changes such as graduate entry; greater Institute control over training; compulsory attendance at Student Society meetings and a requirement to contribute to their deliberations; more up-to-date Student Society libraries; tests of foreign language competence; and Institute scholarships to help the less well-off to qualify.

Following the publication of this lecture, several correspondents wrote to *The Accountant* commenting on Spicer's suggestion, and widening the debate to include the possibility of re-introducing *viva voce* examinations; a point to which *The Accountant* was to return in its leader column. Correspondents were anxious to point out the importance of personality, energy and bearing in public, to the complete professional, none of which was adequately tested in written examinations. One correspondent went even further, and suggested that the final should include a requirement that the candidate should preside over a supposed meeting of shareholders, conduct an income tax appeal, interview a new client and submit to a cross-examination as an expert witness, all "before a specially arranged examining audience."[22]

A letter to the Editor of *The Accountant* by F. R. M. de Paula in December 1928 brought the debate back to a consideration of examinations in the wider context of education and training. He stated that

> in my opinion the opportunities and the facilities available for education are quite inadequate for the future members of our great profession.[23]

Having looked at training and examinations in other professions he recommended greater co-operation with the universities in which the student would spend the first six months at a university learning the basic pre-clinical skills; a year of practical training with a Chartered Accountant; followed by a year at a university adding to the theoretical skills leavened by practical knowledge; a further eighteen months of practical training; and a final year at a university, at the end of which the final examination would be attempted. The whole process would take five years, and, if successfully completed, would lead to a university diploma and membership of the Institute.

A leader in *The Accountant* in March 1929 urged that de Paula's suggestions about co-operation with the universities should be taken up, as universities were "no longer the mediaeval bodies they once were." Examination papers must become the joint responsibility of the profession and the universities and "under a properly safeguarded scheme, we can see nothing to be feared in that."[24] E. L. Tanner in a 1929 article entitled "The Institute Examinations—Criticisms and Suggestions" argued that there was a strong case for making economics compulsory, and for ensuring that candidates understood statistics and the mathematics of compound interest. Oral examinations were impractical, except if used to test a foreign language option in the final. The final itself, he suggested, should be split into two parts (as indeed it was in 1965), and might include open-book law papers as well as a choice between Advanced Economics and Statistics, and a foreign language. He also argued for the abandonment of order of merit listings in the final results.[25] The pressure for a compulsory Economics paper was maintained by Professor L. H. Jones in a series of notes in the late 1920s and 1930s. The study of economics was essential, he stated, if accountants were to grapple with the problems of the future and to fill the gap between the academic economist and the businessman.[26]

Various correspondents to *The Accountant* expressed their support for splitting the finals into two parts.[27] One went further, and recommended that part one should be compulsory, but that candidates could choose to be examined either on general professional subjects or more specialised commercial topics.[28] The insertion on each paper of the number of marks per question was suggested,[29] and another correspondent complained that of the seventy questions set in total in the Institute final, only two were on income tax, of which one was optional, yet such knowledge was "absolutely vital" to the Chartered Accountant.[30]

When the 1934 changes were made public in 1932, a leader in *The Accountant* expressed surprise at a change so soon after the last change in 1922, but pleasure about the removal of options. It expressed concern about the time allowance for answering questions, so that

> a premium is therefore put on the activities of the "crammer" whose aim is to supply candidates with information as distinct from mature powers of observation and exposition.[31]

The Institute appears to have taken note of the point about the time allowance because in the following year, 1933, *The Accountant* noted that the percentage pass in the November 1932 final was the lowest on record (43 percent) despite the fact that a

> new class of examination paper had been introduced which was intended to be of assistance to the articled clerk by giving him more time to do the work.[32]

The Secretary of the Institute, G. Colville stated, at a meeting in 1933 of the Leeds and District Chartered Accountants Students' Society, that in seeking to explain the lower pass rate, the Education Committee of the Institute

> had no alternative but to come to the conclusion that the new paper is satisfactory and that that is not the cause of the low percentage of passes. We have only one suggestion to make . . . and that is that there is perhaps accumulating a proportion of candidates who cannot pass but who come up again time after time in the faint hope that they may eventually manage it.[33]

The 1934 final examination structure (see Table I) reflected some of the views expressed in the period since 1922, and which have just been outlined. Yet it is possible still to recognize Cutforth's influence. Although it has been said that by this time his "innovative drive seemed to have spent its force,"[34] the fact remains that he was a member of the Council of the Institute from 1923, its Vice-President from 1932 to 1934 and its President from 1934 to 1936. Whatever view is taken about his direct influence at this time, it is legitimate to view the 1934 changes as, to some extent, a continuation of the 1922 changes, with the added impetus of the debate which occurred in the late 1920s and beyond, as just described. The remaining optional papers, in Economics and Banking, Currency and Foreign Exchanges, were abolished but the topics were consolidated, along with some taxation and costing, into a new, compulsory, two-and-a-half-hour General Financial Knowledge paper. The 1934 final included also three Advanced Bookkeeping and

Accounts papers, each of three hours, and each emphasising one of the following: company accounts; executorship accounts; and partnership accounts. The Auditing paper remained at three hours, and the Mercantile Law paper at two hours. There were two other Law papers, each of two hours: The Law Relating to Deeds of Arrangement, Receiverships and Trustees; and Company Law Including Liquidation. The 1934 final, therefore, comprised eight compulsory papers. In 1944, some changes were made to give added weight to taxation and law matters, but the next major reconstruction occurred in 1947.

Correspondence to *The Accountant* following the 1934 changes was mostly confined to the continuing problem of a lack of time in the examination, particularly in the Advanced Bookkeeping and Accounts and the General Financial Knowledge papers. This problem, which the Institute hoped that it had solved in 1933,[35] was the subject of several letters to *The Accountant* in 1938.[36]

The Second World War reduced considerably the number of candidates, although some were able to study for, and attempt the examinations either in the United Kingdom, or in prisoner of war camps.[37] In 1945, *The Accountant* noted that, in reference to the forthcoming restructuring of the final in 1947:

> the time allowance has been increased in certain cases, and examiners and moderators will be asked to pay particular attention to the speed factor; further, the number of marks to be allotted to each question is to be disclosed to candidates.[38]

Unlike the 1922 and 1934 changes, the 1947 restructuring (see Table I) was not heralded by the long debate in the accountancy press. There had been an article by F. R. M. de Paula on "The Future of the Accountancy Profession,"[39] and the publication of the McNair Report,[40] but these had primarily been concerned with schemes for graduate entry. There seems not to have been the debate about examinations, in print at least, that characterized the earlier structural changes. In some ways, the 1947 changes were more evolutionary than revolutionary, and reflected changes in the economic environment, notably in the increased weight accorded to taxation. The number of papers was reduced from eight to seven, all of three hours, so that the General Financial Knowledge and Cost Accounting paper (as it was now called) received the same time allowance as the other papers; Taxation was examined in a separate paper; the three 1934 scheme Law papers were reduced to two (one on

Mercantile Law, the other on Company Law, Liquidation and Receiverships); Auditing retained full paper status; but the three Advanced Bookkeeping and Accounts papers of the 1934 scheme were reduced to two. For the first time, the maximum marks to be awarded to each question were shown on the papers. The General Financial Knowledge and Cost Accounting paper was changed in 1957 to General Financial Knowledge and Cost and Management Accounting, presumably to reflect the increasing involvement by accountants in the provision of information for management. In the same year, the Auditing paper was expanded to include investigations. Otherwise, the structure remained in force until 1966, although it was superseded by the new, two-part final in 1965.

The Major Structural Changes 1947 to 1981

The period between 1947 and the introduction of the new syllabus in 1965 saw the publication of two important reports, the Carr-Saunders Report and the Parker Report, which dealt with professional education and training. The Carr-Saunders Committee—the Special Committee on Education for Commerce—had been appointed by the Minister of Education in June 1946.[41] Although one of its members was F. R. M. de Paula (an Institute Council Member), who in fact signed the report without reservation, the reception by the Institute in 1949 of its Report was very hostile.[42] An unfortunate sentence in the Report seemed almost designed to upset the professional bodies:

> . . . we understand by the word profession in our terms of reference any body of persons, using a common technique, *however meagre in content and however little related to fundamental study,* who form an association one purpose of which is to test competence in the technique by means of examinations.[43]

The Report recommended, in relation to the accountancy profession, the increased availability of part-time day tuition in colleges so that it became the main instrument of instruction; the elimination of unnecessary variations in syllabi in common subjects among the several professional bodies; confinement of the intermediate examinations to general commercial studies, particularly economics and social studies; and the deferment until the age of eighteen of the start of professional or advanced commercial subjects.

Perhaps the most significant effect of the Carr-Saunders Report on the accountancy profession, and the Institute in particular, was the response which it provoked from the Institute, which was published in 1951. The Council of the Institute

> finds itself obliged to state that the recommendations of the Carr-Saunders Committee are wholly inappropriate for persons wishing to become members of the Institute. If put into operation in relation to such persons the recommendations would undermine the Institute's whole system of training under articles.[44]

However, in his "Prospectus for a Profession" (1974), Professor D. Solomons noted that after two decades

> the Carr-Saunders proposals do not look "wholly inappropriate," whereas some of the Council's statements do.[45]

Solomons drew attention to several of these statements, including the following:

> The Council wishes to reaffirm its views . . . on the unsuitability of technical and commercial institutions for the major tuition work required to prepare candidates for qualification as chartered accountants.

and

> The Council cannot envisage any scheme, outside the universities, which could be recommended to members as a basis for granting exemption from the Intermediate examination.[46]

On this basis, stated Solomons, there would be no support for the growing body of polytechnic and technical college instruction for Institute examinations, and there would be no Foundation course and examination in the polytechnics giving intermediate exemption. On the more positive side, the Institute defended its approach to training as a means of equipping potential entrants to the profession with:

> (a) a sound technical knowledge of the principles underlying all the work of the profession . . . .
> (b) a working knowledge of the law which affects the work of the profession . . . .
> (c) practical experience of the application of those principles and legal requirements . . . .
> (d) an understanding of the ethics of the profession . . . .

(e) the widest possible education in a broader sense than the strictly vocational training and experience implied by (a) to (c) above.[47]

It is perhaps surprising that this furore produced no immediate positive results in terms of the training and examination of prospective chartered accountants. However, it must be remembered that the last examination restructuring (in 1947) had occurred only two years before the Carr-Saunders Report was published. It might also be the case that a professional body, feeling itself threatened by proposals for what it saw as undesirable changes, would retrench, and strengthen its view that its current procedures were appropriate. Further, the integration negotiations with the Society of Incorporated Accountants, particularly from 1954 until integration in 1957, must have been a major pre-occupation.

In 1957, W. E. Parker addressed the Institute's Oxford Summer Course on the subject of "Training for the Profession." This address was published in *The Accountant*[48] and was undoubtedly a foretaste of the Parker Committee, established in 1958, which reported in 1961.[49] The address reviewed the Carr-Saunders Report, the U.S. Report (1956) on "Standards of Education and Experience for Certified Public Accountants,"[50] and the recommendations of the Scottish Institute's Committee, which had been appointed in 1953 to inquire into the examination and training of apprentices (articled clerks), and which had reported in October 1956.[51] The fact that other professional bodies had recently conducted enquiries into their education and training procedures, and that these matters were constantly under discussion by chartered accountants, may have been additional stimuli to the formation of the Parker Committee in 1958, with the following terms of reference:

> to consider the education and training appropriate for entrants to the profession, the existing arrangements and facilities therefore, and the changes, if any, which should be made so as to ensure the provision of an adequate supply of trained candidates suitable in all respects for admission to membership of the Institute; and to make recommendations.[52]

The Parker Committee on Education and Training reported in 1961. Its principal conclusion was as follows:

> The fundamental character of the Institute qualification should not be changed but the means and terms of entry

> into membership need to be adapted to changed and changing conditions.[53]

Thus, service under articles with a practicing chartered accountant, and qualification by examinations conducted by the Institute, should continue. Professor D. Solomons noted:

> the Committee could, if it had wished, have made sweeping recommendations with every prospect that they would have been implemented. But it chose instead to limit itself to a number of quite minor proposals. . . . Short of endorsing the *status quo* in its entirety, the Committee could hardly have gone less far than it did. . . . On all of the important issues . . . wisdom was seen to lie with those who opposed change.[54]

A principal recommendation of the Parker Committee was that the examination syllabus should be amended, and that the final examination should be divided into two parts, to accommodate an increase in the number of papers from seven to nine. The first part of the new final should consist of five three-hour papers: Advanced Accounting I and II; Auditing; Taxation I (of individuals); and English Law I. The second part should consist of four three-hour papers: Advanced Accounting III; General Financial Knowledge; Taxation II (of individuals and corporations); and English Law II.

The Parker Report was subjected to detailed examination by the Council and by the Committees of the District Societies of Chartered Accountants.[55] The proposed changes, based on the Report and Council decisions, were put in the form of resolutions to a Special Meeting of Members on 6th March, 1963, which were all carried by a substantial majority.[56] So far as examinations were concerned, the two-part final was accepted, and was to be introduced in 1965 (See Table I). The first part consisted of four papers (not five as recommended by Parker): Advanced Accounting I; Taxation I (of individuals); English Law I (company law and liquidations and receiverships); and English Law II (mercantile law). The second part consisted of five papers (not four as recommended by Parker): Advanced Accounting I and II; Taxation II (of individuals and corporations); Auditing; and the General Paper (including elements of economics). The only real difference between the Parker recommendations and the actual outcome was in the detailed division of the papers between the two parts. Cost and Management Accounting, as recommended, was moved from the General Paper to Advanced Accounting III and minor changes were made to the format of some papers. It was possible for candidates to sit both parts together, but more usually Part I was sat and passed before Part II was attempted.

Professor Solomons stated

> It is fair to say that, in the decade or so following the Parker Report, the . . . Institute has introduced more changes on the educational front than anyone studying that document might have thought likely.[57]

Most of these changes occurred after 1970, following the failure of the proposals to amalgamate the six major professional accountancy bodies into one new professional organization.[58] In the mid 1960s, however, the debate about education, training and examinations was maintained, as for example in the discussions prompted by the articles by A. M. Bourn in *Accountancy*[59] in 1965. Bourn also published, in 1968, an assessment of the Scottish Institute's Report of the Special Committee on the Education and Training of Apprentices, 1967,[60] and in 1969, a comment on the educational proposals contained in the abortive amalgamation scheme.[61]

The failure of the amalgamation scheme led the Institute, in 1970, to publish draft revisions to the examination syllabus on which it invited comments. A leader in *Accountancy* remarked:

> Institute Examinations must increasingly reflect the needs of the 80 per cent of those who qualify who will spend the majority of their working lives in an industrial environment.[62]

There were leader comments and letters on the proposed changes, in *The Accountant* and in *Accountancy* during 1970 and 1971 particularly,[63] as well as submissions by interested parties in the profession and in education. Having received these comments, the Council of the Institute published a further discussion document, dated August 1971,[64] and again invited comment. This was undoubtedly by far the most far-reaching consultative process that had ever been undertaken by the Institute with regard to its education, training and examination policy.

The culmination of the consultative procedures was the publication in May 1972 of a new "Policy for Education and Training."[65] Professor Solomons noted that among the changes made were

> The introduction of the mandatory foundation course for non-graduates outside the period of the training contract . . . with appropriate "conversion courses" for non-

> relevant graduates either leading to or giving exemption from a foundation examination . . . . a scheme of fellowship by examination . . . [and] a requirement that two years of approved qualification experience in public practice should precede the issue of a practising certificate. . . . Apart from its actual proposals, the May 1972 policy document contains some interesting and potentially important statements. It looks forward to "more full-time tuition than at present," probably through "schemes linking private study with tutorial guidance, whether from the public or the private sector." It also envisages experimentation for a strictly limited number of graduate students.[66]

For the present purpose, however, the policy document of 1972 is important in that it contained decisions on a further revision to the examination structure, which would be effected in 1975 (see Table I). The Intermediate Examination would be replaced by a Foundation Examination, and the two-part Final Examination would be replaced by Professianal Examination I (P.E. I.) and Professional Examination II (P.E. II). In 1975, candidates were faced by examinations which bore many similarities to the old Finals, but which were more testing and which were progressive in the sense that, for example, P.E. II papers could test what had been tested in P.E. I. or indeed in the Foundation Examination. It would, therefore, no longer be possible to attempt P.E. II at the same sitting as P.E. I. P.E. I. consisted of four three-hour papers: Financial Accounting I; Taxation I (of individuals); Law (partnership, company and trusts); and Auditing, Systems and Data Processing. P.E. II. contained five three-hour papers: Financial Accounting II; Auditing; Taxation II (of individuals and corporations); Management Accounting; and Elements of Financial Decisions.

Meanwhile, the Steering Committee of the Advisory Board of Accountancy Education[67] had, in 1970, recommended the institution of a Long Range Enquiry into Education and Training for the Accountancy Profession. Its report, written by Professor Solomons, with T. M. Berridge, and to which reference has already been made, was published in 1974 under the title "Prospectus for a Profession." Its deliberations covered the whole accountancy profession, not just the Institute,[68] and resulted in proposals that were, in its view at least, evolutionary rather than revolutionary. It proposed, among some twenty recommendations, that:

> At or near the completion of the required period of work experience, there should be a test of professional com-

> petence as a final test for admission to the professional body. This would be a practical test, allowing access to reference material, and "cramming" for it would not be appropriate. The test would be entirely under the control of the profession.[69]

Writing some two years after the publication of the Report "Prospectus for a Profession" and one year after the introduction of the new examination structure, A. B. Sainsbury, The Secretary of the Institute's Education and Training Committee stated:

> Although it is unlikely that the Institute will readily accept the Solomons suggestions that there should be a single final test of professional competence, attention has been paid to the devising of a proposed alternative form of final examination adumbrated in the [1972] policy statement. It is equally unlikely that this will be taken off the shelf so soon after the replacement of the old Final examination by Professional Examinations I and II. These, as their name implies, are intended to present a more thoughtful and realistic and a less regurgitative test of a student's knowledge and his ability to use it. Perhaps the most important thing about them is the way in which they were carefully structured to manifest the recognition by the Council that it is impractical for a student to obtain experience of all aspects in an accountant's work prior to qualification.[70]

His paper was the last of six published in *The Accountant* over the preceding three months which addressed various aspects of education, training and examinations.[71] Interest was maintained in these matters, as the large number of references in both *The Accountant* and *Accountancy* during the period since 1976 testifies.[72] A major problem has been the relatively low pass rate in P.E. II (see a later section of this article and Tables III to V).

The Institute set up an Education and Training Directorate in October 1978, which soon afterwards put in motion a review of the working of the examination system. The Directorate's Interim Report was published in January 1980, and supported the idea of a single professional examination some one-and-a-half to two years into the three or four years training contracts. This would be followed by

> some suitable assessment of [the students'] ability to apply their knowledge. It is hoped that this could be achieved without the need for another formal examination.[73]

No action has yet been taken on this suggestion.

Another review of the examination system was published in August 1979, and was accepted, with amendments, by the Council of the Institute in December 1979.[74] Its principal aim was to provide a smoother progression from P.E. I. to P.E. II., "so that conscientious students who pass P.E. I. should have a reasonable expectation of passing P. E. II."[75]

The new structure will come into effect in May 1981 for P.E. I. and December 1981 for P.E. II. (see Table I). P.E. I. will become a five paper examination, consisting of Financial Accounting I (revised syllabus); Accounting Techniques (to cover basic aspects of financial and cost accounting); Law (unchanged); Auditing, Systems and Data Processing (revised syllabus); and Elements of Taxation (existing Taxation I syllabus). P. E. II. will remain a five paper examination and will consist of: Financial Accounting II (revised syllabus); Financial Management (replacing Elements of Financial Decisions); Management Accounting (revised syllabus); Auditing (unchanged); and Advanced Taxation (existing Taxation II syllabus).

Throughout the history of the final examinations of the Institute, bookkeeping and accounts, auditing and law have consistently appeared as major components. Indeed for forty years from 1882, they were almost the *only* components. In 1922, new subjects were incorporated in a framework of options, and cost accounting was accorded more prominence. The optional structure was abolished in 1934, with the former options in Economics and in Banking Currency and Foreign Exchanges being included in the new, compulsory General Financial Knowledge paper. Taxation first had a separate paper in 1947, and, since 1965 has been examined in two papers. Economics has gradually been given more of a managerial and financial flavour, so that it has now been incorporated into several papers, notably Accounting Techniques, Financial Management and Management Accounting. It would not be far from the truth to say that there has been a shift away from bookkeeping and law (other than company law) towards management accounting, managerial economics, taxation, and systems and data processing. Since 1975, auditing has received more prominence. This shift has been discrete rather than gradual, which fact prompts the question of why these changes have occurred.

Undoubtedly there have been environmental pressures. Some of these have tended to be very direct (perhaps through statute and case law) as in the case of those subjects with a clearly defined professional content such as taxation and auditing. Others have been rather more indirect, and have come about as a result of individuals and groups reacting to their perceptions of the environment and of the role of the accountant. In particular, the profession has had to recognize that the majority of its members no longer work in public practice, but in industry, commerce and government service.[76] Throughout the time under consideration, individuals have played a key role in influencing Institute policy. Although the emphasis in this section has been on final examinations, it became clear that particularly since 1970, it has been even more difficult to separate examinations from education and training generally. As A. B. Sainsbury said in 1976:

> Since it was established nearly a century ago, the Institute has been essentially an examining body; and only lately has new thinking by the Education and Training Committee begun to adjust the position which examinations take in the process of education and training.[77]

Examination Results 1882-1980

Tables III and IV set out the detailed results for the period 1882-1980 which Table V summarizes. Included in the results are those of candidates who, up to 1907, sat the "examination equivalent to the final" because "this examination is held at the same time and place, and in all respects in the same manner, as the Final."[78] For the most part, examinations were held twice a year, and the two results have been combined. Excluded, however, are the examination results of the Society of Incorporated Accountants, which was integrated into the Institute in 1957. The years affected are 1957 to 1960 inclusive. Other complications arise when there are transitional examinations, as in 1965 and 1966, therefore, the results of the two examination structures are shown separately. Where the regulations have allowed referrals in one or more subjects, a referral candidate is counted as having failed. On passing the referred paper or papers, the candidate is counted as having passed the whole examination on that occasion.

Inspection of Figure I, which is based on the figures in Table III and IV indicates that the pass rate has declined over the years since 1882, though not evenly. Except for the years 1898, 1901, 1906, 1910, and 1911, the pass rate stayed above 60 percent from 1882 to 1920. Table V sets out the weighted average pass rate (total passes in the period divided by the total sitting the examination in the period, expressed as a percentage) under each examination structure. For the 1882-1922 structure, the average pass rate was 62.7 percent.

From 1923 to 1933, the average pass rate had fallen to 52.4 percent. The 1934 examination structure lasted through 1946, during which period the average pass rate was 48.9 percent. From 1947 to 1966, the average pass rate was 46.4 percent. This was about the same as the combined average pass rate of 47.0 percent for the new, two-part finals which ran from 1965 to 1975, but slightly higher than the pass rate for the Part II examination over that period. In the 1920s, 1930s, and 1940s, the pass rate for each year was usually within four percentage points of 50 percent, but still with a downward trend, particularly in the later part of the period. During the 1950s, 1960s and until 1975 the pass rate was mostly in the 45 to 50 percent range. The average pass rate of 50.4 percent in Professional Examination I between 1975 and 1980 has been broadly comparable with pass rates since 1934. However, the average pass rate in Professional Examination II has been substantially lower, at 31.0 percent.

From 1965 onwards it has been possible to identify the overall examination performance of United Kingdom (U.K.) graduates undertaking Institute training contracts.[79] In Tables III to V, the U.K. graduate figures include those graduating with both relevant and non-relevant degrees. Relevant degrees, usually single or joint honours in accounting, give the holders exemption from the Institute's Foundation Examination (formerly the Intermediate Examination). Non-relevant U.K. graduates must either sit the Foundation Examination, pursue a graduate conversion course to acquire relevant degree status and consequent exemption from the Foundation Examination, or pursue a Foundation course at a polytechnic (along with non-graduates and overseas graduates) success in which exempts them from the Foundation Examination.

Tables III to V demonstrate that U.K. graduates have an appreciably higher chance of success than those in the non-graduate and overseas graduate category. On average, the U.K. graduate pass rate has been 68.8 percent for Part I and 69.5 percent for Part II between 1965 and 1975; and 65.1 percent for P. E. I and 46.8 percent for P .E. II from 1975 to 1980. These pass rates compare very favourably with the pass rates for non-graduates and overseas graduates of 45.1 percent for Part I, 41.8 percent for Part II, 40.1 percent for P. E. I, and only 21.8 percent for P. E. II. Indeed, the U.K. graduate average pass rate for both parts of the final examination between 1965 and 1975 is higher than the average pass rate obtaining in the first forty years of the Institute, with the 1975 to 1980 combined pass rate being higher than that of the 1920s and 1930s. It is probable, with the expansion of university places, that a substantial number of those qualifying prior to the 1960s without having attended universities, would have attended universities had they been entering the profession in and after the late 1960s.[80]

Although, in the foregoing, the dates of major structural changes have been taken as break points, there has rarely been a sudden, large, and sustained change in the pass rate at these points. The high pass rate in the new Part II final in 1965 was based on only 41 candidates. The very low pass rate in the last Part I and Part II finals in May 1975 may be explained by the despairing attempts of candidates who had earlier failed the Part II to pass it before the new Professional Examinations were introduced.[81] However, there has consistently been a low pass rate in the P. E. II examinations. With the exception of the 1975 pass rate (37.3 percent) the P. E. II pass rates have been around 30 percent, although U.K. graduates have performed much better, averaging 46.8 percent, compared with 21.8 percent for non-graduates and overseas graduates (see Table V).

The reasons for the low P. E. II pass rate have been the subject of debate, much of which has surfaced in the accountancy press.[82] It has been suggested, for example, that P. E. I was an insufficient hurdle, with an average pass rate of 50.4 percent compared with 31.0 percent for P. E. II. Other possibilities include changes in the nature and content of the examination papers, changes in the ways in which knowledge and abilities are tested, lack of time in the examinations and the inadequacy of the candidates' abilities and preparedness. Similar worries have been expressed about earlier finals' results.[83] For example, the official History of the Institute noted that an

> opinion was expressed in some quarters that the first examinations held by the Institute had not been sufficiently searching. The standard of examinations was borne in mind and, at the third Annual General Meeting in 1884, Frederick Whinney (the Vice-President) observed that he had no apology to offer for the alleged stiffness of the examination papers, and candidates who wished to become members of the Institute would be "obliged to fit themselves for entrance rather more than those who have been with us for some time."[84]

Conclusion

Through its examinations, the Institute has sought to ensure that its newly-qualified members have adequate and up-to-date knowledge and appropriate professional skills. However, only in 1978 has it formalised continuing professional education and training after qualification. It has mostly confined itself to examinations, although it has maintained a general oversight of education and training. It has undertaken six substantial revisions of its final examinations since 1882, and has also made other marginal adjustments. There seems to be little or no evidence to suggest that the Institute has sought to regulate admission by manipulating the pass rate, and it has consistently denied any such policy. The pass rate has been variable throughout the period, although the trend has been downwards, despite the increasing proportion of graduate entrants since the mid-1960s. Examinations have been the focus of much attention in the accountancy press, and there is evidence to demonstrate that the Institute has been responsive to such published views. At the time of writing, the Institute has just revised its examination structure, so that there are now 30 hours of examining in the two-part final, more than twice the 13 hours of the original one-part 1882 final examination. Over the period, there has been a movement towards auditing, management accounting, managerial economics, taxation, systems and data processing and away from bookkeeping and law other than company law. Perhaps the most significant single change has been one of attitude: the recognition that examinations are an integral part of education and training and not a totally separate activity.

FOOTNOTES

[1]Five year training contracts (mainly for 16 year-old entrants) were the norm for most of the period. They were phased out in the early 1970s, leaving only four year contracts (mainly for eighteen year-olds) and three year contracts (for United Kingdom graduates).

[2]The intermediate and final examinations ceased to be so described after 1975. The examination structure then took the form of a Foundation Examination followed by Professional Examinations I and II.

[3]Rust and Harris, pp. 101-102.

[4]Rust and Harris, p. 63.

[5]Council of the Institute of Chartered Accountants in England and Wales, statement published in *The Accountant*, Vol. 121, November 12, 1949, p. 528.

[6]Rust and Harris, p. 67.

[7]Council of the Institute of Chartered Accountants in England and Wales, *Annual Report* 1882, p. 5.

[8]Sainsbury, A. B.: "A Continuing Process" (sixth in a series on Education and Training). *The Accountant*, Vol. 175, September 9, 1976, p. 290.

[9]Institute of Chartered Accountants in England and Wales. *History*, pp. 69-71 and pp. 105-106.

[10]Sainsbury, p. 290; Solomons, pp. 156-157; *Interim Report* of the Education and Training Directorate, *Accountancy*, Vol. 91, February 1980, pp. 119-122.

[11]Council of the Institute of Chartered Accountants in England and Wales, statement published in *The Accountant,* Vol. 104, June 14, 1941, p. 440.

[12]Council of the Institute of Chartered Accountants in England and Wales, statement published in *The Accountant,* Vol. 157, August 12, 1967, p. 212.

[13]Freear, p. 154.

[14]Regret at the abandonment by the Institute of the oral examination was expressed on several occasions. See, for example: the lecture by E. E. Spicer in *The Accountant,* Vol. 76, March 26, 1927, pp. 465-469; letters to the Editor of *The Accountant,* Vol. 76, April 16, 1927, pp. 579, 609-611, Vol. 79, November 24, 1928, pp. 691-692; leaders in *The Accountant,* Vol. 79, November 24, 1928, pp. 633-635, and Vol. 87, October 29, 1932, p. 535; article by R. Norman in *Accountancy,* Vol. 90, December 1979, pp. 130-131; Interim Report from the Education and Training Directorate of the Institute on "The Policy for Education and Training," *Accountancy,* Vol. 91, February 1980, pp. 119-122.

[15]See Kitchen and Parker, pp. 64-80 for a short biography of A. E. Cutforth.

[16]*The Accountant,* Vol. 46, June 8, 1912, pp. 868-872; quotation from p. 868.

[17]*The Accountant,* Vol. 46, June 8, 1912, p. 871.

[18]*The Accountant,* Vol. 48, May 10, 1913, pp. 729-735; quotation from p. 735.

[19]*The Accountant,* Vol. 48, May 10, 1913, p. 735.

[20]*The Accountant,* Vol. 76, March 26, 1927, pp. 465-469; quotation from p. 468.

[21]*The Accountant,* Vol. 76, March 26, 1927, p. 468.

[22]See above, footnote 14: quotation from a letter to the Editor of *The Accountant,* Vol. 79, November 24, 1928, p. 692.

[23]*The Accountant,* Vol. 79, December 1, 1928, pp. 711-712; quotation from p. 711.

[24]*The Accountant,* Vol. 80, March 9, 1929, pp. 285-286; quotation from p. 286.

[25]*The Accountant,* Vol. 80, June 22, 1929, pp. 791-794.

[26]See for example *The Accountant,* Vol. 80, January 19, 1929, pp. 85-90.

[27]*The Accountant,* Vol. 82, March 31, 1930, p. 693; June 7, 1930, p. 725; June 21, 1930, pp. 795-796.

[28]*The Accountant,* Vol. 82, June 21, 1930, pp. 795-796.

[29]*The Accountant,* Vol. 84, January 31, 1931, p. 138. This was put into effect in 1947.

[30]*The Accountant,* Vol. 82, January 25, 1930, p. 130.

[31]*The Accountant,* Vol. 87, October 29, 1932, pp. 533-534; quotation from p. 534.

[32]*The Accountant,* Vol. 88, March 4, 1933, p. 275. The new class of examination paper appears to be simply a more liberal time allowance brought about by reducing the content of questions.

[33]*The Accountant,* Vol. 88, March 4, 1933, pp. 281-284; quotation from p. 282.

[34]Kitchen and Parker, p. 80.

[35]*The Accountant,* Vol. 88, March 4, 1933, p. 282.

[36]*The Accountant,* Vol. 98, letters to the Editor: January 1, 1938, pp. 9-10; January 8, 1938, p. 38; January 15, 1938, p. 75; January 22, 1938, p. 129; January 29, 1938, pp. 149-150; February 5, 1938, pp. 183-184; February 12, 1938, pp. 235-236; and March 12, 1938, p. 364.

[37]Freear.

[38]*The Accountant,* Vol. 112, February 17, 1945, p. 74.

[39]*The Accountant,* Vol. 108, May 8, 1943, pp. 239-242.

[40]A Joint Committee representing the Committee of Vice-Chancellors and Principals, the Institute, the Society of Incorporated Accountants and, later, the Association of Certified Accountants, chaired by Sir Arnold McNair then Vice-Chancellor of the University of Liverpool. The Report was published in 1944, and "outlined a scheme whereby the universities would introduce new options into their degrees

in economics or commerce to provide for the inclusion . . . of accounting and law in each of the three years of the curriculum. . . . In recognition of the vocational purpose behind these modifications, the professional bodies were to exempt 'scheme' graduates from their intermediate examinations" (Solomons, pp. 37-38).

[41]Report of the Special Committee on Education for Commerce 1949; Chairman Sir Alexander M. Carr-Saunders. Publication of Ministry of Education.

[42]See Kitchen and Parker, pp. 116-120; Solomons, pp. 22-25; Institute of Chartered Accountants in England and Wales, *History,* pp. 109-110.

[43]Carr-Saunders Report, p. 2, emphasis added.

[44]Institute of Chartered Accountants in England and Wales: "Education and Training for Membership," March 1951, p. 50.

[45]Solomons, pp. 24-25.

[46]Institute of Chartered Accountants in England and Wales: "Education and Training for Membership," March 1951, p. 20 and p. 21.

[47]*The Accountant,* Vol. 124, May 5, 1951, pp. 429-430.

[48]*The Accountant,* Vol. 137, July 27, 1957, pp. 92-98; August 3, 1957, pp. 122-127; and August 10, 1957, pp. 159-163.

[49]Institute of Chartered Accountants in England and Wales: Report of the Committee on Education and Training, 1961, the Parker Report.

[50]Association of Institutes of Certified Public Accountants: Report on Standards of Education and Experience for Certified Public Accountants, 1956.

[51]Institute of Chartered Accountants of Scotland: Special Committee on the Examination and Training of Apprentices, 1956, the Lister Committee.

[52]*The Accountant,* Vol. 144, May 6, 1961, p. 553.

[53]*The Accountant,* Vol. 144, May 6, 1961, p. 553.

[54]Solomons, pp. 25-26; the Committee consisted of ten members; four had been or were to become Presidents of the Institute; one had been President of the Society of Incorporated Accountants; and another became Vice-President of the Institute while the Committee was sitting.

[55]*The Accountant,* Vol. 148, March 16, 1963, p. 322.

[56]*The Accountant,* Vol. 148, March 16, 1963, pp. 322-330.

[57]Solomons, p. 26.

[58]The six are: the Institute of Chartered Accountants in England and Wales; the Institute of Chartered Accountants of Scotland; the Institute of Chartered Accountants in Ireland; the Association of Certified Accountants; the Institute of Cost and Management Accountants; and the Chartered Institute of Public Finance and Accountancy (formerly the Institute of Municipal Treasurers and Accountants).

[59]Bourn, 1965; *Accountancy,* Vol. 76: May 1965, Letters pp. 448-449; June 1965, Letter pp. 577-578.

[60]Bourn, 1968.

[61]Bourn, 1969.

[62]*Accountancy,* Vol. 81, November 1970, p. 756.

[63]*Accountancy,* Vol. 81, November 1970, p. 811; Vol. 82, January 1971, p. 43; February 1971, p. 83; November 1971, p. 648; *The Accountant,* Vol. 163, November 12, 1970, p. 651.

[64]Institute of Chartered Accountants in England and Wales: A Policy for Education and Training, August 1971.

[65]Institute of Chartered Accountants in England and Wales: A Policy for Education and Training, May 1972.

[66]Solomons, pp. 26-27.

[67]This Board came into existence in 1969 as "a forum in which an integrated profession (as it was then expected to become) could talk with representatives of the educational institutions" (Solomons, p. 43).

[68]Solomons, especially Chapters II and IV.

[69]Solomons, p. 14.

[70]Sainsbury, p. 290.

[71]*The Accountant,* Vol. 17, June 17, 1976, Vol. 175: July 1, 1976, July 22, 1976, August 5, 1976, and August 26, 1976.

[72]For example: *The Accountant,* Vol. 177, October 13, 1977, p. 466; Volume 178, May 4, 1978, pp. 595-596; Vol. 179, October 5, 1978, pp. 421-22. *Accountancy,* Vol. 90: January 1979, pp. 69-70; March 1979, p. 44; June 1979, p. 6; August 1979, pp. 58-60 and pp. 102-104; October 1979, pp. 112-224; December 1979, pp. 130-131; Vol. 91: January 1980, p. 4; February 1980, pp. 119-122.

[73]Institute of Chartered Accountants in England and Wales, Education and Training Directorate: An Interim Report on the Policy for Education and Training. Published in *Accountancy,* Vol. 91, February 1980, pp. 119-122; quotation from p. 122.

[74]Report and Recommendations of the Examination Review Working Party to the Examination Committee of the Institute. *Accountancy,* Vol. 90, August 1979, pp. 102-104 and Vol. 91, p. 4.

[75]*Accountancy,* Vol. 91, p. 4.

[76]Solomons, p. 7.

[77]Sainsbury, p. 290.

[78]Institute of Chartered Accountants in England and Wales: General Instructions to Candidates, 1902.

[79]The available graduate intake figures show a rise from 8 percent of entry into training contracts in 1963 to 78 percent in 1980. (Institute of Chartered Accountants in England and Wales, Annual Reports, Education and Training Information Papers, and personal correspondence.)

[80]See Footnote 79.

[81]Institute of Chartered Accountants in England and Wales: Education and Training Paper No. 12, November 1975, p. 8: "As these were the last Final examinations to be held, attendance was confined to 'referred' or 'repeat' candidates only."

[82]See Footnotes 71, 72, 73, 74, 75.

[83]See Footnotes 32, 33.

[84]Institute of Chartered Accountants in England and Wales: History, p. 27.

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Table I

Institute Final Examinations: Structural Changes, 1882-1981

	Hours Allowed	
JULY 1882 (6 papers)	3	Bookkeeping
	2	Adjustment of Partnership and Executorship Accounts
	2	Auditing
	2	Rights and Duties of Liquidators, Trustees and Receivers
	2	Bankruptcy and Company Law
	2	Mercantile Law and the Law of Arbitration and Awards
	13	
NOVEMBER 1922 (7 papers)	3	Advanced Bookkeeping and Accounts
	3	Advanced Bookkeeping and Accounts
	3	Auditing
	3	Partnership and Executorship Law and Accounts
	2	Bankruptcy and Company Law
	3	Mercantile Law and the Law of Arbitration and Awards (reduced to two hours in 1924)
	3 or 2	And one of: Economics (3 hours); Banking, Currency and Foreign Exchanges (3 hours); Actuarial Science (2 hours).
	20 or 19	
NOVEMBER 1934 (8 papers)	3	Advanced Bookkeeping and Accounts (Including Limited Companies)
	3	Advanced Bookkeeping and Accounts (Including Partnership and the Law relating thereto)
	3	Advanced Bookkeeping and Accounts (Including Executorship and the Law relating thereto)
	3	Auditing
	2	Law relating to Bankruptcy, Deeds of Arrangement, Receiverships and Trusteeships
	2	Company Law (Including Liquidations)
	2	Mercantile Law and the Law of Arbitration and Awards
	2½	General Financial Knowledge (Including Taxation, Costing and Foreign Exchanges)
	20½	

Table I
Institute Final Examinations: Structural Changes, 1882-1981 (Continued)

		Hours Allowed	
MAY 1947 (7 papers)		3	Advanced Accounting (Part I)
		3	Advanced Accounting (Part II)
		3	Auditing ('Auditing, Including Investigations,' from May 1957)
		3	Taxation
		3	General Financial Knowledge and Cost Accounting ('Cost and Management Accounting,' from May 1957)
		3	English Law (Part I)
		3	English Law (Part II)
		21	
MAY 1965 (4 papers of 9)	PART I	3	Advanced Accounting I
		3	Taxation I
		3	English Law I
		3	English Law II
NOVEMBER 1965 (5 papers of 9)	PART II	3	Advanced Accounting II
		3	Advanced Accounting III
		3	Auditing, Including Investigations
		3	Taxation II
		3	General Paper, Including the Elements of Economics
		27	
MAY 1975 (4 papers of 9)	PROFESSIONAL I	3	Financial Accounting I
		3	Taxation I
		3	Law
		3	Auditing, Systems and Data Processing
JULY 1975 (5 papers of 9)	PROFESSIONAL II	3	Financial Accounting II
		3	Taxation II
		3	Auditing
		3	Management Accounting
		3	Elements of Financial Decisions
		27	
MAY 1981	PROFESSIONAL I	3	Financial Accounting I
		3	Accounting Techniques
		3	Law
		3	Auditing, Systems and Data Processing
		3	Elements of Taxation
DECEMBER 1981	PROFESSIONAL II	3	Financial Accounting II
		3	Financial Management
		3	Management Accounting
		3	Auditing
		3	Advanced Taxation
		30	

Table II

Institute Final Examinations: Main Topics Included

Topic	*1882*	*1922*	*1934*	*1947*	*1965*	*1975*	*1981*
Bookkeeping and Accounts	√	√	√	√	√	√	√
Auditing	√	√	√	√	√	√	√
Law	√	√	√	√	√	√	√
Taxation	(√)	(√)	(√)	√	√	√	√
Economics	—	*	(√)	(√)	√	√	√
Statistics	—	*	—	—	(√)	(√)	√
Cost and Management Accounting	(√)	(√)	(√)	√	√	√	√
Financial Management	—	—	—	—	—	(√)	√

Note: √ = Topic examined
(√) = Topic examined to a minor extent
— = Topic not examined
* = Optional papers: these were introduced in 1922 and abolished in 1934. See Text.

Table III

Institute Final Examinations Results, 1882-1966

Year	Number Sitting	Pass Rate (percent)	Year	Number Sitting	Pass Rate (percent)
1882	50	68.0	1925	981	46.2
1883	71	66.2	1926	942	57.5
1884	123	62.6	1927	1089	59.4
1885	153	64.1	1928	1119	54.8
1886	256	62.9	1929	1107	57.8
1887	150	60.7	1930	1086	52.2
1888	59	71.2	1931	1088	55.4
1889	67	74.6	1932	1153	46.2
1890	86	76.7	1933	1258	48.4
1891	126	64.3	1934	1303	46.6
1892	164	67.7	1935	1334	48.1
1893	163	71.2	1936	1258	49.9
1894	144	68.8	1937	1194	48.1
1895	165	76.4	1938	1181	54.4
1896	168	72.0	1939	960	51.2
1897	208	62.5	1940	479	46.4
1898	233	52.4	1941	149	48.3
1899	258	65.9	1942	103	49.5
1900	238	63.4	1943	113	53.1
1901	266	56.4	1944	126	47.6
1902	312	64.4	1945	169	46.8
1903	373	62.2	1946	584	43.7
1904	349	65.9	1947	1343	45.2
1905	379	60.7	1948	1571	43.7
1906	385	57.7	1949	1706	42.0
1907	351	61.5	1950	2035	42.5
1908	350	61.1	1951	2189	47.2
1909	330	67.9	1952	2030	45.2
1910	389	59.6	1953	1768	46.0
1911	385	58.2	1954	1728	45.3
1912	401	62.9	1955	1822	46.8
1913	410	60.0	1956	1896	42.3
1914	338	61.8	1957	2059	46.3
1915	161	68.3	1958	2183	49.2
1916	65	60.0	1959	2548	46.5
1917	51	64.7	1960	2992	48.1
1918	71	62.0	1961	3194	47.2
1919	448	68.8	1962	3468	50.3
1920	746	67.8	1963	3601	48.4
1921	492	53.9	1964	3861	45.8
1922	570	53.3	1965	4306	47.3
1923	801	54.3	1966	3121	44.6
1924	968	44.4			

Source: The Table was constructed from the following: Institute *Annual Reports,* 1882-1966; various issues of *The Accountant*; and various issues of *Accountancy.*

Table IV

Institute Final Examinations Results, 1965-1980

New Final Part I and II				U.K. Graduates		U.K. Non-Graduates and Overseas Graduates	
Year		Number Sitting	Pass Rate (percent)	Percentage of Total Number Sitting	Pass Rate (percent)	Percentage of Total Number Sitting	Pass Rate (percent)
1965	PI	2416	49.4	13.7	65.0	86.3	46.9
	PII	41	61.0	not available		not available	
1966	PI	5041	53.3	8.6	68.1	91.4	52.0
	PII	1152	55.9	18.9	74.8	81.1	51.5
1967	PI	6536	49.4	6.2	71.3	93.8	48.0
	PII	3483	50.6	10.4	73.7	89.6	47.9
1968	PI	6006	50.0	7.6	69.8	92.4	48.4
	PII	4934	50.8	7.8	69.7	92.2	49.2
1969	PI	6240	48.7	9.6	70.3	90.4	46.4
	PII	5324	48.3	8.8	71.5	91.2	46.1
1970	PI	6407	47.6	12.7	66.8	87.3	44.8
	PII	5693	46.2	9.9	68.8	90.1	43.8
1971	PI	6628	48.5	15.8	69.5	84.2	44.6
	PII	6123	43.5	11.2	73.2	88.8	39.7
1972	PI	7139	44.9	18.0	69.9	82.0	39.4
	PII	6644	41.7	13.1	73.4	86.9	36.9
1973	PI	7259	47.7	22.1	72.5	77.9	40.7
	PII	7089	42.9	17.3	71.5	82.7	37.0
1974	PI	8738	47.1	20.0	65.2	80.0	42.6
	PII	8129	45.0	13.6	68.3	86.4	41.3
1975	PI	2252	49.6	17.9	66.9	82.1	45.9
	PII	2131	28.9	9.8	22.6	90.2	29.5

Professional Examinations I and II							
1975	PEI	5954	44.2	36.6	58.0	63.4	36.3
	PEII	5422	37.3	32.0	58.7	68.0	27.2
1976	PEI	8738	43.8	33.8	58.0	66.2	36.6
	PEII	8502	28.9	27.6	48.4	72.4	21.4
1977	PEI	8231	48.4	33.9	62.7	66.1	41.1
	PEII	8043	29.1	35.9	44.6	64.1	20.4
1978	PEI	6369	58.1	43.4	75.3	56.6	44.9
	PEII	8369	29.6	42.6	44.2	57.4	18.8
1979	PEI	6358	52.1	47.1	65.7	52.9	40.0
	PEII	9663	31.6	41.1	45.1	58.9	22.1
1980	PEI	6657	58.0	56.3	68.4	43.7	44.5
	PEII	10225	31.5	39.4	46.4	60.6	25.0

NOTES:

(1) The Table has been constructed from the following sources:
Institute *Education and Training Papers*, 1972-1981
The Accountant, various issues
Accountancy, various issues

(2) The 1974 Part I and Part II figures contain estimates of the breakdown between the two categories (U.K. Graduates, and Non-Graduates and Overseas Graduates), for the May 1974 examinations. The breakdown was not published in *The Accountant* or *Accountancy*, nor did the *Education and Training Papers* include the breakdown. The Institute's Education and Training Directorate was unable to supply the information.

(3) The 1965 Part II breakdown into the two categories was not available from the sources given in Note (2) above.

Table V

Institute Final Examinations—Weighted Average Pass Rates 1882-1980

Period		Pass Rate (percent)	Pass Rate (percent)	Pass Rate (percent)
1882-1922				62.7
1923-1933				52.4
1934-1946				48.9
1947-1966				46.4
		Part I/PE I	Part II/PE II	
1965-1975	U.K. Graduates	68.8	69.5	combined 69.1
	Non-Graduates and Overseas Graduates	45.1	41.8	combined 43.6
	All Candidates	48.4	45.1	combined 47.0
1975-1980	U.K. Graduates	65.1	46.8	combined 55.7
	Non-Graduates and Overseas Graduates	40.1	21.8	combined 29.8
	All Candidates	50.4	31.0	combined 39.9

Notes:

(1) The years chosen are related to structural changes in the examination.

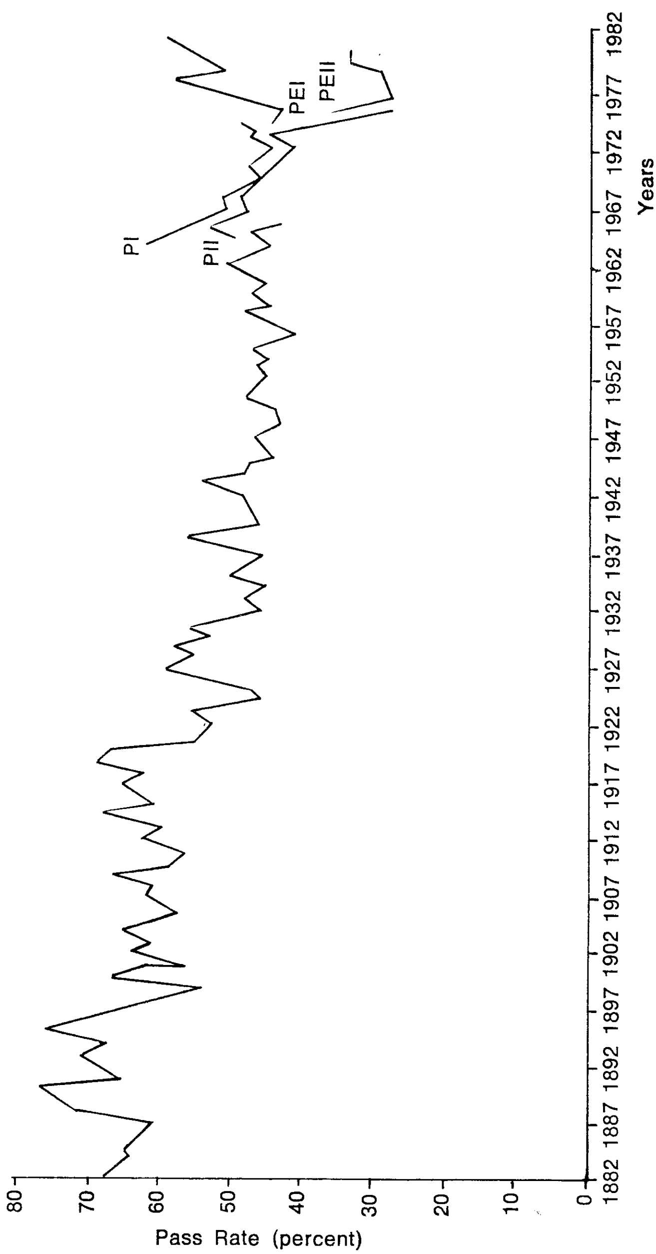
(2) The weighted pass rate is calculated by dividing the total number of candidates passing the examination during the period by the total number of candidates taking the examination during the period, and expressing the result as a percentage.

(3) A breakdown of the 41 candidates sitting the 1965 Part II examination was not available; those candidates have been placed in the Non-Graduate and Overseas Graduate category.

(4) A breakdown of the May 1974 examination results was not available; figures have therefore been estimated from relevant data.

Figure I

Institute Final Examination Pass Rates, 1882-1980



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HICKS ON ACCOUNTING

Abstract: Whenever income and capital maintenance concepts are discussed at the conceptual level, a reference to Hicks is likely to be found. These references are misleading since Hicks himself believed that the proper basis of valuation in the financial statements of a firm is historical cost. He also argued that accountants should not make price-level adjustments. Hicks' views on accounting, which are scattered in his writings over a period of 35 years, are reviewed in this paper.

J. R. Hicks viewed accounting from a statistician's perspective and he emphasized the need for objective accounting data. Hicks also was concerned with the principles of account classification which he once called "the canons of orderliness."[1] The need for objectivity and order, together with a very strict interpretation of how accounts should be framed to monitor management, led this 1972 Nobel Prize economist to defend the practice of valuing assets at historical cost and to argue, as a corollary, that accountants should not make price-level adjustments.

This short description of Hicks on accounting differs sharply from the popular view. The misconception is due to the pervasive influence on accounting thought of Hicks' definition of a man's income as "the maximum value which he can consume during a week, and still expect to be as well off at the end of the week as he was at the beginning."[2] This income concept was introduced into accounting literature by Alexander in 1950 and, by the early 1960s, Zeff reported that the definition "recurs with remarkable frequency in economic and (especially) accounting writings."[3] Today, whenever the income concept is discussed at a conceptual level, a reference to Hicks is likely to be found.

Hicks himself warned that income and related concepts are "bad tools, which break in your hands."[4] However, with few exceptions, most theorists have not only ignored this admonition, but they also have overlooked other work by Hicks which is more directly related to accounting practice.

Hicks' interest in accounting was signalled in 1942 with the publication of *The Social Framework.* This book is a text on "Social

Accounting," which the author contends should be a first course in economics. Social Accounting is defined as "the accounting of the whole community or nation, just as Private Accounting is the accounting of the individual firm."[5] In the second edition (1952), Hicks commented that "when I wrote in 1942, I knew very little of the practice of accountants, and I am afraid professional accountants who read my book were often bothered by needless unorthodoxy in the use of terms." Among others, F. Sewell Bray is thanked for some "excellent coaching in accounting usages."[6]

Interesting ideas on accounting also are contained in *The Problem of Budgetary Reform* (1948) and noteworthy opinions are expressed in a review of a book by Bray that was published in the *Economic Journal,* also in 1948. Other works which have special significance for accountants include: "The Measurement of Capital" (1969), *Capital and Time* (1973) and "Capital Controversies: Ancient and Modern" (1974).

The purpose of this paper is to review Hicks' main thoughts on accounting practice. They concern the need for objectivity, the principles of account classification and the traditional questions of depreciation and asset valuation. These ideas, which are scattered in books and articles written over a period of 35 years, make it evident that Hicks' actual influence on accounting was the opposite of what he intended.

Objectivity of Accounting Measurements

In a 1948 review of a book by Bray, Hicks emphasized the need for objectivity and then defended the cost principle. He used the following argument to reach this conclusion.

The function of accounting, on the lowest level, is to make a record of business transactions. On a higher level, accountants devise a means to distill from the record of transactions summaries which "enable the meaning of the record to be grasped, as well as it can be grasped."[7] These summaries should be constructed using rules which do not introduce outside elements. But since no set of rules will produce summaries "which are equally meaningful on all occasions,"[8] the user of financial statements must exercise judgment in interpreting them.

Although the interpretation of financial statements is considered the highest part of the accountant's function, it should not get "mixed up" with the lower part because the accounts must be "as objective as possible."[9] "This demand is so exactly parallel to the demand that statisticians have had to make of their investigators . . . that its sense is readily acceptable, once we see it . . . ."[10]

The consequence of this position led to the conclusion that the justification for valuation at historical cost is "simply that the original purchase price is the one objective valuation of the asset . . . . Any other valuation must be a matter of judgment, and therefore belongs to the stage of interpretation, not to the stage of the compilation of the basic summaries."[11]

The need for objectivity is the central issue in accounting and it has two further implications. First,

> It reproves those economists who have demanded from the basic accounts information which those accounts cannot properly give. And it also reproves those accounting practices (such as the practice of valuing stocks at cost or market price, *whichever is the lower)* which edge a little interpretation into the work of summarising, and therefore diminish the objectivity of the basic tables.[12]

Second,

> Every statistical table needs to be annotated, and in a similar way the full meaning of an accounting statement can only be expected to emerge in the accompanying report. But the accountant's report goes to the directors, while his figures go to the shareholders; he has thus some public obligation to pack into his figures the maximum of information, even if he can only do this, within the limits prescribed, by some sacrifice of objectivity. How ought this difficulty to be got over? Should it be laid down that companies must publish an audited report as well as audited accounts? Or would this make the accountant, more than ever, master of the destinies of us all?[13]

Ordering of Accounts

In 1948 Hicks also wrote a short monograph, *The Problem of Budgetary Reform,* and it dealt with the classification problem. The importance he accorded this problem is evident in the initial discussion of the accounting and economic aspects of the definition of a budget surplus. The accounting aspect concerned maintaining order in government accounts and the economic dimension related to the relationship between government accounts and the rest of the economy. Although Hicks explicitly states that he writes as an economist, he strongly contended that the accounting aspect is the most important consideration.

> If we can agree upon the principles by which the government's accounts should be ordered, the accounts of National Income and Expenditure could be adjusted to fit; but if we start from the other end, beginning from the economic requirements, we may easily be endeavoring to fit the government accounts into a framework with which it is difficult, and from their own point of view may be undesirable, for them to conform.[14]

For Hicks the principles of account classification had to do with problems like whether a distinction ought to be made between current and capital items. The main issue was not a matter of economics but rather a question of purpose. Different systems of account classification were needed for different purposes. Hicks repeatedly stressed the point of view that purpose is the critical determinant of accounting practice.

The possibility of putting government finances on a business accounting basis also was mentioned, but this "drastic" remedy was rejected even though

> It would provide a new and authoritative set of canons for orderliness; it would enlist the experience and influence of the accountancy profession in maintaining those standards; and it would facilitate the integration of the government's accounts with those of the rest of the economy in national income calculations, with all that implies for the smooth working of rational employment policy.[15]

A similar statement was made in the second edition of *The Social Framework* (1952) and it was repeated in the fourth edition (1971).

> The first thing that has to be done is to prepare the bricks out of which the structure is to be built, by constructing a standard set of accounts for the individual units out of which the national economy is composed. Much of this task has already been performed by professional accountants, and we can draw heavily upon their work at this stage of the argument.[16]

Hicks often referred to the accountant's positive contributions as well as his influential position. He even once discussed the influence of accounting practice on the history of economic thought.[17]

Depreciation Accounting

In 1939 Hicks and Hicks remarked that the calculation of depreciation presents "awkward problems."[18] This statement was often repeated. Hicks also called depreciation an "artificial" item that does not correspond to actual cash payments. It is "less solid" than other items in an income statement and there is "some room for judgment" about the precise sum to be put down, though accountants are generally guided by conventional rules about this "most uncertain" item.[19] Over a quarter of a century later similar comments are made.

> There are items, of which depreciation and stock accumulation are the most important, which do not reflect actual transactions but are estimates (by the accountant, not by the statistician) of changes in the value of assets which have not, or not yet, been sold.[20]

Exactly the same views were expressed in *Capital and Time* where the meaning of these estimates was elaborated on.

> These are estimates in a different sense from that previously mentioned. They are not statistician's estimates of a true figure, which happens to be unavailable; there is no sure figure to which they correspond. They are estimates that are relative to a purpose; for different purposes they may be made in different ways.[21]

Hicks never criticized the accountant's method of calculating depreciation. He simply observed that there was no firm economic solution to the depreciation problem and that the methods developed by accountants as soon as they were confronted with the problem "were probably what they had to do . . . . It is what they still do, even in this day."[22]

All English editions of *The Social Framework* (1942, 1952, 1960, and 1971) and the American editions (1945 and 1955) contained an Appendix on depreciation. The main point was that different people might estimate depreciation in different ways and the same person might have different estimates for different purposes. Again, the focus is on purpose.

Two particular estimates for the depreciation of a firms' fixed capital are discussed. The first is for the purpose of determining profits available for dividends and the second is made for the purpose of taxation. Conservative principles govern the calculation on which dividends are paid, whereas tax laws are based on a concept of fairness.

Hicks also pointed out that these depreciation estimates are not satisfactory for the purpose of determining national income when prices are unstable. Under inflationary conditions it is the task of the economists to work out methods to compute real depreciation. However, "although it is necessary, in the interest of fairness, to go back to the original purchase price (for that is firm ground, not somebody's guess), to do this is not economically satisfactory."[23] But Hicks never suggested that accountants ought to make this computation.

Asset Valuation

The idea that "the fixed capital used by a manufacturing firm may have half a dozen different values that can be plausibly put upon it"[24] often was repeated. Purpose was paramount.

> The measurement of capital is one of the nastiest jobs that economists have set to statisticians. Finding that it is so nasty, the working satistician very naturally asks for guidance. Will the economist please explain just what it is that he wants?[25]

The 1969 paper explicitly analyzes the accountant's practice of valuing assets at original cost and two reasons are given for making corrections to this valuation—price-level changes and technical progress.

It is significant that Hicks did not think that accountants should be the ones to make price-level adjustments. He concluded that the task of making price-level adjustments would be a formidable one and implied that on a cost-benefit basis, it would not be worthwhile to have accountants correct the accounts for inflation. Hicks put it this way.

> To correct balance-sheets of companies, one by one, so as to make them conform to the principle I have been outlining would obviously be a formidable undertaking. One could not expect that it should be done by the accountants, the purpose of whose calculations (as we have seen) is quite different.[26]

What was the purpose of the accountant's calculations? Hicks believed that "the first object of commercial accounting is to watch over the capital of the business . . . ."[27] Thus, accountants could not be expected to make price-level adjustments because

> If one asks why the company needs a balance-sheet the answer must surely be given in terms of its obligation to its shareholders and to other creditors. It has to show, periodically, what it has done with their money.[28]

This emphasis on stewardship led to the conclusion that

> The balance-sheet of the company, as explained, is designed to show shareholders what has been done with their money. If it is this which has to be shown, the original cost of the actual assets held is the magnitude that is relevant.[29]

The other reason for adjusting original cost is technical progress. However, from an accounting viewpoint, technical progress is part of obsolescence and is taken into account in choosing the method of depreciation. But from an economic viewpoint, Hicks argues the accountant is too pessimistic because "he does not allow (and from his own point of view is quite right not to allow) for the increase in the productivity of new investments that come from technical progress."[30] Therefore, the accountant's measure of depreciation normally overstates the gross investment needed to maintain capital since real capital increases faster than it appears to do on financial statements since the reinvestment of depreciation allowances is made on continually more favorable terms.

There is no ambiguity about Hicks thoughts on the accountant's responsibility for asset valuation. Financial statements should be based on historical costs and adjustments for price-level changes should be made by the user, not the accountant.

Concluding Comment

At the 1969 meeting of the International Statistical Institute where Hicks presented the paper, "The Measurement of Capital," another paper on the same subject was given. The opening remarks are jocular, but the message captures Hicks' attitude towards the valuation problem which accountants face.

> Without the threat of thumbscrew, and indeed with no urging at all, an economist may often be found to declare that his idea of a measure for a stock of capital is to equate it to the present discounted value of the future stream of

> earnings that the stock of capital will generate. This is so inherently unmeasurable that it will amuse a statistician until he perceives that the suggestion is offered somewhat more than half-seriously.[31]

When it came to practical problems of measurement, Hicks sought to avoid the kind of definitions that are more "at home in those simplified models beloved of economic theorists" than in a world of "flesh and blood."[32]

Hicks' emphasis on the need for objectivity and his conception of the meaning of stewardship led him to defend the traditional practice of valuing assets at original cost less depreciation and to argue that accountants should not make price-level adjustments. These views will surprise those (and there are many) who have used the Hicksian income concept to develop a conceptual framework in accounting.

POSTSCRIPT

After this article went into production the author received a letter from Sir John Hicks. Although Hicks indicated that he did not have time to do more than glance at a copy of the article, he commented that "I had no idea when I wrote that chapter in *Value and Capital* that it would be taken up by accountants; and The Social Accounts as I first envisaged them, were a pure economist's construction. By the time of the later editions of that book [1952, 1960, and 1971] I had this further experience, and the same applies to all my later writings." The experience Hicks is making reference to is a 1949 meeting (which was referred to in the 2nd edition of *The Social Framework*) with, among others, Richard Stone and F. Sewell Bray. This meeting led to the publication of *Some Accounting Terms and Concepts* (Cambridge: Cambridge University Press, 1951). I have not seen this book. Hicks then went on to say that "it is perhaps in the IIPF paper ["The Concept of Income in Relation to Taxation and to Business Management," Proceedings of the 35th Congress of the International Institute of Public Finance, Taormina, 10-14 September, 1979, Detroit, Michigan 1981] which I sent to you that this becomes clearest."

The 1979 paper compares the accountant's depreciation with "true" depreciation. Its basic conclusions are consistent with his earlier work. Hicks once again stressed that "The accountant's conventional way of measuring income, though (as we have seen) it has elements in it that are arbitrary, is largely based upon actual transactions . . . . It would not be an improvement to replace this relatively firm assessment by one that in practice must be even more, even much more arbitrary." He also emphasized that "when it is proposed to make corrections to the conventional allowances, to adjust to inflation, the question of whether the conventional allowances were appropriate, even in absence of inflation, is bound to be raised. So one comes back to the subjective assessments—how much can be *safely* taken out of the business—from which the accountant's procedure had been thought to be an escape."

Both the 1974 paper delivered at the annual meetings of the American Economic Association and the paper given at the IIPF meeting in 1979 should interest the accounting historian for another reason. In these papers, Hicks directly addresses questions involving the history of accounting. In addition, in his letter Hicks also remarked that "I see that the journal in which you are publishing is on the history of accounting. I wonder if it is known to your friends that one of the most remarkable contributions of accounting to civilization is the beginning of the year on the first of January. The Florentine merchants in the fifteenth century found this sense of orderliness (as you rightly call it) vexed by the practice then and in other places long after common of beginning on March 25. They wanted to have their yearly accounts made up of a tidy number of monthly accounts, so they looked for a feast of the Church which fell on the first day of the month, and found it on the first of January." The reference Hicks provides is to a French economic historian, Yves Renouard, who in 1969 published a book of essays which I have not yet seen.

I am grateful to Sir John Hicks for his thoughtful comments. I also thank Professor Edward Stamp for suggesting that I communicate with Hicks.

FOOTNOTES

[1]*The Problem of Budgetary Reform,* p. 14.
[2]*Value and Capital,* p. 172.
[3]Zeff, p. 620.
[4]*Value and Capital,* p. 177.
[5]*The Social Framework* (1942), p. vi.
[6]*The Social Framework* (1952), p. vii.
[7]Review, p. 562.
[8]Review, p. 563.
[9]Review, p. 563.
[10]Review, p. 563.
[11]Review, p. 563.
[12]Review, pp. 563-564.

[13]Review, p. 564.
[14]*The Problem of Budgetary Reform,* p. 6.
[15]*The Problem of Budgetary Reform,* p. 14.
[16]*The Social Framework* (1952), p. 224; (1971), p. 260.
[17]"Capital Controversies: Ancient and Modern," p. 310.
[18]"Pubiic Finance in National Income," p. 147.
[19]*The Social Framework* (1942), p. 225.
[20]"The Measurement of Capital," p. 254.
[21]Capital and Time, p. 155.
[22]"Capital Controversies: Ancient and Modern," p. 312.
[23]*The Social Framework* (1942), p. 275. A similar statement is made in the fourth edition (1971), pp. 301-302.
[24]*The Social Framework* (1942), p. 102.
[25]"The Measurement of Capital," p. 254.
[26]"The Measurement of Capital," p. 259.
[27]*The Problem of Budgetary Reform,* p. 15.
[28]"The Measurement of Capital," p. 253.
[29]"The Measurement of Capital," p. 258.
[30]"The Measurement of Capital," p. 261.
[31]Evans, "Some Comments on Measures of Changes in Capital Stock Aggregates," p. 265.
[32]"Maintaining Capital Intact: A Further Suggestion," pp. 132-133.

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AN HISTORICAL PERSPECTIVE OF NET PRESENT VALUE AND EQUIVALENT ANNUAL COST

Abstract: Net present value and equivalent annual cost are two discounted cash flow criteria for comparing investment proposals. Why have accountants taken to net present value? Why do engineers readily use equivalent annual cost? This paper investigates the historical development of these principles to provide an explanation of why this is so.

Capital financing and budgeting represents a fundamental function of management. In a recent paper, Truitt[1] discussed the problem of comparing investments with unequal lives by contrasting the traditional net present value (NPV) method with the equivalent annual cost (EAC) method. He indicated that the annual cost method appears in the engineering literature but apparently has not appeared in the accounting literature.

The purpose of this paper is to explain why engineers are conversant with the EAC method while, for the most part, this method is unknown to accountants. This objective is accomplished by tracing the historical development of NPV and EAC.

Background

The net present value and equivalent annual cost methods are members of the family of discounted cash flow criteria of investment evaluation which have their modern-day foundation in actuarial science and the financial investment market of the nineteenth century.[2] However, discounted cash flow criteria were not applied to nonfinancial investments until late in the century.[3]

In the net present value method, cash flows are discounted to the present while the equivalent annual cost method converts cash flows into an equivalent series of uniform annual amounts. NPV computations often result in a dollar amount of such considerable magnitude that they consequently may be misleading. On the other hand, EAC expresses the dollar amount in a context that may be more meaningful to a decision maker whereas organizations typically report their activities on an annual basis. In addition, EAC possesses certain computational advantages, especially when comparing alternatives with unequal lives.

Since NPV and EAC are equivalent concepts,[4] it is not surprising that both methods are utilized for comparing investment proposals. Nevertheless, a very intriguing situation is that both methods are not universally known to all individuals involved in capital budgeting decisions.

Harris and Schonberger[5] indicated that as a result of differences in the methods employed in capital budgeting decisions, a communications gap has occurred between engineers, management accountants, and top management. This communications gap is the consequence of differences in the educational emphasis placed upon the discounted cash flow methods. While the education and training of engineers includes all of the methods used by management accountants (NPV, internal rate of return, payback), EAC is emphasized. On the other hand, a trend setter and leading managerial accounting textbook, currently in its fourth edition, stresses NPV. In fact, EAC is not even mentioned.[6]

In tracing the historical development of these two discounted cash flow techniques in the following sections, selected events in the fields of engineering, economics, and accounting are surveyed.

The Development of NPV

In 1887 an American civil engineer, A. M. Wellington, published the second edition of his standard work on the location of railways—*The Economic Theory of the Location of Railways.* He pointed out that the problem of utmost importance to railway construction was to ascertain if a line should be built or not. The significant size of its capital expenditures and the financial structure of the railway industry created the need for a method of capital budgeting to aid management in decision making. In justifying capital expenditures, Wellington was one of the first writers to employ present value computations to nonfinancial investments.[7]

The engineering literature from the end of the nineteenth century until the end of World War I contained only scattered attempts to discuss present value or capital budgeting techniques. None of these appears to have made a significant contribution.[8] The literature of this period indicated that engineers were more concerned with improving the concepts and techniques of cost accounting than with refining the procedures of capital budgeting.[9]

The first reference to NPV in American economic literature appeared in 1907 in Irving Fisher's *The Rate of Interest*. This important work was revised and reissued in 1930 as *The Theory of Interest.* Fisher presented four principles to evaluate alternative investment proposals. These were (1) the principle of maximum present value: i.e., selection based on the maximum present value determined by using the market rate of interest; (2) the principle of return over cost: selection of the alternative whose "rate of return over cost" or "rate of return on sacrifice" exceeds the market rate of interest; (3) the principle of comparative advantage: selection of the alternative whose returns outweigh its costs stated in present value using the market rate of interest as the discount rate; and (4) select "where options differ by continuous gradations, the one the difference of which from its nearest rival gives a rate of return over cost equal to the rate of interest."[10]

In 1930, Eugene L. Grant, a Stanford University engineering professor, published the first edition of his classic textbook *Principles of Engineering Economy.* Grant discussed applications of the present worth, the rate of return, and the equivalent annual cost methods for making capital budgeting decisions. Each of these methods is widely used today, and Grant has been recognized for the initial presentation of these methods in a single textbook.[11]

Although the economists and engineers had made significant contributions to the ideas on discounted cash flow, the accountants had little, if any, impact. Few references to investment decision making had appeared in the accounting literature. One noteworthy series of articles by R. H. Coase was published in 1938 in the *Accountant.*

During the period from the turn of the century until the conclusion of World War II, the accountants' involvement with interest was either in calculating financial interest, or in debating if interest was a cost of manufacturing. Parker attributed this condition to an over concern of accountants with historical recording rather than with decision making. However, accountants in their role as financial experts were consulted in capital-expenditure decisions.[12]

In 1938, J. F. Ebersole examined 757 of 13,119 cases on file at the Harvard School of Business in order to answer the question, "Is the interest rate an important influence in determining whether businesses expand or contract their operations or plants?"[13] Ebersole concluded that "the interest rate is not viewed as an important problem by business management; the interest rate is seldom considered as a factor in entrepreneurial decisions of business to expand or contract and is a controlling factor in a negligible number of instances."[14]

Two of the earliest references to NPV in the economic literature of the 1950s appeared almost simultaneously. Lorie and Savage, dealing with problems of multiple rates of return connected with the internal rate of return method, showed that investment proposals which have positive present value with the firm's cost of capital as the discount factor will also have an internal rate of return greater than the cost of capital.[15] Alchian, in discussing Keynes' Marginal Efficiency of Capital, described the present worth of an investment option as

$$\int_0^t [R(t)-E(t)]\, e^{-rt}dt$$

where R(t) represents the inflow stream and E(t) represents the outflow stream, both as functions of time, and e^{-rt} is the discount factor for t.[16]

In the decade that followed, numerous writers investigated the relationship between internal rate of return and net present value and the potential conflicts between these criteria.[17]

Apparently, the first significant event appearing in accounting literature was the publication in 1960 of *The Capital Budgeting Decision* by Bierman and Smidt. This textbook presented a comprehensive treatment of capital budgeting with an emphasis on NPV. Another major publication was Charles Horngren's *Cost Accounting: A Managerial Emphasis.* This textbook which was to become a leader in managerial accounting advocated NPV.

The Development of EAC

The initial work in the advancement of equivalent annual cost was the publication of the second edition of J. C. L. Fish's *Engineering Economics.* Fish, an engineering professor at Stanford University, "explained that in deciding among alternative investments comparison should be made of:

(i) the equivalent uniform annual operation cost (excluding depreciation), which is found by reducing the series of actual annual costs to a convenient date, and

distributing the sum of the results uniformly over the whole period;
(ii) annual depreciation cost calculated by the sinking-fund method and taking into account the salvage value;
(iii) interest on capital;
(iv) the equivalent uniform annual income."[18]

Thus, in 1923, the EAC method emerged as a discounted cash flow technique emphasizing annual costs as opposed to the present value of costs descended from Wellington. EAC has since received considerable attention in engineering education.

An event which appears to have had a prominent impact on the acceptance of EAC was the publication of Grant's *Principles of Engineering Economy,* previously referenced in the discussion of NPV. Although Grant explained the present worth, rate of return, and equivalent annual cost methods, he placed major emphasis upon the use of EAC in making capital budgeting decisions. He reasoned that the latter method is preferable because it can be understood more easily and that it is easier to compute. The explanation of the three methods, as well as the emphasis on EAC, contributed to making Grant's textbook a significant publication within the engineering literature. It is currently in its sixth edition and is considered a leader in its field.[19]

In the succeeding fifty years, EAC failed to make any impact on the theory or literature of economics, and its existence apparently received only passing reference in the accounting literature.[20] A survey of 35 accounting textbooks (published between 1976 and 1981), containing a discussion of techniques for evaluating capital projects, found only two which made mention of the equivalent annual cost method.[21] Consequently, out of the fields examined, only engineering is versed in the EAC method.[22]

Concluding Remarks

This historical perspective of net present value and equivalent annual cost reveals that both methods had their present-day origin in engineering economics. However, neither NPV nor EAC made any significant impression outside the field of engineering until economists adopted NPV in the 1950s. Widespread usage of the NPV method by accountants was delayed until the 1960s.[23]

EAC has been the preferential method of engineers while receiving limited exposure in accounting literature. Furthermore, the leading managerial accounting textbook advocates NPV—without discussion of the EAC method.

Thus, education appears to be the only plausible explanation why NPV, rather than EAC, was adopted by the accounting profession; and why EAC is used almost exclusively by engineers. This point is particularly surprising since the interpretation and computational efficiency of EAC is generally regarded as being superior to that of NPV.[24]

FOOTNOTES

[1]Truitt, p. 44.

[2]Simon Stevin was one of the first writers to include interest tables in a book. He applied the net present value criterion to the selection of loans in 1582.

[3]Parker, p. 39.

[4]The two methods are mathematically related by the expression $NPV = EAC \cdot PV_a$ where PV_a denotes the present value of an ordinary annuity.

[5]Harris and Schonberger, pp. 1-2.

[6]See Horngren, Chapter 13. During a conversation with Charles Horngren, he indicated that he had often been asked by engineers the question of why EAC had not been included in his textbook. He stated, in capsule form, that a value judgment was made not to include EAC. His major reason was that the additional cost of explaining the subject matter did not justify its inclusion in light of other discount methods, which seem easier to understand.

[7]Parker, p. 39.

[8]See, for example, "Common Errors . . ." *Engineering and Contracting*; Pennell; and Van Deventer.

[9]See Solomons. His discussion of the contributions of engineers like Alexander Hamilton Church to overhead allocation and the idea of profit centers, and the contributions of Percy Longmuir, Harrington Emerson, and W. E. McHenry to the development of standard costing indicates the involvement of engineers in the development of cost accounting during this period in contrast to the literature concerning capital budgeting previously cited.

[10]Parker, p. 44.

[11]Grant.

[12]Parker, p. 57.

[13]Ebersole, p. 35.

[14]Ebersole, p. 39.

[15]Lorie and Savage, p. 236.

[16]Alchian, p. 938.

[17]It should be noted that during the interim between Fisher's *The Theory of Interest* and the articles by Lorie and Savage and Alchian, economic theory pursued the path of the internal rate of return. The major proponent of this method, J. Dean, brought the problems of capital budgeting to the fore in the early 1950s, and laid the foundation for much of the work that we have today. See J. Dean.

[18]Parker, p. 43.

[19]Grant, Ireson, and Leavenworth.

[20]See, for example, Bierman and Smidt; Fremgen; Johnson and Newton; Moore; and Truitt.

[21]Bierman and Smidt; and Fremgen.

[22]Grant Ireson commented during a telephone interview that a possible explanation is that engineers are primarily looking to the future and accountants are not. That is, engineers become involved in projects before investment decisions are made while accountants become involved after investments have been made. Consequently, accountants record things as they happen, focusing on the logical costs to carry on business. Their interest is in historical costing rather than decision making.

[23]A reviewer commented that historically, interest rates were relatively low until recently, particularly low in this country prior to the 1960s. This might account for the slow acceptance of the time value of money, as some users possibly viewed the whole concept as immaterial.

[24]While not part of this research investigation, the reader is referred to Harris and Schonberger; Jones and Smith; and Truitt for information concerning the comparative computational efficiency of NPV and EAC.

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HISTORY IN TODAY'S BUSINESS SCHOOL

Abstract: Members of the American Assembly of Collegiate Schools of Business were surveyed to determine to what extent the history of various business school subjects (accounting, economics, management, etc.) was a part of today's curricula. Findings indicated widespread teaching of history and the feeling that more should be done. However, the findings also indicate that much of the current teaching is not being done in separate courses by professional historians or even those interested in history. Implications for curricula development are discussed.

One authority has stated, "There is a growing recognition that a discipline which aspires to be a 'profession' must include its intellectual heritage [i.e., its history] as part of the educational process." Is this true for business, management, and related disciplines? In discussions over the past several years, it has become evident that most of us have little precise knowledge about what business schools are or are not teaching by way of history. In an effort to determine the extent to which the history of a discipline (accounting, business, management, etc.) is a part of today's curricula, a survey was conducted of all member institutions of the American Assembly of Collegiate Schools of Business (AACSB). To provide some comparative information, members of the Business History Conference were also surveyed. The purpose of this paper is to present the results of that survey.

The Questionnaire

The questionnaire was kept simple. It asked only a few questions since it was designed as a first effort to get an overall view rather than an indepth probing of the situation. The basic questions asked included the following:

1. Is history, in some form, part of the program at your school?
2. How is the history taught in your program?

3. Indicate the type of history taught and the academic level at which it is taught now.
4. Indicate the type of history and academic level which should be taught.
5. Has the teaching of history in your program increased, stayed about the same, or decreased over the last 10-20 years?
6. Do you think that the teaching of history generally has increased, stayed about the same, or decreased over the last 10-20 years?
7. Make comments and suggestions.

The Sample

The AACSB population consisted of 64 institutions accredited at only the bachelor's level, 17 accredited at only the master's level, 217 accredited at both levels, and 346 non-accredited institutions for a total of 644. The Business History Conference list added another 181 to the list. The overall response rate was 38% (313 returned of 815 mailed); six of these were not usable, however. The response rate by subgroup was as follows: 45% for institutions accredited at the bachelor's level only; 41% for those accredited at the master's level only; 38% for those accredited at both levels; and 39% for non-accredited AACSB institutions for 40% overall for the AACSB list. The Business History group did not respond as well—only a 32% response rate.

The addition of the Business History Conference list caused some duplication to result among institutions covered. If two or more responses were from the same business school, one was selected to "represent" all of them; an effort was made to choose one that was "average" or "typical." This occurred for only nine institutions and resulted in 13 questionnaires not being used in the analysis. Thus 294 questionnaires were used in the analysis (313 returned less 6 not usable and 13 duplicates).

Results

As shown in Table I, an overwhelming proportion of the respondents felt that history was part of their programs, and, for those who felt that it was not, an even greater proportion said that they thought that it should be. However, the responses as to "how is it taught" suggest that it is usually taught as part of a course or courses rather than as one or more separate courses. In such cases, of course, it is highly unlikely that a history specialist will be overseeing the presentation of the history material. The "debate" as to whether the

Table 1

Percentage Responses by Type of Institution

	Accredited					
	B	M	BM	N	NB	TOTAL
Number of Responses	29	7	83	136	39	294
Is history, in some form, part of the program at your school? yes	72	100	72	84	72	78
no	28		28	16	28	22
If no, do you think it should be? yes	75		83	86	82	83
no	25		17	14	18	17
How is history taught in your program? (multiple checks used so total exceeds 100%)						
as a topic within courses	68	43	47	61	24	52
as a separate course	37	71	24	43	41	37
in several separate courses	22	43	43	23	38	31
Indicate the type of history taught and the level at which it is taught (indicate how things **are**).						
Undergraduate						
Accounting History	44	0	15	19	0	17
Business History	52	14	33	42	24	37
Economic History	59	43	52	56	46	54
History of Economic Thought	44	43	48	60	32	51
History of Management Thought	37	0	39	44	11	37
Graduate						
Accounting History	19	0	22	10	0	12
Business History	26	43	19	9	11	14
Economic History	26	43	33	10	19	20
History of Economic Thought	33	43	30	14	19	22
History of Management Thought	26	14	23	21	16	21
Indicate the type of history which **should be** taught and the level at which it should be taught.						
Undergraduate						
Accounting History	41	14	25	27	19	27
Business History	63	43	71	65	35	62
Economic History	63	71	59	65	51	61
History of Economic Thought	41	43	53	62	65	57
History of Management Thought	48	14	49	52	41	48
Graduate						
Accounting History	26	14	33	20	3	22
Business History	30	57	46	29	22	33
Economic History	26	29	46	26	14	30
History of Economic Thought	41	43	48	32	35	38
History of Management Thought	33	71	46	39	32	40
Has the teaching of history in your program increased, stayed about the same, or decreased over the last 10-20 years?						
increased	30	14	21	25	26	23
stayed about the same	63	57	58	62	59	60
decreased	7	29	21	15	15	16

Table 1
Percentage Responses by Type of Institution (Continued)

	Accredited B	M	BM	N	NB	TOTAL
Do you think that the teaching of history generally has increased, stayed about the same, or decreased over the last 10-20 years?						
increased	19	0	18	21	23	20
stayed about the same	42	67	45	40	26	41
decreased	38	33	38	38	52	40

NOTE: B — accredited at bachelor's level only
M — accredited at master's level only
BM — accredited at both levels
N — nonaccredited
NB — response from nonbusiness department

material should be within courses or in a separate course was also reflected in the open-ended question comments. Representative comments from those who felt that it should be within courses are:

"The history of a discipline should be in introductory courses."

"Our students are vocationally oriented so that history has to be hidden within other courses to be at all successful."

"I'm not sure that it is necessary as a separate course."

Comments from those who feel that this approach is not adequate are:

"How much history gets into classes is strictly a function of the instructor's knowledge and interest."

"I suppose that some faculty do build historical insights into their individual courses, but this would not be systematic and seems to have little impact on students."

"When we say history is covered in a course, it may vary from one part of one class to several class sessions."

Other comments from the open-ended question reflect an attitude that the way to meet AACSB standards for accreditation is by satisfying every requirement with a separate course. This would mean, of course, that there would be "no room" for history. Some of the comments reflecting that view are:

"Our undergraduate program leaves precious little time to focus on history."

"The number of credits allocated in a BBA or MBA degree program tend to crowd out areas such as this."

"Increased quantitative requirements [have meant] less time for history."

"We changed history from a required course in order to bring in Business and Society which AACSB wanted."

"To add [history] would require displacement of some essential content from an already over-crowded curriculum."

The pattern of responses to the "are" and "should be" items is interesting. More respondents indicated that they are teaching history at the undergraduate level than indicated that they are teaching it at the graduate level. Further, they indicated that this is the way it should be.

The responses about changes in the teaching of history over the last 10-20 years are also interesting. Most respondents felt that the teaching of history in their areas was staying about the same or perhaps even increasing, while the teaching of history in general was perceived to be decreasing if it was not staying about the same.

Caution must be exercised in interpreting these results across the categories of the respondents' institutions. The "accredited at the master's level only" category reflects the view of only seven respondents (there are only 17 of these in the population), hence, one person's view becomes a fairly high percentage. The "nonaccredited" group contains numerous institutions which have no graduate programs and, hence, for which no response to the questions dealing with the graduate level was obtained. This lowered the frequency of response to those items. The "nonbusiness" group is composed mostly of faculty from history departments and economics departments outside of business schools, therefore the absence of say, accounting history, should be no surprise for that group.

With these cautions in mind, then, some interesting results can be noted. The highest use of separate courses would appear to be at institutions with graduate programs or, quite predictably, in history and economics departments. The most optimistic respondents about history increasing appear to be those from institutions accredited at the bachelor's level only, while the most pessimistic ones are from either the group accredited at the master's level only or from the history/economics group.

Table II shows differences between "should be" and "are" responses. Large differences suggest that more or less should be taught than is now being taught; small differences indicate a degree of satisfaction with current conditions. At the undergraduate level, only Business History appears to need more coverage. At the graduate level, Business History, the History of Economic Thought, and the History of Management Thought all appear to merit more coverage. The groups, however, vary sharply both by topic and from one another.

In addition to the topics/disciplines provided on the questionnaire, respondents were able to add others. Table III shows those along with the percentage distribution for those. Marketing and labor history were the most frequently mentioned topics with general history areas (U.S. History; state history; etc.) being next most frequently mentioned. Others tended to be more specific and/or unique: History of American Journalism; History of International Industrialization; History of British Classical Economics; and The Uses of History by Managers, for example.

Table II

Differences Between What Courses Should be Taught and What Are (in percentages)

Topic/Discipline	Accredited: Bachelors	Masters	Both	Nonaccredited	Nonbusiness	TOTAL
Undergraduate						
Accounting History	−3	14	10	8	19	10
Business History	9	29	38	23	11	25
Economic History	4	28	7	9	5	17
History of Economic Thought	−3	0	5	2	33	6
History of Management Thought	11	14	10	8	30	11
Graduate						
Accounting History	7	14	11	10	3	10
Business History	4	14	27	20	11	19
Economic History	0	−14	13	16	−5	10
History of Economic Thought	8	0	18	18	16	16
History of Management Thought	7	57	23	18	16	19

Note: A *large positive* value suggests that the respondents thought that *more* of the topic *should be* taught *than is* being taught.

A *large negative* value suggests that the respondents thought that *less* of the topic *should be* taught *than is* being taught.

Small values suggest that the respondents thought that what was currently being taught was appropriate in terms of amount.

Conclusions and Implications

The basic conclusions from this rather tentative survey are both reassuring and disheartening. The reassuring conclusion is that an overwhelming number of respondents indicated that history is now part of their programs, and, of those who said that it was not, most said that it should be. The disheartening conclusion is that the history which is being taught is within the context of existing courses and not by or under the control of professional historians or even those interested in history. If this pattern is expected to continue, and the indications from this survey suggest that it is, then those of us who share an interest in history have an obligation. That obligation is to educate our colleagues so that those covering the material on history do at least an adequate job of it. Further, that obligation involves providing supplementary material to colleagues so that they can do a better job of presenting appropriate and necessary historical material within the context of existing courses.

Another conclusion is that a sufficient number of institutions appear to respond to AACSB accreditation standards with a "course per standard" mindset so that we have an obligation there as well.

Table III

Percentage Distribution of Responses for other Topics/Disciplines

	Are Being Taught		Should Be Taught	
Topic/Discipline	Undergraduate	Graduate	Undergraduate	Graduate
Other Business Areas:				
Accounting Thought	0	0	0	0.3%
Behavior/Personnel	0	0	0.3%	0.3
Business/Government	0.3%	0.3%	0.3	0.3
Finance	0.7	0	0.7	0.7
Labor	2.4	1.4	1.4	0.7
Marketing	3.1	0.3	1.7	1.4
Transportation	0.3	0.3	0.3	0.3
Unspecified	0.3	0.3	0.3	0.7
Other Business History	1.0	0.3	1.0	0.3
Education Areas	1.0	0	0.3	0
Other Economic History	1.0	1.4	0.7	0.7
General History Areas	3.1	0	1.4	0
Technology, Science, Computers	1.0	1.4	1.0	1.4
Miscellaneous	0.7	0	0	0.3

Our obligation there is to provide information to the AACSB about how to verify the existence of the quality presentation of historical material when it is a component of a course rather than a separate course. Our efforts in this regard might also serve the AACSB as a model for other standards as well—perhaps eventually such efforts would break the mindset which is so restrictive to academic innovation as it presently interprets the accreditation standards.

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BOOK REVIEWS

Dale A. Buckmaster, Editor
UNIVERSITY OF DELAWARE

Lawrence Robert Dicksee. *Business Methods and the War* (Cambridge: at the University Press, 1915, pp. 71); *The Fundamentals of Manufacturing Costs* (2d ed., London: Gee & Co. (Publishers) Ltd., 1928, pp. 39); and *Published Balance Sheets and Window Dressing* (London: Gee & Co. (Publishers) Ltd., 1927, pp. 62). Reprint ed., three vols. in one. New York: Arno Press, 1980, $18.00.

Reviewed by
William L. Talbert
Georgia State University

Business Methods and the War is a reproduction in book form of four lectures delivered in 1915 at the London School of Economics and Political Science. The author directs that the lectures should be regarded "in the light of a few suggestions as to how business men might, with great advantage to themselves, take to heart such lessons as the war may have to teach them. After all, war is a business, and business—like life—is one long battle."

In the first lecture the author discusses business, military, and labor organization, including an interesting history of organization through ancient, mediaeval, and modern times. He concludes that business has much to learn from the military, and that the Accounts Department of a business should occupy a position similar to that of any other staff department, and that operational personnel "should be brought up to regard them as friends and allies, rather than as natural enemies." In the other three lectures he treats such topics as business training and technical education (comparing them to military drill), the value of accounting as a means of benefiting by experience, waste products and by-products, and war prices and balance sheets.

The Fundamentals of Manufacturing Costs is a handbook whose object is "to draw attention to, and to emphasize the importance of, a Report issued by the Federal Trade Commission of Washington, U.S.A., on 1st July 1916," which is reproduced as an Appendix. The Federal Trade Commission's report is a pamphlet on "Fundamentals of a Cost System for Manufacturers," and it serves as a vehicle to allow Dicksee to impart two messages, one about uniform accounting methods and the other about dealing with overhead charges. He disapproves of uniform accounting methods, and he proposes that the overhead charges actually incurred should be apportioned over the work done during the time when they were incurred. Concerning such apportionment, he declares that there is "nothing whatever that is magical about the yearly period," and that "the month would seem to be the normal basis upon which to deal with Overhead Charges."

Published Balance Sheets and Window Dressing is a book based largely on a series of articles that appeared in *The Accountants' Journal* in 1926. This book starts with discussions of the general nature of a balance sheet and uniformity in balance sheets, and then proceeds in the format of an intermediate accounting textbook with capital and liabilities *next to the windows* and without discussion of revenue and expense accounts. The author's perception of the general nature of a balance sheet includes the ideas that the statement was framed with a deliberate lack of full disclosure and that shareholders should not expect to be able to understand the statement without studying the language in which it is written. And the author remains opposed to any significant degree of uniformity.

The author seems to believe that most companies keep their accounts using a natural business year, thereby preparing financial statements when business is comparatively slack. This tends to present the affairs of the companies in a particularly favorable light, and the slackness of business provides time for preparing "window dressing." The author defines "window dressing" as "a somewhat vague term which may cover anything from a perfectly proper desire to take advantage of a lull in business to set one's house in order, to a deliberate attempt upon the eve of balancing to pass transactions through the books that will put a better complexion upon affairs, even although [*sic*] those transactions may have laboriously to be undone early in the ensuing accounting period."

Marc Jay Epstein, *The Effect of Scientific Management on the Development of the Standard Cost System* (New York, N.Y.: Arno Press, 1978, pp. 198, $20.00).

Reviewed by
Ashton C. Bishop
James Madison University

This book, a published doctoral dissertation, examines the effect of scientific management on the evolution of standard cost accounting. The objective was to provide a clear exposition of the impact that the scientific management movement had on the development of the standard cost system.

The hypothesis of the study, that the scientific management movement had an important effect on the development of the standard cost system, was examined using two methods. The first method entailed an exhaustive search of the literature of the time which included professional, academic, and popular journals as well as unpublished manuscripts. The second method employed was the case method which included an analysis of existing documents such as accounting forms, correspondence, and reports. The study period included the years 1875 through 1920.

Accounting literature prior to 1910 showed little acknowledgement of standard costs. It was shown that the development of standard costs generally accompanied scientific management in the literature following the Eastern Rate Case hearings of 1910. The association of "scientific management" with its principles was primarily due to efforts of Louis Brandeis, one of the attorneys opposing proposed railroad rate increases. His position was that operating costs could be substantially decreased by the application of the principles of "scientific management." After the hearings, scientific management ideas spread and more accounting literature was seen referring to standards. The contributions of such notables as Harrington Emerson, Sterling Bunnell, Clinton Scovell, and Charter Harrison were reviewed and the discussion showed the important impact that scientific management had on the development of standard cost accounting.

Case studies were used to document the use of standard cost concepts in business organizations that implemented Frederick W. Taylor's system of scientific management. Most of the material examined was from the Taylor Collection at the Stevens Institute of Technology. Relevant documents relating to Midvale Steel Company, Manufacturing Investment Company, Bethlehem Steel Company, Eastern Manufacturing Company, Link-Belt Company, and H. H. Franklin Company showed Taylor's influence on the development of standard costing. The documents also provide evidence that standards were used in industry prior to their discussion in the literature.

The findings of this study were that scientific management had an important and direct effect on the evolution of standard cost accounting and that scientific management preceded the development of the standard cost system.

This book is well organized and researched. It should be of interest to anyone who wishes to understand the historical development of standard cost accounting. The book would be a good addition to the holdings of any college or university library and could appropriately be considered as one reading in a management accounting seminar.

Charles Waldo Haskins (Edited by Frederick A. Cleveland). *Business Education and Accountancy* (New York: Harper and Brothers Publishers, 1904, Reprint ed. New York: Arno Press, 1978, pp. xii, 239, $26.00).

Reviewed by
Lloyd Seaton, Jr.
University of Arkansas

This work, a collage of essays and addresses written by Charles Waldo Haskins at the turn of the century, should make especially interesting reading for academicians and practitioners interested in the role of professional education, i.e., professional schools and programs, in today's university setting. Professor Haskins, one of the founding partners of the firm bearing his name, held the Chair of Auditing and Accounting History and was the first Dean of New York University's School of Commerce, Accounts, and Finance, established July 28, 1900. As Dean, Professor Haskins' ". . . first aim was to bring together in the School a corps of trained educators and practicing accountants as would meet the educational requirements of the State Board of Examiners under the [State of New York] law of 1896." The reflections contained in the first six chapters deal specifically with the place and role of the university in preparing individuals for careers in business. The introductory chapter, written by Mr. Cleveland six months following Professor Haskins' death, refers to the work as ". . . the most advanced thought of those not actively engaged in the teaching profession on the subject of business training and the possibility of raising high professional standards in what may be called business specialties. . . ." (That is, Accountancy, Finance, and Business Administration.) The recurring theme that ". . . education has not kept pace with the demands of the time" is explored in some detail as is the schismatic distinction between the "theoretical," and the "scientific." Considerable effort is made to generalize that these professional specializations are a logical outgrowth of the development of commerce and business.

Following a rather interesting biographical sketch of Professor Haskins, Chapter II deals with the specifics of what the author calls "prejudices of the educated against business, prejudice of businessmen against education" as well as arguments concerning the legitimacy and benefits of business education. Chapter III, entitled "The Scope of Banking Education," addresses issues as they relate to what is being done in the way of higher commercial and financial training—the Department of Commerce, Accounts, and Finance of New York University is offered as the case in point. Chapter IV is taken from an address to the New York State Society of Certified Public Accountants delivered on June 11, 1980 entitled "The Possibilities of the Profession of Accounting as a Moral and Educational Force." The work overflows with Professor Haskins' view of the importance of the profession of accountancy and of business education to the profession.

Chapters V and VI present Professor Haskins' views on "The Growing Need for Higher Accounting" and "The Place of the Science of Accounts in Collegiate Commercial Education." The first work is from an address before the Pennsylvania Institute of Certified Public Accountants, Philadelphia, April 15, 1902. In this speech, Professor Haskins suggests that it is ". . . evident that we are dealing with an experimental, progressive and adaptive science of which we know as yet little of the boundless possibilities rather than the expert book-keeper" model commonly associated with the field by the lay community. Professor Haskins discusses the opportunities for the accountant to perform "missionary work" in helping businessmen improve their accounting systems and reduce such "rascalities" as having one's "pockets picked" in public.

Two movements are discussed. First, legislation establishing and "safeguarding" the practice of professional accountancy in New York, Pennsylvania, Maryland, and California; and secondly, the educational movement as evidenced by the establishment of New York University's School of Commerce, Accounting, and Finance.

The thrust of this speech was to inform the Pennsylvania audience of his views concerning recent developments impacting on the profession of "higher accountancy."

The second piece in this section deals with the place of the science of accounts in collegiate commercial education. This short paper was prepared for the Thirteenth Annual Meeting of the American Economic Association held at Ann Arbor, Michigan, December 28, 1900. This paper presents a brief description of the historical setting of commercial and accounting education. It also discusses events leading to the establishment of the New York University School. Some effort is expended to provide some curricula detail as well as to offer support for the notion that the science of accountancy provides a framework for "a recognizable profession—Public Accountancy—on a plane with that of Medicine, Theology, or the Law."

The last three chapters consist of two essays on the history of accounting and one essay dealing with the author's experience with the municipal accounts of Chicago. The first work in this section, Chapter VII, "History of Accountancy," is a lecture delivered by Professor Haskins at the opening of the School of Commerce, Accounts, and Finance of New York University, October 2, 1900.

Chapter VIII, "Accountancy in Babylonia and Assyria," is drawn from the literature of the time and represents a portion of Professor Haskins' unpublished efforts to provide prospective to the field. References in earlier speeches and essays were undoubtedly based upon this personal review of the literature concerning accountancy in Babylonia and Assyria. Chapter VIII is more detailed than earlier chapters.

Chapter IX, "The Municipal Accounts of Chicago," was taken from a paper that was read at the Seventh Annual Meeting of the National Municipal League, May 10, 1901. The connection between this last chapter and the earlier work, although interesting, is at best obscure.

As stated in the reviewer's opening remarks, this work should be of interest to both practitioners and educators. The perspectives provided are well worth the effort.

Herman Herwood (assisted by Joseph C. Myer), Assumed Compilers. *The Herwood Library of Accountancy* (New York: Herwood & Herwood, Certified Public Accountants, 1938, pp. viii, 233; Reprint ed. New York: Arno Press, 1980, $22.00).

Reviewed by
Homer H. Burkett
University of Mississippi

The Herwood Library of Accountancy is the book version of a catalog which was compiled for a private library. The library was owned by Herman Herwood, and he must have devoted much time and effort to both the collection of the library and the compilation of the catalog.

In the preface of the book-catalog, Mr. Herwood indicated that he viewed the library as consisting of two parts. He called one part of the library the collection. The other part contained books dealing with the history and bibliography of accounting and apparently was used as a guide to identify candidates for the collection and to catalog books with missing or defective title pages.

The book-catalog has 1,300 entries. Of the 1,300 entries, there are 1,233 entries for the collection and 67 entries for the books dealing with history and bibliography. Except for 40 of the books dealing with history and bibliography, the entries are for books which were printed between 1494 and 1900.

Entries for the 1,233 books in the collection include accounting and bookkeeping texts, other books with sections allotted to accounting and bookkeeping instruction, and miscellaneous books which were considered by the collectors to be associated with accounting. In the latter category are entries for keys and auxiliary books devised to accompany texts, manuals for private use, uncopyrighted works on accounting and auditing procedure issued by private firms, financial reports issued by businesses and governmental agencies, and account books designed for specific phases of economic activity.

For the collection, the entries in the book-catalog are arranged into seven geographical divisions on the basis of initial place of publication. Within each geographical division, the entries are arranged alphabetically according to the name of the author, association, or institution. For the history and bibliography books, the entries are arranged alphabetically according to the name of the author.

Each entry in the book-catalog represents a separately bound book, but a separately bound book which was printed between 1494 and 1900 might have contained either one or two literary works or a set of blank forms. Each entry clearly describes the nature of the book.

The book-catalog is valuable for at least two reasons. First, it can be used by accounting historians as a reference to check the accuracy and completeness of certain citations. Second, it can be used to locate a book of interest in the library.

The book-catalog should be a useful reference because Herwood seems to have been one of the more devoted collectors of accounting curiosa. Dr. Joseph C. Myer, late dean of St. John's University, School of Commerce, participated to some extent in the collection effort. His interest in accounting history is demonstrated in an article which was published in the March, 1931 issue of *The Accounting Review.* Myer and Herwood coauthored a check-list of early bookkeeping texts from books which were owned by them. For some unknown reason, the name Herrmann Herskowitz was used for the co-author. In part, they developed the check-list because of perceived deficiencies in a check-list which was coauthored by Hatfield and Littleton and published in 1932. The Myer and Herwood check-list was published in the April, 1933 issue of *The Certified Public Accountant.*

The value of the book-catalog is enhanced because the library does exist; although it may not be identical to the one which existed in 1938. Mr. Herwood bequeathed his library to the University of Baltimore Library, and the Herwood Library of Accountancy became a special collection in 1971.

Hatfield and Littleton mentioned a number of University and society libraries and private collections and misspelled Myer's name in their 1932 check-list. They did not mention the University of Baltimore Library. In the future, authors of similar check-lists should be aware of the special collection because the Herwood Library of Accountancy is remarkable. The book-catalog also is remarkable and is of special value to those interested in the historical background and development of accounting.

Eugène Léautey and Adolphe Guilbault. *La Science des Comptes Mise à la Portée de Tous* (The Science of Accounting Put Within

Reach of All), (Paris: Libraire Comptable et Administrative, 1889, Reprint ed. New York: Arno Press, 1980, pp. XVIII, 502, $40.00).

Reviewed by
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A French reader can only greet with enthusiasm R. P. Brief's initiative in persuading an American publisher not only to reissue the Léautey and Guilbault treatise on accounting (first edition, *1889*) but to republish it in the original French. No publishing house in Paris, unfortunately, would have taken such a risk.

The works of Léautey and Guilbault, who published both jointly and individually, enjoyed widespread success in Belgium and France at the end of the nineteenth and the beginning of the twentieth century. *La Science des Comptes* knew no fewer than twenty-seven editions! It is, in fact, the twenty-seventh edition which has been reprinted by Arno Press.

La Science des Comptes consists of three major sections.

In the first section the authors define a certain number of terms, including *accounting* itself, and present the three components of accounting which they deem essential: the ledger, the journal, and the balance.

In the second section they propose their own theory of accounting, a new means of classifying accounts. They isolate four classes of accounts (pages 119-123).

class 1:	A	Prior Capital Accounts
class 2:	B	Real Accounts
class 3:	C	Personal Accounts
class 4:	X	Profit and Loss Accounts

The authors strive to show convincingly that this classification is the most logical approach for calculating operating income. The transactions which affect the class B and C accounts determine income, which is first recorded in the class X accounts and then again in the class A accounts. Léautey and Guilbault make use of formulae and symbols to support their arguments. This has led French historians to link them to the Mathematical School.

In the third section, which comprises more than half of the work, there is an exhaustive treatment of all operations likely to affect the different classes of accounts.

It is however the treatise's philosophy, rather than its accounting theory, that is most likely to interest the student of accounting history.

Although their writings were certainly influential among their own contemporaries, Léautey and Guilbault do not seem, in retrospect, to have introduced significant changes into accounting concepts. They were scarcely the first, for example, to advocate the "dual personality" theory (which distinguishes between two separate legal entities, or "persons;" the owner and the business) or to support the rule "qui reçoit doit, qui donne a" ("debit him that receives, credit him that gives"). (pp. 34-35)

On the other hand, it is surprising to see to what extent Léautey's and Guilbault's works are infused with Positivism, that philosophical doctrine of which the founding father was Auguste Comte (1798-1857). This assertion deserves greater elaboration, but we must limit the discussion here to a very brief indication of positivist elements in Léautey's and Guilbault's approach.

First of all, the authors want to make of accounting a true science or, more specifically, a branch of mathematics. Accounting, in other words, should rise to the "third state" of intellectual activity, the "positive state," (that state which, as defined by Auguste Comte, comes after the theological and metaphysical states): "Accounting, a branch of mathematics, is the science of rational coordination of accounts." (p. 17)

The authors are further concerned to create, through accounting procedures, a new order in the administration of private and public organizations and to work toward the advent of Auguste Comte's "organic society" ("société organique").

In Comte's view, all societies experience periods of disorder: "Sociétés critiques" ("societies in crisis") and periods of order ("organic societies"). The return to order following a period of disorder does not mean the restoration of the old order. It consists, rather, of the institution of a higher order, an advance resulting from changes in modes of thinking. Accounting, having been elevated by Léautey and Guilbault to the rank of a science, could now contribute to the emergence of a new social order.

The third positivist feature of Léautey's and Guilbault's work is their messianism. In order for accounting to accomplish its social mission, it must be foreign to no sector of activity, economic or otherwise, and be practiced by members of all social categories: "capitalat," "salariat," "proletariat," (the employer-owners, the white collar employees, and the propertyless wage-workers).

Ultimately, rereading *The Science of Accounting* teaches us above all—if we did not know it already—that accounting principles and practices do not evolve autonomously but that they are part of a general evolution of ideas. Some of our more important manuals today probably owe as much to Structuralism or Existentialism as Léautey and Guilbault's treatise did to Positivism.

Allan J. Lichtman and Valerie French, *Historians and the Living Past: The Theory and Practice of Historical Study* (Arlington Heights, Illinois: AHM Publishing Corporation, 1978, pp. xx, 267, $8.95).

Reviewed by
Michael J. R. Gaffikin
University of Sydney

There is a danger that scholars, attempting to research in an intellectual discipline in which they have had no formal training, will encounter problems with which they cannot cope. It is highly likely that many accountants wishing to undertake historical research will find themselves in this sort of situation. There are even examples of so-called historical works by eminent accounting scholars which are purely anecdotal or little more than descriptive chronologies. There is no evidence of the use of the "historical method"; which, of course, implies that there is an "historical method." Although some may claim that there is, an examination of the work of philosophers and historians, (in such journals as *History & Theory*) will show otherwise.

Lichtman & French (L & F) provide no answer. Their primary aim is, in their words, to communicate the "intellectual excitement found in the whole historical enterprise" (p.xii). Their book is not a philosophical treatise but a textbook setting out the methods of historical research that have been used by historians with a view to providing guidelines for the would-be historical researcher. There are interesting and useful chapters on the history of historical method, the new history and family and local history. Earlier in the book there is a chapter on historical inference in which some of the basic tools of historical research are defined. The final chapter suggests a method for writing up the research.

Although L & F may have consciously attempted to avoid contentious epistemological debate, by accepting certain methods of historical explanation, they are subsuming some of the issues which are at the core of the debates on historical method alluded to above.

These involve matters such as causality and covering laws. In fact, in a chapter on historical explanation, (Chapter 3) L & F actually claim these notions—covering laws and causality—are central to historical research. They casually dismiss any criticism of those notions. It can probably be argued that a textbook must take a stand on and be positive in discussing philosophically debatable matters. However, there must be some point at which these philosophical questions must be exposed to students relying on the textbook. I feel there is sufficient doubt over these questions to warrant some arguments against them being discussed. For these reasons, I felt dissatisfied with the authors' treatment of historical explanation (which is the core of historical research).

Causality is dependent on covering laws which are, in turn, dependent on the existence of scientific laws. If causality is indispensable to historical research then history becomes intellectually dependent on those disciplines in which the so-called scientific laws are determined. History becomes an inferior discipline. If there are no scientific laws where does this leave history?

Philosophers of science have recently been demonstrating that there are no immutable scientific laws. Ironically, some of those philosophers—the most well-known of whom include Kuhn, Lakatos, Feyerabend & Laudan—have shown that it is history that is important for developing an understanding of scientific knowledge. This is an inappropriate place to discuss this matter fully. Suffice it to say that there do exist views opposed to the notions of causality and covering laws.[1]

There are other features of this book which are irksome. For example, there are no references given. On page 47, it is claimed that Michael Scriven has maintained the historian's need of general knowledge. No footnote or bibliographic citation is given. This is also true of the allusions, on pages 59 and 60, to the work of Alan Donogan as well as many others throughout the book.

Another feature which may be suitable for an undergraduate student but which a more sophisticated reader may find somewhat tedious is the extended metaphor of the detective—in particular Sherlock Holmes.

Overall, the enthusiasm for historical research of L & F is very apparent. The book is extremely readable and much of it is interesting and useful to the novices of historical research. So long as it is remembered that it is designed and written as a textbook for students of history, then this book is a useful addition to one's library. To this end, it is well worth recommending to accounting historians.

FOOTNOTE

[1]These comments are necessarily somewhat superficial. There are several references that could be given to those wishing to pursue the argument. My own thoughts are contained in the paper I presented at the Third International Congress of Accounting Historians: Methodology for Historical Accounting Research.

Myron Samuel Lubell, *The Significance of Organizational Conflict on the Legislative Evolution of the Accounting Profession in the United States* (New York: Arno Press, 1980, pp. xii, 427, $39.00).

Reviewed by
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University of Illinois at Urbana-Champaign

The title of Professor Lubell's dissertation alone should suffice as the abstract of its content, that is, if you recognize the accounting profession, as used here to mean public accounting. The organizational conflict referred to is both internal and external to the AICPA and that organization's predecessors. The legislative aspect is primarily a local affair since the profession is regulated principally at the state level. This does not mean that national organizations have not been involved, as the protagonist for this part of the story is the National Society of Public Accountants (NSPA). Much of Professor Lubell's presentation is an historical narrative about the on again, off again negotiations of recent years between these two adversaries.

After a description of legislative regulation and these two principal organizations, the author goes back to the late nineteenth century to trace the legislative and organizational history relating to public accounting in this country. The presentation highlights the conflicts at two levels:

Internal Conflict — Among CPAs

1885-1896	Early Patterns of Ideological Conflict — American Association vs Institute of Accountants
1897-1923	Professionalization Through Self Regulation or Licensing — American Institute of Accountants vs the Federation of State Societies of CPAs

1921-1936	Expanded Internal Conflict — The American Institute vs The American Society of CPAs
1936-1945	Termination of Internal Legislative Conflict — The merger of the American Society of CPAs and the American Institute

External Conflict — With Non-CPAs

1885-1896	Early Attempts at Recognition — U.S. vs British Auditors
1897-1923	Early Spread of CPA Legislation — Public Accountants vs Private Bookkeepers
1921-1936	Institutional Conflict — CPAs vs the National Association of CPAs
1936-1945	New Patterns of External Conflict — CPAs vs Non-CPAs
1945-1954	The Lines are Drawn — American Institute vs National Association of Public Accountants

The remainder of the text is devoted primarily to the latter conflict and chronicles the various attempts of the two groups to achieve a *modus vivendi.* The early attempts at negotiation between the AICPA and the NSPA, between 1954 and 1960, are summarized and, between 1960 and 1964, are described on a year by year basis. Professor Lubell concludes with a review of relations between the two from 1964 to 1976. In doing so, he relates developments on several fronts: the judicial, Federal government, and state legislative. Some observations about anti-trust possibilities are also made.

All of this is presented within the context of two sociological models of the professionalization process: a static attribute model and a continuum model. The former is identified as "a fixed listing of descriptive qualities that are generally characteristic of the recognized professions." The author cites several examples of this approach beginning with Abraham Flexner's model relating to social work, in 1915. Lubell summarizes these efforts and concludes by listing Greenwood's five elements: (1) systematic theory, (2) authority, (3) community sanction, (4) ethical codes, and (5) a culture. He also introduces Buckley's exchange model.

Professor Lubell notes some shortcomings of a static model and turns instead to a professional continuum model. He proposes a status spectrum ranging from "non professional" to "professional" with Greenwood's five elements used to position various occupations. Professionalism in such a model is depicted as a somewhat "relative" phenomenon.

Lubell then raises an interesting chicken or egg type question as to whether attributes create professions or whether professions give rise to professional attributes. He notes that some groups have unsuccessfully sought to attain higher status by just attempting to acquire the attributes. He offers constraints such as those postulated by Goode, Barber, and Montagna as possible explanations of their failure.

The continuum model also better suits Lubell's evolutionary approach to professionalization. He describes Caplow's model of the sequence of events leading to professional status and contributes observations from sociologists such as Wilensky.

The identified constraints of his "barriers paradigm" are both internal (internal conflict and technological limitations) and external (competing occupations, legal barriers, and public opinion) and shift in emphasis with time.

The conclusion of this discussion is a multi-stage conflict model that provides an integrated conceptualization of professional evolution. In it, he lists four stages (nonprofessional, marginal, emerging, and generally recognized professional status), their primary objectives, sequence of professionalization, and constraints.

In his concluding remarks, the author introduces the consumer movement as a new and potentially powerful constraint confronting aspiring professions. This force, the author argues, provides a new dimension to the public service or altruism attribute of the profession. Public opinion, he maintains, is beginning to be felt. Sunset laws are offered as an example. Congressional inquiry and the concern of the Federal Trade Commission are cited as others. This two front campaign for survival by the CPAs against government agencies and the "politically astute" National Society of Public Accountants promises to be an interesting if not a tedious one. The author has provided us with a richly supplemented "program" which helps the reader to understand as well as identify the players and the stakes, against a broad background of historical evolution and sociological analysis.

Congress of Accountants. *Official Record of the Proceedings of the Congress of Accountants,* 2nd ed. (New York: Federation of Societies of Public Accountants, 1904, Reprint ed. New York: Arno Press, 1978, pp. 231, $18.00).

Reviewed by
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University of North Carolina—Greensboro

This publication contains the proceedings of the first International Congress of Public Accountants held at the World's Fair in Saint Louis, Missouri on September 26, 27 and 28, 1904. The Congress was held to provide an opportunity for every public accountant in the United States and delegates from the Canadian and British societies to gather in one place to discuss problems facing the profession. The Congress had an opening session and four technical sessions.

During the opening session Joseph Edmund Sterrett was elected permanent chairman and delivered the opening address; giving a brief history and the current developments in the profession of accounting.

The first technical session was devoted to municipal accounting. Harvey S. Chase delivered a paper entitled "A Brief History of the Movement Toward Uniform Municipal Reports and Accounts in the United States." Chase's paper briefly traced the history of municipal accounting. The second paper written by Henry W. Wilmont and read by George O. May was entitled "The Municipal Balance Sheet." In his paper, Wilmont outlined the objectives of the municipal balance sheet, described how the municipal balance sheet differed from a corporate balance sheet, and suggested a format for a municipal balance sheet. The third paper "Revenues and Expenses as Distinguished from Receipts and Disbursements in Municipal Accounting" was presented by Frederick A. Cleveland. In his paper, Cleveland defined what constituted a complete system of municipal accounting and described the difference in expenses and revenues as distinguished from receipts and disbursements. The fourth paper prepared by Ernest Reckitt was entitled "Appropriations in Respect to Municipal Accounting." In his presentation, Reckitt discussed the need for accurate appropriations.

The second technical session was devoted to the CPA movement in the United States. In this session George Wilkinson presented a three part paper entitled "The C.P.A. Movement and the Future of the Profession of the Public Accountant in the United States of

America." The first part contained a discussion of the CPA laws in force in 1904. Seven states—New York, Pennsylvania, Maryland, California, Washington, Illinois, and New Jersey—had passed CPA laws and eight other states had tried unsuccessfully to secure passage of CPA laws. Wilkinson was concerned that the CPA laws were not uniform from state to state and he suggested that uniform legislation was essential to the future of the profession. The second part of Wilkinson's paper was devoted to the question of audit companies. The third part described the need for a single unified national society of public accountants.

The third technical session consisted of two papers concerning the duties of the professional accountant. The first paper entitled "The Duties of Professional Accountants in Connection with Invested Capital Both Prior to and Subsequent to the Investment" was presented by Francis W. Pixley. In the paper, Pixley explained the status and responsibilities of professional accountants in the British Isles. Pixley cautioned his American colleagues that "Clients who lose their money have an unfortunate habit of trying to fix the blame on their professional advisers, be they lawyers, stockbrokers or accountants; and as a matter of ordinary precaution reports on investigations of every description . . . should be so carefully worded as to give the client no opportunity of being able to prove that the accountant neglected any portion of an investigation necessary to fulfil his duties efficiently."

The second paper entitled "The Importance of Uniform Practice in Determining the Profits of Public Service Corporations where Municipalities Have the Power to Regulate Rates" was delivered by Robert H. Montgomery. The thrust of the paper was that utilities must use proper accounting procedures if they are to successfully defend their rate structure in court.

The fourth technical session was devoted to accounting profits and audits. The first paper "The Profits of a Corporation" was presented by Arthur Lowes Dickinson. In the paper, Dickinson compared the corporate legal environment in England to that in the United States and described the different elements which enter into the determination of profits.

The second paper, presented by Walter A. Staub was entitled "Mode of Conducting an Audit." In the paper, Staub discussed the three main objectives of an audit which were identified as (1) detection of fraud, (2) discovery of errors of principle, and (3) verification of the mechanical accuracy of accounts.

I found the *Proceedings* to be an interesting and informative link in the development of the accounting profession. The accounting practices and procedures described illustrate how far the profession has evolved in the last seventy-seven years, and yet many of today's generally accepted accounting procedures are only slightly changed since 1904.

The most valuable aspect of the book is the opportunity to read original writings by the early leaders of the accounting profession. These papers allow us to peek into their world and determine something of the character of these individuals. To me, these men are now more human and not just names in the history of accounting.

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DOCTORAL RESEARCH

Maureen H. Berry, Editor
UNIVERSITY OF ILLINOIS

This current selection of dissertations provides a long-range perspective on the interrelationships between trade and the growth of economic, political, and social institutions in a number of different countries.

Andrews takes the lead with his account of multidisciplinary research into the role of the salt trade in developing the Maya civilization during the dawn of the common era. Moving into more modern times, we take up the first of several studies involving the great rival nations of France and Spain. Berger's theme is a familiar one: the influence of financial administration on war and its outcome. By the middle of the 17th century, France's prolonged war with Spain had brought her to the verge of bankruptcy and attempts to raise money led to the civil disturbances of the *Fronde*. After leading us through these events, Berger introduces his "great man": a dissertation approach which has grown in popularity recently. This leading figure was Foucquet whose ambiguous dealings in State financial paper led to personal disaster but national triumph. The money which Foucquet raised went to pay for the army. The army was victorious and France was on its way to becoming the greatest power on the Continent of Europe.

Longfellow's analysis of the labor movement in Lyon during the final years of the *ancien regime,* its political strategies and alliances to achieve social goals, and its taking to the streets during the Revolution, rings with familiar parallel events in Eastern Europe. The weavers won their struggle for separate identity, but only to see these social and political gains swept away by a public policy, in their case, *laissez-faire* economics. While France was experiencing complete and rapid change in all its institutions, its best friend and best enemy, Spain, was benefitting from its own significant change in economic policy. McWatters' study of the royal tobacco monopoly in New Spain is an important analysis of the process and implications of shifting from private to public ownership. Further, it explores the importance of the role played by the main tobacco factory in Mexico City for the development of the surrounding area. Kicza's research is complementary, in that he was studying business and society in the same city and during roughly the same period in history. His was a broader scope, however. Rather than following one bright thread through the network of social, political, and economic relations, Kicza examined the whole fabric of trade and identified the family as the articulating mechanism in the private sector of the economy.

Yet another strategy for industry research was adopted by Robles who traveled to Peru to investigate the empirical nature of changes in technology. By concentrating on one sector, textiles, Robles gathered information from a very high percentage of firms which had adopted major process innovations. His data analysis methods should also be of interest to those researchers with compact data sources.

The two final dissertations deal with recent times in the United States. Cooper's research on the life, times, and contributions of Carman G. Blough provides a needed and valuable input to the inventory of histories of the great accounting pioneers. The more we can learn about their efforts, the more we can appreciate our art and how they have advanced it. As Cooper underscores, much of their labor goes unsung if not investigated, because the problems which they helped resolve have left few if any traces. Blough's concerns over the debilitating effects of Government intervention in the market leads us into Bartels' study of the Office of Price Administration during the Second World War. Administering this type of program in an inherently hostile environment was a challenging assignment and it fell to the lot of two different personalities: Leon Henderson, an economist, and, later, Chester Bowles, an advertising executive. Their efforts, failures, and successes, given their limited arenas, provide an interesting commentary on the government's reluctance to shift to unpopular public policy even though national interests may be in jeopardy. Society's propensity to reject incongruent intrusions appears well established as a universally acknowledged truth.

Salt-Making, Merchants and Markets: The Role of a Critical Resource in the Development of Maya Civilization (The University of Arizona, 1980, 389 pp; 41/5, p. 2184-A)[1] by Anthony Parshall An-

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[1] *Dissertation Abstracts International,* volume and page reference.

drews. This is a particularly noteworthy study because of its multidisciplinary nature. The Maya Salt Project, as it is known, was carried out during the six-year period 1974-80 and involved researchers from the fields of archeology, ethnography, history, and economics who examined the salt trading networks which emerged in southern Mesoamerica from 300 B.C. to 300 A.D. The author, an archeologist, performed field and library work in Mexico, Guatemala, Belize, and El Salvador, gathering data about the technological and trading aspects of both the ancient and contemporary saltworks industry.

The inquiry had four basic goals: (1) to synthesize available information concerning the evolution of Maya salt manufacture and trade, (2) to reconstruct the impact of the industry on Maya culture from an historical perspective, (3) to demonstrate the usefulness of multidisciplinary approaches to in-depth investigations of particular sources of trade, and (4) to discover more about Maya trade and its relationship to Maya civilization. Andrews found that, consonant with the importance of this commodity, the salt trade existed in sophisticated form over several centuries. Further, that it had an advanced market economy and a "powerful" class of merchants. His study examines the nature and role of salt in economies restricted to low-sodium diets, discusses early salt-making technology, and goes on to describe the salt-trading areas of the prehispanic era. Through a complex system of long-distance networks, many areas obtained their salt supplies from an individual source in northern Yucatan. This growth in long-distance trade is viewed as an essential element in the growth of Maya civilization.

Military and Financial Government in France, 1648-1661 (The University of Chicago, 1979; 40/10, p. 5544-A) by Peter Jonathan Berger. The birth of a nation often represents triumph over tragedy. Berger's interest in this topic has focused on France and, in particular, two major elements in many problems of genesis: finance and war. In tracking France's development as a major nation, Berger examines its military and financial government during the final period of its long war with Spain, a period marked by the virtual bankruptcy of the State. At the beginning of 1648, the crown approached the chief judiciary body, the Parlement of Paris, with a new fiscal edict designed to raise money for its crippled military operations. The Parlement refused, initiating the period of the *Fronde* which was virtually a state of civil war and lasted until 1653. During this time, the economy continued to deteriorate and the war with Spain had to assume secondary importance. The Spanish, meanwhile, took advantage of the situation by reconquering portions of territory and devastating regions which France had depended on for revenue. As the Fronde disintegrated, however, the King returned to Paris and internal calm was restored.

The end of the Fronde also marked the appointment of two new Superintendants of Finance, Abel Servien and Nicolas Foucquet. Foucquet proved to be the more influential and, until his arrest in 1661, guided the State's financial policy. His downfall was triggered by claims that he allowed huge profits to financiers, thereby amassing a personal fortune and impoverishing the State treasury. Berger's study supports the conventional wisdom that little evidence of guilt was produced at Foucquet's trial. He further suggests that because Foucquet's transactions in Crown promissory notes provided the money needed to pay the French army, it consequently was a major contribution to the triumphant outcome of the war. The Peace of the Pyrenees concluded in 1659, coupled with the Peace of Westphalia, heralded France's rise as the dominant power in Europe.

Colbert was brought in to replace Foucquet and make a fresh start. Given the peace-time conditions, Colbert managed to make headway by scaling down the public debt, introducing a new system of macro-accounting, and aiding mercantilism by subsidies and tariff protection. As Berger points out, however, Colbert went on to suffer the same unpopularity as his predecessor when the wartime conditions of the 1670s forced him to resort to essentially similar fiscal measures.

The Silk-Weavers of Lyon During the French Revolution, 1786-1796 (The Johns Hopkins University, 1980, 544 pp; 40/10, p. 553-A) by David Lyman Longfellow. As we know from contemporary events in Eastern Europe, a distinctive labor force can be shaped by economic conditions and political activism. Longfellow studied the development of this type of phenomenon by examining the activities of the master-weavers of the luxury silk industry in Lyon (Lyons) during the final years of the *ancien regime* and on into the French Revolution.

Today, Lyon is the greatest European producer of silk and rayon and is second only to Paris as an economic center in France. Its importance as a silk center dates from the 15th century. By 1786, this, the city's largest and state-regulated industry, was divided in a severe social and economic struggle between the five thousand or so master-weavers and the silk merchants they outnumbered by about eight to one. Both groups suffered from repeated economic downswings and the weavers, fighting to find work, resented subordination to the merchants. Neither side, however, was willing to submit to pressures for restructuring and deregulating the industry. A particularly severe work stoppage over demands for piece-work rate increases led to the intervention of royal troops who supported repressive efforts against the weavers by the merchants and the city government.

When, in 1788, Louis XVI called for elections to the Estates-General, the weavers grasped their opportunity to pressure the National Assembly and elect politicians sympathetic to their cause. These efforts proved successful and the weavers managed both to increase their piece rates and expel the merchants from the community (corporation). Despite the abolition of guilds and corporations in 1791, the weavers retained their identity as an artisan labor organization, maintained their wage rates (tarif), and obtained an increase in the tarif in 1793. Their fortunes went into temporary decline in that same year when moderates beat down a conservative uprising in which the weavers sided with the Jacobin republicans, and thousands of weavers fled from the ensuing repression. During the subsequent Terror, however, they managed to revenge themselves on their enemies and also obtain needed raw materials for their workshops. As an organized artisan labor movement, though, they suffered from a return to *laissez-faire* economics, while the city itself recovered from the devastation because of the invention of the Jacquard loom.

The turmoil and excitement of those days was captured by Longfellow from manuscripts and printed records in the city archives of Lyon and those of the Department of the Rhone, as well as the National Archives and the *Bibliotheque Nationale* in Paris.

The Royal Tobacco Monopoly in Bourbon Mexico 1764-1810 (The University of Florida, 1979, 300 pp; 40/9, p. 5153-A) by David Lorne McWatters. The royal tobacco monopoly created in New Spain in 1764 was one of the most successful and innovative revenue-producing mechanisms devised by the Spanish State. This study describes how the entire industry was reorganized, how the state-owned enterprise developed and flourished, and the socio-economic impact this new manufacturing sector had on Mexico City.

The decision by the Spanish Bourbons to place under state control the entire process of planting, manufacture, and sale of tobacco in New Spain took place gradually. The initial stage only involved growing and selling leaf tobacco, so that production and sale of manufactured tobacco goods remained in the private sector. State control started in 1765 by limiting the geographical area in which planting could be carried out and requiring planters to enter into formal contracts. Policy affecting the shape and direction of the control process, as it then developed, was uneven because of conflicts between the various administrators, particularly over tobacco supplies. The next major move was to introduce manufacturing control through the production of cigars and cigarettes in state-run factories which were in competition with private concerns. In 1769, state ownership expanded with the opening up of a large factory in Mexico City. This attracted workers and owners from private firms, hastening the demise of private manufacturing interests. In 1775 came the final stage when private tobacco shops were abolished in Mexico City and replaced by government-operated retailing. Thus the entire process was accomplished in little more than a decade.

The benefits to the state were significant. McWatters reports that during the period 1782-1809, the minimum annual revenue was 3 million pesos, a high of 4.5 million being reached in 1789. The study's main concern, however, was with the system of factory production in Mexico City and its socio-economic effects on the factory workers. Of particular interest was the process by which ownership was transferred from the private to the public sector, as well as government enterprise operations.

Business and Society in Late Colonial Mexico City (University of California, Los Angeles, 1979, 600 pp; 40/9, p. 5152-A) by John Edward Kicza. Mexico City in late colonial times is the setting for this study of the integrated nature of its social organization and business operation. While limited geographically, the work has very broad scope, encompassing the social and economic behavior of every major occupational group then operating in the capital city.

Much of the research data was drawn from the national archives of Mexico, the richest source being the notarial records which contain abundant examples of commercial contracts. This volume can be explained by the fact that, because of economic uncertainties, diversification was a common business strategy. Expansion into other commercial areas was frequently accomplished through two-party agreements. The fact that an investor could rely on able management of projects was another strong factor influencing capital investment, and profit sharing, through this type of contract. The other contracting party, usually the venture's manager, also had a strong interest in this type of arrangement because of the potential for a greater return for his efforts than a traditional salary arrangement. Given a successful record, the manager could then himself play the role of entrepreneur as he accumulated the necessary investment capital.

A critical element in this network of commercial relationships was the uniting thread of family connections. The concept of family included both blood relatives and others claiming association by marriage. Clusters of family groups, headed by a key figure, operated various business ventures with much of the professional staff support coming from within the family. Consequently, there were strong economic overtones involved in choices about career paths and life partners, complicated by the social structure which perceived individual efforts as requiring (family) group orientation. This type of group influence pervaded society, with lower social levels emulating the elite, and similar social and economic patterns surfaced across various occupational groups. The importance of Mexico City as the center of trade impacted on the surrounding countryside as it came under the influence of the dominant group in the capital, the merchants. This pre-eminence of Mexico City, and the mechanisms by which it was achieved, has survived to the present day.

The Adoption of Process Innovations in the Peruvian Textile Industry: Organizational Determinants and Sources of Relative Advantage (The Pennsylvania State University, 1979, 301 pp; 40/9, p. 5162-A) by Fernando Robles. Economists have long been interested in why process innovations are adopted in developing countries. Their explanations include: imperfections of factor markets, intrinsic bias on the part of decision makers, or the limited possibilities for technological alternatives. Robles argues that other variables may come into play, particularly given the fact that in developing nations which are typically labor rich, process innovations are usually capital intensive.

To investigate this apparent paradox, Robles chose the Peruvian textile industry for a field study because this industry was known to have adopted three major new technologies, open-end spinning, automatic winding, and the shuttle-less loom. He personally interviewed the managers of 41 firms, representing over 80 percent of the weaving capacity, using a questionnaire to gather data. On a five-point Likert scale, the managers compared the three new technologies with conventional processes with respect to certain economic and noneconomic attributes. The major dimensions of relative advantage were then identified through cluster analysis of the inter-item correlation matrix. A discriminate function provided a relative advantage score for each firm and each innovation, where adoption was the criterion variable and the cluster scores the discriminate variables. These relevant advantage scores were then employed as the dependent variables in a regression of relative advantage on size, export propensity, and complexity. They also acted as an independent variable in a discriminate analysis predicting adoption.

The results showed an apparent positive association between the size of the firm and relative advantage and adoption, with larger firms in the van with respect to adopting process innovations. Conversely, smaller firms exceeded larger firms when it came to undertaking conversion to a new process. Because of inconclusive results, two other hypotheses could not be confirmed. It had been expected, for example, that firms with higher export propensity would have perceived greater advantages for process innovations, or have adopted them. Robles conjectured that a possible reason why results were not clear in this regard was that the value of gains in exports have to be perceived as exceeding the accompanying need for increased investment including the attendant risk factor. Further analysis of the group of adopting firms showed that more intensive process innovation could be linked to those firms which entered export markets earlier and had a greater involvement in export markets.

Carman G. Blough: A Study of Selected Contributions to the Accounting Profession (University of Arkansas, 1980, 271 pp; 41/5, p. 2175-A) by William David Cooper. One approach to the study of a particular phenomenon is to investigate the major influences on its development. In many fields, an increasingly popular strategy is to concentrate attention on the lives and efforts of noted pioneers. One such "great man" in the accounting discipline was Carman Blough whose roles as the first Chief Accountant of the Securities and Exchange Commission (SEC) and the first full-time Director of Research at the American Institute of Accountants, now the American Institute of Certified Public Accountants, facilitated the translation of philosophy into practice. Thus, many of the positions which he initially espoused survive today in the form of professional guidelines.

Cooper's research concentrated on three areas of interest: accounting principles philosophy, contributions to financial accounting, and contributions to auditing standards. A rich store of material was available from published and unpublished writing, correspondence, and lectures. Additional data was also gathered through personal and telephone interviews, including a session, lasting several hours, with Mr. Blough himself.

An important point made by the author in his summing up is the necessity to appreciate Blough's influences on the form and direction of the accounting profession as it evolved over, roughly, a thirty-year period until the 1960s. Otherwise, much of his importance would be overlooked given the fact that many of the problems he dealt with no longer exist. In terms of philosophy, much of Blough's concern was directed towards linking users' needs for information with existing economic conditions. In his view, changing needs and conditions call for flexibility and adaptability in accounting policies, considerations which he felt could only be addressed by private sector establishment of accounting principles.

The Politics of Price Control: The Office of Price Administration and the Dilemmas of Economic Stabilization, 1940-1946 (The Johns Hopkins University, 1980, 551 pp; 41/2, p. 768-A) by Andrew Hudson Bartels. In periods of crisis, governments are placed in the uncomfortable position of setting unpopular public policy. This dilemma is particularly acute in democratic societies, wary of accepting curbs on traditional freedoms. Bartels examines a particular example of this type of situation in the United States: the era of World War II, marked by inflation coupled with shortages of essential commodities. His focus is on the way in which the price control system which went into effect early in the conflict was molded by such factors as the demands of interest groups, ideologies, and institutional imperatives.

The stimulating effects on U.S. industry of the European war in early 1940 and 1941 affected the prices of certain raw materials and industrial products. This brought about a discretionary price administration program headed by a New Deal economist, Leon Henderson. Henderson's philosophy was one of selective control: to restrain prices without hobbling industry and, for political reasons, to leave wages and agricultural prices alone to the extent possible. A selective program, initiated as it was just after the attack on Pearl Harbor, could not last long in the face of pervasive price increases. It soon became evident that wages and agricultural prices would have to be included in the control process.

This thinking was incorporated in the price control legislation passed early in 1942. However, barely one year later at the beginning of 1943, stiff controls were imposed on the Office of Price Administration (OPA) by the President and midway through the year Chester Bowles took over as the OPA's Administrator. As a former advertising executive, Bowles had the requisite background for selling unpopular policy. Among the innovations he introduced into the price control program was active involvement by clients, including special interest groups and private citizens, an approach which proved effective in quietening political controversy.

With the end of the war in 1945, strong pressures were exerted on the Government to lift the control system, pressures which the OPA resisted on the grounds that stabilization measures were necessary to deal with the dangers of inflation. Political considerations prevailed, however, and the OPA finally went out of business at the end of 1946. As forecast, inflation set in and continued at a severe level for two years. As this study demonstrates, incongruent elements introduced into social, political, and economic systems have low survival prospects.

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Vol. 21, No. 2 **November, 1981**

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