Estimated Liabilities for Warranties and Guarantees.

William Ross Heck

Louisiana State University and Agricultural & Mechanical College

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ESTIMATED LIABILITIES FOR WARRANTIES AND GUARANTEES

A Dissertation

Submitted to the Graduate Faculty of the
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in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Accounting

by

William Ross Heck
M.S., Alabama Polytechnic Institute, 1955
August, 1960
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ABSTRACT

The danger of the omission of liabilities on the balance sheet and the proper recognition of the corresponding expense on the income statement is one of the chief problems of income determination. To match costs with revenue properly, all after-costs must be considered. In many cases, the after-cost involves a liability whether it is an estimated expense or a deferral of revenue. This study was aimed primarily at one segment of the after-costs category. This area is that of estimated liabilities for warranties and guarantees. The investigation was directed toward determining the nature of the liability, the basis of cost determination and method of statement presentation. In addition, it was to find why these liabilities are ignored and to determine the influence that income tax legislation had exerted on this accounting problem.

The investigation was divided into two areas—the manufacturing and the retailing levels. The survey of manufacturing companies was accomplished through use of questionnaires. Manufacturers who provided for these after-costs as well as those who did not were surveyed on the subjects mentioned above. This investigation was hampered by the security classification which the manufacturers have placed upon information concerning the area of warranty costs.
Although historical costs form the basis of the warranty provision, information in other areas revealed a lack of consistency among manufacturers of warrantied products.

Retail level accounting practices were investigated as case study projects. In some instances, complete access was granted by the retailers to all records. In other instances, only limited access was granted. Even so, success in this area was far greater than at the manufacturing level. On the retail level, the need for warranty provision is evident only to those who share the cost with the manufacturer. Only a small number of companies, however, provide for warranty provision although the need exists.

Accounting considerations both theoretical and practical were examined. These considerations were correlated with other estimates which are employed in income determination. An attempt was made to discover why some estimates were constantly employed while others were ignored.

Our income tax laws have been credited with greatly influencing accounting principles. Legislation was reviewed to determine the influence upon principles involving warranty after-costs. Brief recognition was given to these after-costs but later rescinded retroactively. It is believed that the influence of tax legislation has been great in the area of non-recognition of after-costs.

Those companies which provide for future warranty costs are small in number. The provision is usually based
upon historical data. In many cases, the liability for such after-costs is merged with other liabilities and loses its identity on financial statements. On the retail level, a lack of knowledge on the part of retailers is a primary reason for the omission. Income tax legislation is a secondary cause. It is believed that adequate recognition of these costs will become more widespread when the retailer is educated with reference to the separation of the cost of the warranty from the cost of the warrantied product.
INTRODUCTION

Under generally accepted accounting procedures, a business using the accrual method of accounting computes its income for any given year by taking into account all expenses and liabilities relating to the earnings of such income. The process by which costs are applied against revenues is referred to as the matching process and this procedure or principle is fundamental in accounting for the business entity. Accounting for costs involves three stages; ascertaining and recording costs as incurred, tracing and reclassifying costs in terms of operating activity, and assigning costs to revenue.\(^1\) The first of these stages is in large measure a matter of observation and correct clerical procedures. The last of these stages, which is the most difficult requires more than careful procedure and accurate compilation because this stage involves essentially the matter of judgment and interpretation.\(^2\) It is easy to realize that there is no one best solution to the problem concerning the

\[^1\text{W. A. Paton and A. C. Littleton, An Introduction To Corporate Accounting Standards (Iowa City: Athens Press, 1940), p. 69.}\]

\[^2\text{Ibid.}\]
assignments of costs to revenue when one considers the amount of literature that has been written and the proposals made therein concerning a number of accounts which appear on the statement of financial position.

On the problem of cost assignment, there are some costs such as those associated with inventories, probable bad debt losses, cash discounts anticipated on receivables, and vacation pay to mention a few which present a greater problem involving the matter of judgment and interpretation. Among this latter category are the costs associated with the sale of a product when such sale provides a warranty or guarantee of that product in the event the product does not measure up to expectations. These warranties further provide that corrective measures be furnished by the seller with no additional expenditures on the part of the buyer. Providing for these future costs can be accomplished by the establishment of an estimated liability decreasing the amount of revenue recognized at the time of the sale. This liability, under the matching process could be increased at the time each sale was made and decreased at the time an expenditure was made to repair or replace the defective article sold.

ESTIMATED LIABILITIES

It would appear that because the matching process has become an accepted accounting principle and in view of the
fact that almost every article sold of a mechanical nature carries some type of warranty or guarantee, accounting literature would be voluminous on the subject of guarantees and warranties. This, however, is not the case. The fact that liabilities for guarantees do exist and should be properly accounted for is enumerated in many textbooks but little is mentioned about their method of creation, changes made thereto and the disposition of such an estimated liability at the time the guarantee or warranty expires. A summary of most of the accounting literature presented in textbooks is contained in the Accountants' Handbook and written by Paul E. Fertig as follows:

"ESTIMATED LIABILITIES. A known obligation of an uncertain amount, such as the rendering of free service and the replacement of defective merchandise, is termed an estimated liability. Under a guaranty or warranty agreement a company is obligated to comply with the terms of the contract. The only question is the aggregate sum to which they ultimately will be liable.

"In such case it is considered proper to charge an appropriate expense account and to credit an appropriate liability account for the estimated amount of the obligation based on the past experience of the company. This procedure permits the matching of costs and related revenues and the recognition of the obligation that is outstanding. Subsequently, costs of fulfilling guaranties are charged to the liability account.

"Estimated liabilities are properly classified as current liabilities when their claims will require the use of current assets during the next operating cycle. Estimates of a long-term nature are discussed under
Long-Term Expense Accruals, later in this section. ³

Accounting literature is not the only area which has ignored the subject of estimated liabilities for guarantees and warranties. Of the 600 companies included in Accounting Trends and Techniques, only 28 companies disclosed such a provision for warranty or guarantee on their financial statements. ⁴ Fourteen of such companies classified these provisions among current liabilities and the remainder classified these provisions above the stockholders' equity section on their statements of financial position. Furthermore, little or no information was provided by these companies concerning the nature or amount of increase or decrease in such accounts. Terminology for these accounts included "Provision for Product Warranty," "Reserve for Product Warranty," "Provision for Guarantee," and "Reserve for Service Guarantee."⁵

The Securities and Exchange Commission took cognizance of these estimated liabilities in its Accounting Series Release Number 64 in 1948 when this commission stated that financial statements were considered to be misleading by


⁵Ibid., p. 97.
failure to provide for unrecoverable costs which might arise under the company's guarantee of its product.\textsuperscript{6}

\section*{INCOME TAX RECOGNITION}

The Congress of the United States recognized these liabilities when Section 462 of the Internal Revenue Code of 1954 was first enacted when the law provided that an accrual basis taxpayer could elect to establish a reserve for estimated expenses in connection with a trade or business and deduct reasonable additions.\textsuperscript{7} This recognition was short-lived however and was rescinded by the passage of Public Law 74, June 15, 1955.\textsuperscript{8} The effect has been a reinstatement of the rule that expenses in advance of payment are not deductible under the accrual method until all events have occurred which establish the existence and fix the amount of a definite liability.\textsuperscript{9} Under the repealed section of the Internal Revenue Code a taxpayer could set up reserves for estimated expenses in connection with a trade or business if such

\begin{itemize}
  \item[8] Public Law 74, June 15, 1955, 84th Congress (69 STAT 134).
\end{itemize}
reserves were related to income taken into account for the tax year, if such reserves could be estimated with reasonable accuracy and if they would ordinarily be deducted in some later year.

The Internal Revenue Code of 1954 at the time of its enactment, did not specifically enumerate the deductions covered under Section 462, but it is interesting to note that the Senate Finance Committee Report listed some of those deductions which could qualify under Section 462. These deductions included such items as cash discounts to customers, sales returns and allowances, expenses in connection with the product guaranty, freight allowances, damage claims and others.10

HISTORICAL BACKGROUND

For a better understanding of the nature of warranties and guarantees, it is well to look at their historical background. Up until the nineteen twenty's warranties and guarantees were for a relatively short period of time and were implied rather than expressed, i.e., there was no written warranty given to the customer by the manufacturer or retailer. During this decade, one manufacturer began issuing warranties for a period of one year covering this manufacturer's

electrical compression-type refrigerators. Under the terms of these warranties, any mechanical defect which developed during the first year of operation of the refrigerator would be repaired or, if necessary, replaced by the manufacturer. This was to be done with no cost being incurred by the purchaser. For any defect occurring after one year, expense of replacement or repairing was to be borne by the owner. During this period there were very few trained mechanics in the field of refrigeration repairing and accordingly, repairs were often unsatisfactory with the result that ill-will was incurred on the part of the manufacturer because of customer dissatisfaction. Rather than blame the repairman, the product was referred to as being mechanically imperfect.

In 1935, the manufacturer offered to its customers an agreement whereby that company would make the necessary repairs after the one year warranty had expired for a charge of six dollars per year. This agreement was in the form of a service contract which is similar to those in use today in connection with merchandising of television receivers. There was no compulsion on the part of the buyer to obtain the additional one year service—it was of a voluntary nature.

Material concerning the historical background of warranties was obtained from "An Early History of the Electric Refrigerator" published in the July, 1957, edition of Electrical Merchandising and from the U. S. Court of Claims Case General Motors vs United States, 163F Sup 854 unless otherwise indicated.
There appears to be no profit motive in the company's move to offer this service, but on the contrary it appears that due to unsatisfactory local service, the company could best regain its goodwill by having the mechanism repaired at its factory as a means to insure future satisfactory service.

In 1935 when total refrigerator production by all companies exceeded one and a half million units,\textsuperscript{12} the above mentioned company offered to its customers an agreement covering a period of four years in addition to the one-year standard warranty which was provided without charge at the time the refrigerator was purchased. Under the cost structure which existed prior to 1935, the agreement would have cost the purchaser a total of $24, but instead the company offered this service for $10. Technical innovation in the form of the hermetically-sealed compression unit was possibly responsible for the cost reduction in 1935. With the introduction of this new agreement, a customer could be assured of five years of trouble-free and cost-free service for an additional expenditure of $10.

One year later, in 1936, the price of the additional four-year warranty was reduced to $5. One notable difference was included however in that prior to 1936 the plan was voluntary, but with the price reduction, the agreement became

\textsuperscript{12} "How Long Does A Refrigerator Last?" \textit{Electrical Merchandising}, September, 1959, p. 56.
mandatory on the part of the buyer and was named the "Protection Plan" by the company. It was at that time that the service contract lost its identity as such and one sale (that of a refrigerator and the protection plan) occurred rather than the sale of two items (the product and the warranty) as had been a practice in the past.

At the time the Protection Plan was offered by General Motors, that company was perhaps the largest manufacturer of refrigerating equipment and with the offering of this plan by the leader in the field, a pattern was established which has been adopted by all major electrical manufacturers of refrigerating equipment today. The impact on the growth of refrigerating equipment sales by adding this type of warranty is not known and cannot be determined for about the same time merchandising policies such as liberal credit plans and loss-leaders were instituted which brought many customers to the dealers' showrooms.13

As for the warranty, the end result is that today all manufacturers of electrical compression-type refrigerators sell their equipment on a national scale with an expressed and written warranty to maintain it in satisfactory operating condition for a period of four years in addition to the customary one-year warranty. There are exceptions to the five

year maintenance period however. One exception to this warranty is that of a manufacturer of absorption-system refrigerators which provides a ten-year protection plan. Although this manufacturer produces both compression-type and absorption-system-type refrigerators, only the latter is available with a ten-year warranty, the former carries the five-year warranty which is predominant in this field. In addition one manufacturer has extended its five-year warranty an additional five years in a limited area. The costs incurred in providing this additional five-year warranty will be studied to arrive at a decision involving extending the additional five-year warranty on a nation-wide basis.\textsuperscript{14} As this company is a small producer, it is not anticipated that their limited extension of the warranty in the New York area will affect the larger producers of refrigerators.\textsuperscript{15}

It can be seen from the above that the use of the warranty or guarantee has had its impact upon the growth of the production and merchandising of electrical refrigerators in the United States. Long-term protection plans have become firmly embodied in the merchandising policies of refrigerator manufacturers and are becoming more evident in other

\textsuperscript{14}\textit{Gibson Test 10 Year Warranty,} \textit{Electrical Merchandising}, February, 1958, p. 140.

\textsuperscript{15}\textit{Mort Farr,} "Why Not Try Selling Refrigerators?" \textit{Electrical Merchandising}, April, 1948, p. 24.
merchandising activities such as hot-water heaters, washing machine transmissions, electric fans and motors to mention a few.

PURPOSE OF STUDY

Because of the increasing use of and the lack of available accounting information on the subject of warranties and guarantees, it is the purpose of this dissertation to investigate thoroughly the accounting implications of estimated liabilities under product warranty and guarantee. To investigate each and every product which has some type of guarantee or warranty attached, either expressed or implied, would prove to be an endless task, and therefore, this investigation is limited to products of those companies which have adopted a basis of providing a provision for warranty or guarantee on their financial statements. As most of these manufacturing companies do not sell direct to the consumer, it is also necessary to investigate the accounting methods used by their retailers as well as any recommendations made by the manufacturers to their retailers concerning proper accounting procedures. This is accomplished by both mail questionnaires and personal interviews and it is reported in the following manner.
PROPOSED METHOD OF STUDY

Chapter II investigates and discusses the methods used by participating companies in the establishment of warranty provisions, the items which are charged against the warranty provision and disposition upon the expiration of the warranty. This chapter also investigates the accounting procedures used by companies manufacturing similar products but which have not made a provision for their warranties on their financial statements. Furthermore, it presents their alternate methods of accounting for their warranties where such a provision is not evident on their financial statements. In addition, the matter of excise taxes and their relationship to warranties is examined in this chapter.

The accounting treatment for warranties and guarantees by the retailer is covered in Chapter III. The implementing of manufacturers recommendations covering warranties by the retailer is investigated. Because the sales tax structure of various states differ insofar as taxability of service as opposed to physical products is concerned, the implication of sales taxes is reviewed in this chapter.

Chapter IV attempts to reconcile the various methods used by the manufacturers and the dealers with generally accepted accounting procedures. The similarity or dissimilarity of warranty provisions with those other types of valuation
accounts which appear on the financial statements such as allowance for uncollectibles are discussed in this chapter. Chapter V also investigates the statutory effect of income tax laws in the determination of taxable income and compares this with income determined in accordance with generally accepted accounting procedures.

Chapter VI concludes this dissertation with a summary of the facts uncovered, the conclusions and recommendations.
CHAPTER II

ACCOUNTING PRACTICES ON THE MANUFACTURING LEVEL

INTRODUCTION

An investigation of previous research in the area of accounting for warranties on the manufacturing level was first made to determine practices employed at this level. The only available information in this area was assembled by the American Institute of Certified Public Accountants. The results were published in Accounting Trends and Techniques. The Institute indicated in the prefatory paragraph that the survey covered 600 companies.\(^1\) Of this number, only twenty-eight companies disclosed a provision for warranty or guarantee. Furthermore, the report stated that little or no information was provided by the financial statements of the subject companies concerning the nature or amount of increase or decrease in such accounts.

SELECTION OF SAMPLE

As the basic information had been obtained by the American Institute of Certified Public Accountants, it was decided to use these companies as the sample. The companies manufactured a variety of products ranging from adding machines

\(^1\)Accounting Trends and Techniques, op. cit., p. 96.
to welding machines. The surveyed companies are listed in Appendix I. These companies will hereinafter be referred to as "positive" companies as they made some provision for future warranty costs.

In addition to the positive companies, it was necessary to select a sample of companies which did not provide for warranties, but whose manufacturing activities indicated that the companies were engaged in the manufacturing of products similar to that of the positive companies. These similar companies would be referred to as "negative" companies. The intention was that the positive and negative companies would be similar except in providing for future warranty costs.

The selection of the sample of negative companies was chosen at random in the following manner. A table of random numbers was used. The numbers in the table were matched with the number assigned each company by the American Institute of Certified Public Accountants in Accounting Trends and Techniques. It was believed that some of the positive companies would be again chosen at random using a table of random numbers. In addition, there would be chosen at random in this sample some companies whose activities would not include the manufacturing of a warrantied product. Accordingly, a sample of sixty companies was drawn in this manner. This sample was slightly larger than twice the number of positive companies.
Duplications were first eliminated. Then such companies as Pure Oil Corporation, National Biscuit Company and others which do not manufacture a product subject to warranty were eliminated. The removal of these two categories reduced the size of the sample to thirteen.

It was planned to have the size of the negative companies to be equal to one-half of the positive companies. When the sample was complete it was noted that two large corporations manufacturing warrantied products were not included. Rather than draw another completely different random sample, it was decided to add these companies to bring the size of the sample to fifteen. Accordingly, General Motors Corporation and Ford Motor Company were added to the sample of the negative companies. The negative sample could then be referred to as a judgment-random sample. The composition of this sample is listed in Appendix II.

PILOT SURVEY

Questionnaires were prepared and sent to five companies selected at random from the positive company sample in October of 1959. The questionnaires were sent with covering letters which indicated the nature of the problem concerning warranties. The covering letters further requested any additional information of interest which concerned warranties and which was not included in the questionnaire. This initial survey,
or pilot survey, was used to clarify any points on the questionaire which might be misinterpreted.

REVISION OF QUESTIONNAIRE

On the basis of the replies received from the pilot survey, the questionnaire was revised. A brief background paragraph was added to the questionnaire which indicated the purpose of the study. In addition, two questions were added which requested the classification of warranty costs. The problem of valuation of inventory for probable defective units in physical inventory was included. One respondent of the pilot survey called attention to the impact of income tax laws on accounting procedures in general. Because of the numerous articles which have been written recently concerning the differences between accounting and tax practice, a question was added which requested specific, rather than general, information in the area of warranty accounting.

Although question three in the pilot survey concerning the classification of warranty costs as a deduction from revenue or as an expense was similar to another question (number nine) added after the pilot survey was completed, it was decided not to remove either one of the similar questions. Instead these two questions were used as a check on the reliability of the answers provided by the respondents. The revised questionnaire, which was mailed to both the positive and negative companies, is appended as Appendix III.
The mailing took place in November of 1959. Each questionnaire was mailed with an individually prepared forwarding letter. A postage paid envelope was provided for the reply. The completed questionnaires were returned by the respondents very slowly. Follow-up letters were sent to each respondent which had not replied at the end of the month. The positive companies which had not replied on January 8, 1960, were again sent a questionnaire with a postage paid envelope. Of the positive companies surveyed, only one failed to reply after the second request.

ELIMINATION OF COMPANIES

Of the twenty-eight positive companies surveyed, all of the companies made some provision for warranty or guarantee. However, several of these companies are at this point eliminated. This is done because the provision does not apply to a manufactured product, the company is no longer manufacturing a warrantied product, or it is not within corporate policy to provide information concerning accounting practices.

The Grand Union Company located in New Jersey, operates numerous supermarkets in that locality. The provision in this case concerns a contingent liability in connection with the retail food business. The nature of the liability was not disclosed by the company. The company did state that the
provision no longer existed. Accordingly this company is eliminated at this point.

The National Cylinder Gas Company, the one company which failed to reply, included among the current liabilities a "Provision for Losses on Construction Contracts." In addition, the Income Statement indicated that there was a loss on performance guaranty of a Canadian subsidiary in the amount of $1,193,450.

The National Cylinder Gas Company had two contracts for the construction for others of certain chemical plants. Both contracts contained performance guaranty clauses as to the productive capacity of the related plants. In addition, a wholly-owned Canadian subsidiary of National Cylinder Gas Company had another such construction contract containing a performance guaranty clause under which the National Cylinder Gas Company was contingently liable as a guarantor of the subsidiary's performance under the contract. As these performance contracts are related to plant construction rather than the manufacturing of a warrantied product, this company is eliminated at this point.

Both the Admiral Corporation and Philco Corporation indicated that it was against their corporate policy to provide information concerning accounting practices. These companies are not eliminated in their entirety as their financial statements provide partial information.
The Barber Oil Company was engaged in the roofing business at one time, but gave up this activity in 1932. There are still a few outstanding 20-year guarantees concerned with roofs. The amount connected with these guarantees has been merged into an account titled "Reserve for Taxes, Guarantees and Contingencies." Accordingly, this company is also eliminated.

The liability reflected on the financial statements of Douglas Aircraft Company for additional costs to be incurred on delivered products does not represent the cost of warranty obligations. As stated by the company, "that item represents the cost to be incurred in furnishing parts or performing work not completed at the time the airplanes are delivered." As this company treats normal warranty expenses as selling expenses, this company therefore becomes a negative company and will be included in that area.

The remaining company, Servel, Inc., disposed of its former home appliance business in 1958. Prior to that time the company manufactured a refrigerator having a ten-year warranty. This company, however, is not eliminated in its entirety as information on past warranty program was partially provided.

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ADDITION OF COMPANIES

Three companies, Chrysler Corporation, Ford Motor Company and Stewart Warner Corporation were included in the sample of negative companies. The return of the questionnaire indicated, however, that these companies should be included among the positive group as they do provide for warranty costs. Accordingly, they are transferred to the positive group.

PRODUCTS MANUFACTURED

The products manufactured and covered by warranty ranged from adding machines to welding machines. Some of the products and length of the warranty are as follows:

- Adding Machines - 1 year
- Air Conditioning Apparatus - 5 years
- Automobiles - 90 days or 4,000 miles
- Ball Point Pens - 1 year
- Bonded Built-up Roofs - 20 years
- Fountain Pens - Lifetime
- Gasoline Engines - 1 year
- Hearing Aids - 1 year
- Industrial Furnaces and Ovens - 90 days
- Motors - 1 year
- Refrigerators - 5 to 10 years
- Television Sets - 1 year on tube, 90 days on parts
- Trucks - 90 days or 4,000 miles
- Water Heaters - 10 years
- Welding Machines - 1 year

The questionnaire returned by General Electric Company had a several page forwarding letter. The information presented by that company was very complete and detailed. The
section of the letter dealing with product warranty is reproduced as follows:

"General Electric has over 500 product lines, and the number of products which the Company makes ranges from several hundred thousand to several million, depending upon the degree of differentiation used in defining the term 'product'. Terms of warranty are established by the Company's ninety-odd departments, and will show substantial variations depending upon the type of product involved. In general terms, warranties range from thirty days to five years following sale, with most common warranty terms being ninety-days, six months and one year."

DETERMINATION OF ESTIMATED LIABILITY

The determination of the estimated liability for warranty costs appears to be the most closely guarded secret of the manufacturing companies. Although this information was given in most cases, it is difficult to interpret. On this subject, General Electric Company stated the following which illustrates this difficulty of interpretation.

"Future warranty charges for products sold by the Company at a given point are generally calculated based on actuarial experience ratios applied to the exposure at any point in time."

Sonotone Corporation, a manufacturer of hearing aids, indicated that the provision is based upon the ratio of actual

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4 Ibid.
guarantees fulfilled to months of guarantees expired applied to unexpired months of guarantees outstanding valued at reconditioning cost. An attempt was made to obtain a clarification of this procedure, but was met with no success.

Only four companies indicated that the provision is based upon sales. One company indicated a rate of .65 percent of sales. The other three replied that various rates were used. Eight companies indicated that this information was confidential and could not be released. The remainder of the companies used some type of formula which in most cases is based upon past experience or past warranty cost in relation to sales. In addition to that used by General Electric above, some of the formulas which are employed are: by averaging the warranty expense of prior periods, average cost of past four years, actual analysis of failures of past years by year as a basis of a projection through future years, and a combination of material cost and a fixed amount per unit which varies with the type of product.

All attempts to summarize adequately the methods used have proved to be impossible. It could be said however, in most cases the provision for warranty costs is based upon past events or historical data.

FINANCIAL POSITION PRESENTATION

At the time a charge is made against revenue (or a deduction made therefrom) a corresponding liability account
is created by each of the positive companies for balance sheet presentation. The account titles used to describe the warranty provision are as follows:

Accrual for Warranty Expense
Accumulated Liability for Warranty
Estimated Cost of Discharging Unexpired Service Guarantees
Extended Product Warranties
Liability for Repairs to Machines Under Guaranty
Liability for Replacement Under Guarantee
Provision for Additional Costs on Contracts
Provision for Product Guarantee
Provision for Warranties and Special Purposes
Reserve for Product Failure
Reserve for Product Guarantee
Reserve for Product Warranty
Reserve for Self-Insurance and Product Guarantees
Reserve for Product and Service Warranties
Reserve for Product Warranty on Automobiles and Under Government Contracts
Warranty and Policy Adjustments

Insofar as balance sheet classification of the above accounts is concerned, seventeen of the positive companies classified the guarantee or warranty provision as a current liability. After the elimination of National Cylinder Gas, Barber Oil, Grand Union and Douglas Aircraft, nine of the positive companies classified such provisions as non-current above the Stockholders' Equity section of the balance sheet. General Electric Company, which separates this provision between current and non-current liabilities, increases each classification by one. Therefore, the provision appears as a current liability on eighteen financial statements and non-current on ten. None of the positive companies classified the provision as an appropriation of retained earnings.
ANALYSIS OF WARRANTY PROVISION

Twenty-eight companies were included in the original survey. This number was increased by three (Chrysler, Ford, and Stewart-Warner). The complete eliminations to this point (Grand Union, National Cylinder Gas, Barber Oil, and Douglas Aircraft) have reduced this number to twenty-seven companies in the positive group. In the balance sheet presentation above, Philco and Admiral Corporations were included as their financial statements indicated the position of the liability. At this point, Philco and Admiral Corporations are completely eliminated as the income statements of these companies are condensed to such a point that warranty costs lose their identity on the income statements.

Only seven of the reporting companies stated that separate liability accounts were provided for each year's sales. In all cases except one of these seven, the total liability was current. The remaining companies which merged together the liability for each year's sales, did state that the warranty provision was analyzed at the end of each fiscal period. In this connection, Westinghouse Electric Corporation outlined their analysis procedure as follows:

"A time lag period is developed for each of the various classes of product representing the average number of months after billing that field trouble or complaints may occur. Based on actual billing and expense of a twenty-four month period, an experience rate is determined at year end. This rate is applied to the
billings of the lag period to determine the estimated potential liability. This potential liability is compared with currently developed liability as shown by the books.\(^5\)

Six of the companies replied that the account was analyzed to determine if the amounts were excessive or deficient. Then corrective action was taken if needed. A clarification of what was considered excessive or deficient as well as the procedure followed was requested. The only company replying to the request for clarification was the Flintkote Company. This company outlined their procedure in handling bonded built-up roofing sales as follows:

"We make a charge for bonds at varying rates based upon the length of time that the bond will be outstanding i.e., 10-15 or 20 years. The amounts received are placed in a reserve. Annually, 40% of this reserve is entered in miscellaneous income and 60% remains as a reserve for repairs and claims on these bonded roofs. The 60% reserve has been established over a period of years and would be adjusted if our repair costs exceed the reserve balance. In addition to the reserve amounts reflected in income each year, the reserve remaining in a bond expiration year is also closed to income."\(^6\)

As noted above, seven companies stated that separate liability accounts were maintained for each years' sales. The disposition of the balance of this account was requested

\(^5\)Questionnaire returned by Westinghouse Electric Company.

when the warranty or guarantee expired. Each company disposed
of the balance of the liability account differently. Three
companies stated that the balance was credited to the account
originally charged. One company credited the amount to the
cost of sales and the remaining companies recognized this
amount as revenue.

COST CLASSIFICATION

Of the twenty-five remaining positive companies, the
classification of cost of warranty or guarantee provision on
the Income Statement was as follows:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deduction from Revenue</td>
<td>3</td>
</tr>
<tr>
<td>Cost of Goods Manufactured or Sold</td>
<td>9</td>
</tr>
<tr>
<td>Selling Expense</td>
<td>8</td>
</tr>
<tr>
<td>General Expense</td>
<td>1</td>
</tr>
<tr>
<td>Operating Expense</td>
<td>1</td>
</tr>
<tr>
<td>Not Reported</td>
<td>3</td>
</tr>
</tbody>
</table>

In the case of the "Not Reported" classification, ten
companies failed to indicate the cost classification on the
returned questionnaire. A request was initiated to each of
the companies requesting this additional information. Seven
of the requested companies replied with the desired informa-
tion. The remainder failed to reply.

ALLOWANCE FOR PROBABLE DEFECTIVE ITEMS IN INVENTORY

An allowance for probable defective items which might
be included in inventory was provided for in the case of four
companies. One company replied that an allowance was made
for actual defective items in inventory as these items were carried at net realizable value.

MANUFACTURERS' ACCOUNTING RECOMMENDATIONS

All respondents were questioned on any recommendations which are made by them to their dealers regarding adequate and proper accounting procedures for warranty costs. Only two replied to this question in the positive. The remainder of the replied were negative. Although the companies replying in the affirmative were requested to provide a copy of such recommendations, they failed to do so.

As part of the determination of the sample to be used for case studies in dealer accounting methods, it was planned to use the accounting procedures suggested by the manufacturer as a guide to dealer practices. As this problem is one on the dealer level, rather than the manufacturer, further discussion is delayed until Chapter III. Dealer accounting practices are discussed at that time.

ASSUMPTION OF COSTS

When the warrantied products are sold through a dealer, the dealer usually provides the necessary repair or replacement subject to reimbursement by the manufacturer. The costs incurred by the dealer may be assumed entirely by the manufacturer, by the dealer, or they may share them in some proportion.
In no instance are the costs of repair or replacement assumed by the dealer. This would appear to be the case as all companies provide for these future costs. In all but two cases, the manufacturer assumes the cost in its entirety. The excepted companies provide as follows:

In the case of Johns-Manville Corporation, the cost of correcting any defects appearing in the first two years of the life of bonded-built-up roofs is the responsibility of the roofer. Thereafter, or in the event of the default of the roofer, Johns-Manville assumes the necessary repairs which is charged against the income from roofing bonds.7

General Electric Company indicated that in most cases the costs are incurred entirely by the manufacturing company. But in some cases, General Electric pays for defective parts while the dealer incurs labor costs necessary to repair minor complaints.8

TAX CONSIDERATIONS

In all of the positive companies, estimated costs were used to determine income for statement purposes. Only one company, however, deducted these costs to determine taxable income. It is interesting to note that this one company is

8Letter from R. L. Young, op. cit.
the subsidiary of a company included among the negative companies. The parent company does not, however, provide for future warranty costs.

Baldwin-Lima-Hamilton Corporation, Chrysler Corporation, General Electric Company and Stewart-Warner Corporation were the only companies which indicated that income tax legislation had influenced their accounting practices. The remaining companies indicated that tax legislation had no effect on their accounting practices.

The replies in the latter cases are subject to question. For example, Johns-Manville stated on the questionnaire that tax legislation had no effect upon their accounting practices. When asked for a clarification on the method of sharing warranty costs between the roofer and the manufacturer, this company stated the following:

"We do issue 10, 15, and 20 year bonds for built-up roofs laid by our approved roofers for which we provide a reserve by deferring the income received from the roofer for such bonds.

"The cost of correcting any defects appearing in the first two years of the life of such roofs is the responsibility of the roofer. Thereafter, or in event of default of roofer, we assume the cost of any necessary repairs which is charged against the income from the roofing bonds.

"A pro rata share of the income, less cost of repairs, is credited to each year's sales, spreading the income over the average life of the bonds."
"For tax purposes, the entire amount of income received from the roofing bond is reported as taxable income; the cost of repairs deducted therefrom.

"The only product for which we provide a reserve for implied warranty is our Transite pipe, the reserve for which is calculated as 1/10 of 1% of sales. This rate will vary with the usage of the reserve.

"For tax purposes, only the charges to the reserve are deducted from taxable income."

From the above, it would certainly appear that tax legislation has had an effect upon the accounting procedures of Johns-Manville Company.

In regard to the effect of Section 462 of the Internal Revenue Code of 1954 on the computation of income for General Electric Company, that company had the following to say:

"It has always been our view that the actuarially determined cost of future warranties represents a proper charge to operations at the time such sales are made. We feel strongly that the application of this generally accepted accounting principle should be recognized for Federal Income Tax purposes."

In a letter to all shareholders of General Electric in 1955, the president called the shareholders' attention to the effect of revised tax laws. Part of this letter is reproduced as follows:

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9Letter from J. A. Torgesen, op. cit.

10Letter from R. L. Young, op. cit.
"The Congress of the United States has now passed and President Eisenhower has signed, a bill which repeals, retroactively to January 1, 1954, Section 462 of the Federal income tax law relating to provisions for estimated expenses. This retroactive change in Federal tax law has required an increase of $13,700,000 in the Company's 1954 provision for Federal income taxes and renegotiation, with a corresponding reduction in net earnings...

"This additional tax liability represents largely tax (computed at the 52% rate) on expenses which we estimate the Company will have to pay in 1955 and subsequently to fulfill its service obligations on products sold in 1954. The original purpose of the provision with respect to estimated expenses, which has been repealed, was to permit a taxpayer to take such future obligations relating to current year's income into consideration in determining taxable income. With its repeal, the Company must defer deduction of these expenses for tax purposes until the expenditures are made. For book purposes, we are continuing to record these expenses in the year of sales, as we always have in the past...

"As previously indicated, the Company has always provided for these estimated future expenses in determining its earnings for management purposes and in reporting to Share Owners. This represents good business practice and is in line with generally accepted accounting principles.

"We believe it is evident that the Government's original objectives of eliminating differences between actual income as determined in accordance with normal business practice and taxable income were very desirable. The company is in full accord with suggestions advanced by industry at hearings held before the Congressional Committees when alternatives were suggested to restrict or defer the tax revenue loss to the Government without abandoning the principle originally adopted by the Congress and still universally recognized as sound. It is encouraging to note that the Senate Finance Committee
has expressed its intention to report out substitute corrective legislation at an early date. Enactment of such legislation would do much toward providing a fair and equitable tax structure for American industry."11

The auditors called attention to the soundness of the accounting practices of General Electric Company in the certificate appended to the financial statements which provides in part as follows:

"Under date of February 18, 1955, we reported that the 1954 consolidated financial statement presented fairly the financial position of General Electric Company and affiliates at December 31, 1954 and the result of their operations for the year then ended. On June 15, 1955, Section 462 of the 1954 Internal Revenue Code was repealed retroactively with the result that various estimated expenses reflected in the computation of the provision for Federal income taxes and renegotiation are no longer valid deductions for tax and renegotiation purposes. However, these estimated expenses continue to be reflected in the books of account in accordance with sound accounting practice."12

It is believed that the above letter of the President of General Electric and that of their auditors explains fully the impact of tax legislation on accounting for warranty provisions.


SUMMARY

The first half of this chapter has presented the results of questionnaires sent to thirty-one companies regarding the liability for warranty and guarantee which appears on their financial statements. There appears to be no one generally accepted method of accounting for warranties and guarantees. It can be said that these companies do feel that the warranty provision is an important part of income determination. Furthermore, although there is no one method of cost determination, the methods used are to a large extent based upon historical data. The impact of tax legislation upon accounting practices seems to have been greater than the responding companies have admitted. It is now time to turn to those companies which manufacture a product subject to warranty and which do not provide for future costs in connection with such warranties.

QUESTIONNAIRES SENT TO NEGATIVE COMPANIES

Obtaining information from those companies which do not provide for warranty costs did not meet with much success. The same procedure was followed in the case of the positive companies. Each forwarding letter requested the respondent to indicate the reason that such provisions were omitted from their financial statements. A postage-paid envelope was
provided for the return of the questionnaire. Only one company replied to the initial requests which were sent in November of 1959.

Follow-up letters were sent to the remaining fourteen companies in December, 1959. Only one company replied. This company, General Motors Corporation, indicated it was not their policy to release information on accounting practices. The remaining negative companies which had not replied on January 11, 1960, were again sent a questionnaire, forwarding letter and postage-paid envelope. That part of the forwarding letter which requested information on why the company did not provide for future warranty costs was omitted at this time. The total replies received was seven. Three of these were transferred to the positive group and the results are included above. With the transferring of Douglas Aircraft Company to this category of negative companies, the total completed questionnaires received from companies which do not provide for warranty costs were four.

RESULTS OF QUESTIONNAIRES

Although no valid conclusions can be drawn from these four companies, the information provided by them is presented. None of the companies stated the reason that warranty cost provisions were not provided. Three companies treated these costs as selling expenses. The other company treated these
costs as a cost of goods sold item. The warranty costs in all cases are assumed entirely by the manufacturer. The effect of tax legislation, according to the respondents, is nil. General Motors Corporation, which is not included above, did indicate that warranty "reserve" amounts were suggested to their dealers.

FEDERAL EXCISE TAXES

An examination of warranties on the manufacturers' level would not be complete without also looking into the matter of sales taxes and federal excise taxes in connection with warranties. As sales taxes are primarily on the retail level, a discussion of this subject is delayed until the methods used in accounting for warranties on the retail level are examined. The Federal Excise tax, although both a retail and manufacturer's excise tax, is applicable primarily on the manufacturers' level insofar as warranties are concerned and will be covered in this chapter. The Internal Revenue Code of 1954 provides among other things, that a federal excise tax be levied upon the manufacture of automobiles, business machines, phonographs, radios, and refrigerators. This rate varies from five to ten per cent. The manufacturer's excise tax is technically imposed upon the seller. There is no specific feature of the law which requires a separation of the tax from the product on the price tag. One reason that
the tax is not shown separately on the price quotation, except in the automobile industry which is required to do so by some state statutes, is that the tax would reveal the distributors' margin.\(^{13}\) Retail excise taxes are usually quoted separately, however.

The tax is normally imposed upon the actual price, the charge for placing the article in operating condition prior to delivery, but not including charges for delivery, insurance and installation if the amounts for delivery, insurance and installation can be determined separately.\(^{14}\) Consequently the question which then evolves is whether the tax should be levied upon the package of items sold to the retailer, i.e., the product and the warranty, or should the excise tax be levied upon only the selling price to the dealer of the product with the warranty being exempted from this tax.

It has been pointed out earlier that when warranties were first offered to the customer, they were optional. The buyer was not required to purchase the service contract which in effect extended the original warranty which was furnished without charge to the customer for a period of one year. At this time, it was probable that the cost of the warranty was not paid by the dealer at the time the initial purchase was


\(^{14}\)Ibid., p. 240.
made. It was probably so arranged that if the ultimate consumer desired to take advantage of the protection plan provided by the manufacturer, the dealer simply acted as the agent for the manufacturer.

The dealer would complete the transaction between the manufacturer and the consumer. He would forward either all or a majority of the compensation received for the protection plan to the manufacturer. The dealer also acted as the agent in removing the mechanism from the cabinet in the event of replacement. The dealer would forward the mechanism to the manufacturer for the latter to repair or replace as the case might be. When the manufacturer returned the mechanism to the dealer, the dealer would replace it in the consumer's cabinet. Had there been federal excise taxes at this time, there is no doubt that so much of the cost of the protection plan would not have been subject to such a tax.

General Motors Corporation took such a stand. On this basis, that company made claim against the government for refund of approximately twenty-seven million dollars. This amount represented excise taxes paid to the government on that part of the sale price to retailers which were actually warranty costs. On two previous occasions, General Motors made such a claim for federal excise taxes levied on warranty costs and recovered the taxes paid.\footnote{General Motors v United States, AFTR 2nd 6539.} In the last case, however,
the court reversed itself. The court provided us with a rule of law which has undoubtedly been responsible for the separation of equipment and warranty sales prices in areas of merchandising other than refrigerating equipment. The U. S. Court of Claims stated that because the sale of refrigerating equipment and the warranty were so closely tied together, that because the retailers as well as the manufacturers did not attempt to separate the two and lastly, because the sale of the equipment with a warranty had become such an accepted procedure throughout the industry, Frigidaire and General Motors Corporation had no claim on the cost of the warranty not being subject to federal excise taxes.\textsuperscript{16}

The case in point was appealed to the United States Supreme Court along with another of Ford Motor Company concerning the warranties on automobiles for periods of 90 days or 4,000 miles. The Ford Motor Company case involved approximately eight million dollars. The Supreme Court refused to hear the appeal. This in effect, affirmed the decision of the U. S. Court of Claims and the latter's decision becomes the law of the land.\textsuperscript{17}

The question of federal excise taxes becomes settled where any attempt is made to separate the warranty from the

\textsuperscript{16}Ibid.

\textsuperscript{17}New York Times, October 21, 1948, p. 25.
item that is being warrantied. In view of the fact that at the time of the appeal, Ford and Frigidaire's claims amounted to some thirty-five million dollars and at this same time approximately 24 other cases involving tax refunds under warranties were pending, one might wonder concerning the U. S. Court of Claims' decision. This questioning is brought about by the fact that in prior cases the U. S. Court of Claims had held that the warranty and equipment selling prices were separable. Furthermore, the Court held that no tax should be levied upon the warranty costs.

SALES TAXES LEVIED ON FEDERAL EXCISE TAX

Although the question of excise taxes is settled, there still remains, however, the problem of sales taxes. If a consumer lives in one of the thirty-three states which have levied a sales tax, he may also pay the sales tax upon federal excise taxes. This problem, because it concerns the retail level of accounting, is examined in Chapter III.

SUMMARY

A discussion of the accounting practices employed on the manufacturer's level has been presented in this chapter. Detailed information obtained by questionnaires from manufacturers of products subject to warranty has been given.

18 Ibid.
Historical costs are used to form the basis for warranty provisions. In some cases a percentage of sales is used. In other cases, the provision is an estimate based on the service which might be performed on the warranted product.

Statement classification of the liability created may be either current liability or other liability. The former appears to be the more popular. Income statement classification varies. Future warranty provisions are usually treated as either a cost of manufacturing and sales or a selling expense.

The warranty provision is not always clearly identified on the financial statement of position. In some instances, this after-cost is merged with accrued liabilities. In such a case, it loses its identity.

The warranty provision is usually merged with other costs to arrive at selling price. Because of this, the excise tax levied at the manufacturers' level is based upon the cost of the product as well as the warranty provision. Such a procedure influences the selling price on the retail level. The discussion of the accounting practices employed on the retail level follows.
CHAPTER III

ACCOUNTING PRACTICES ON THE RETAIL LEVEL

INTRODUCTION

At the outset an attempt was made to discover if any research in the area of accounting for warranties on the retail level had been done. There was no record of such research ever having been published. It was planned, therefore, to select a sample of retailers and undertake the investigation through the use of mail questionnaires. This procedure would be similar to that used on the manufacturers' level. The lack of satisfactory results on the manufacturers' level caused an abandonment of such a proposal. Instead, the research in the retail area was made on a case study basis.

Each dealer was contacted to determine the extent that he would participate in the problem at hand. Of those dealers agreeing to participate, they asked that their name, the total amount of sales and net profit not be disclosed. For the purpose of identification, they will be referred to as Dealer A, Dealer B, or some other identifying letter.

DEALER A - GENERAL INFORMATION

Dealer A is engaged in selling and servicing household appliances. Auxiliary to this operation is kitchen planning
and installation. This dealer handled Frigidaire appliances which are manufactured by General Motors Corporation.

General Motors Corporation is included among those companies which do not provide for future warranty costs on their financial statements. The manufacturer furnishes information to its dealers on accounting for future warranty costs. The form of business organization of Dealer A is a sole proprietorship. A change to the corporate form of organization is contemplated. Dealer A has six competitors selling Frigidaire appliances in his locality. He has eleven employees and his outlet is located in a secondary shopping center.

ACCOUNTING RECORDS

Dealer A uses the accrual basis of accounting. The books of account are prepared by Reynolds and Reynolds Publishing Company. They are constructed in accordance with specifications outlined by General Motors Corporation. The books are closed annually on December 31 of each year. Interim statements are prepared quarterly. No formal audit is carried out and certified financial statements are not prepared. A perpetual inventory is maintained for major home appliances. A Manual of Accounts and a Dealer's Operating Guide are provided by the manufacturer.

The Manual of Accounts was first examined. In this publication, each account used is fully explained. Such terms as Reserve for Bad Debts and Reserve for Depreciation
are evident throughout the Manual of Accounts although the publication date is 1955. In the classification of accounts, the above accounts are considered to be liabilities.

The Dealer's Operating Guide is very complete insofar as the handling of merchandise, servicing customer complaints and items not involving accounting procedures are concerned. The section dealing with accounting methods is vague. It stressed that only proper accounting methods should be instituted. It failed to be specific in that area.

USE OF ESTIMATES

A review of the Manual of Accounts indicates that only three estimates are used for income determination. These are depreciation, bad debts and warranties. Depreciation is determined by the estimated useful life procedure. It is computed on a straight line basis. No further comment will be made on the use of this estimate.

There is also in use a "Repossesion Reserve" account. This account is concerned with financing by outsiders. The amounts involved are not determined by the dealer. As they are determined by the finance company, no further comment will be made on this account.

ACCOUNTS UNCOLLECTIBLE

Included among the liabilities, is the contra account for uncollectibles. The description as outlined in the Manual
of Accounts is as follows:

"261 RESERVE - BAD DEBTS

"Credit this account at the end of each month with the amount necessary to bring the balance to a figure equivalent to the total amount of Customer Accounts Receivable and Customer Notes Receivable that are 91 days or more past due (as indicated by the trial balance of accounts receivable and notes receivable). The offsetting debit should be made to Provision for Bad Debts, Account No. 1261."

No mention was made in the accounting manual concerning the probable value of repossessions in the case of the bad debt.

The owner indicated that most of his contract accounts receivable were financed by two finance companies. For the better accounts, recourse financing was used and a repossession reserve was provided by the financing company. This reserve was included in the finance charges. The customer therefore provides for additions to this reserve through increased finance charges. For the poorer credit risks, non-recourse financing with another company was available. No reserve is established for this latter group.

The owner indicated that the accounts receivable include, for the most part, service work which had been done. This would normally be collected within 30 days. In addition to the accounts receivable for service, there were a few 90 day

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accounts for appliances. This dealer, who had been in business over nine years, stated that he never had to repossess an item sold on a 90-day account. Consequently, a reserve for such a repossession was not needed nor provided.

According to the dealer, any customer who could not pay for the account within 90 days usually transferred the amount owed to an installment account. In this case, the contract was handled by a finance company.

The reserve was established only in the case of accounts which arose as a result of service work performed. In carrying out this procedure, the dealer reviewed all accounts over 90 days old at the end of each quarter. If, in his opinion, the account was fully or partially uncollectible, a provision would be established at this time. The provision would be equal to that part of the account considered to be uncollectible. He indicated that less than 10 per cent of the accounts reviewed were considered to be uncollectible. The dealer further indicated that investigation of past due accounts sometimes revealed that the charge should have been warranty servicing. In such a case the account was charged to the warranty provision. This procedure will be examined more fully in a later section.
WARRANTY PROVISIONS

An examination of the remainder of the accounts indicated that additions and deductions from a warranty provision account was the only remaining account which was based upon an estimate. The Manual of Accounts describes this allowance as follows:

"268 PRODUCT WARRANTY RESERVE ON CURRENT YEAR SALES"

"Credit this account with the predetermined amount of first-year labor warranty per unit as recommended by the manufacturers for all products sold during the current accounting year. The offsetting debit should be made to Warranty & Policy Expense, Account No. 16."

"Debit this account with all labor costs pertaining to the servicing of products in warranty that were sold during the current accounting year."

"At the close of each accounting year, the remaining balance in this account should be transferred to Product Warranty Reserve on Previous Years Sales, Account No. 269."

"The balance of this account should at all times be the unused warranty reserve on the current year product sales."

"NOTE: It is absolutely necessary that the manufacturers' recommended warranty be used in all cases for all products carrying first-year labor warranty. If these amounts are not known on manufacturers' products other than Frigidaire, they may be obtained by writing direct to the manufacturers. Unless this reserve is set up for all products carrying first-year labor warranty, we recommend that warranty reserve accounts not be used, and that actual
In addition to the warranty on current year sales, a warranty provision is provided for previous year's sales. The amount added to this account is actually the warranty provision on current year's sales remaining at the end of the year. The Manual of Accounts describes this account as follows:

"269 PRODUCT WARRANTY RESERVE ON PREVIOUS YEAR SALES

"Credit this account at the close of each accounting period with the remaining balance in Product Warranty Reserve on Current Year Sales, Account No. 268.

"Debit this account with all labor costs pertaining to the servicing of products in warranty that were sold during the previous accounting year.

"At the close of each accounting year, the remaining balance in this account should be transferred to Warranty & Policy Expense, Account No. 16."

A note similar to the one under Product Warranty Reserve on Current Year Sales is also included under this account description which explains the necessity of using manufacturers' recommended warranty reserve.

\[2\text{Ibid.}\]

\[3\text{Ibid., p. 21.}\]
DETERMINATION OF WARRANTY PROVISION

The amount of future warranty costs to be provided for each sale is determined from a schedule of warranty reserves which is furnished by the manufacturer. Certain appliances chosen at random, their cost, selling price and warranty provision are presented in Table 1. As indicated in this table, there is little relationship between selling price, cost price and warranty provision. It could be said that as selling price increases, the warranty provision also increases.

Table 1. Cost, Selling Price and Warranty Provision for Selected Frigidaire Appliances

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>COST</th>
<th>SELLING PRICE</th>
<th>WARRANTY PROVISION</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA 9-60</td>
<td>$142.96</td>
<td>$199.95</td>
<td>$5.75</td>
</tr>
<tr>
<td>DA 11-60</td>
<td>153.26</td>
<td>219.95</td>
<td>5.75</td>
</tr>
<tr>
<td>FD 11-60</td>
<td>220.47</td>
<td>349.95</td>
<td>7.75</td>
</tr>
<tr>
<td>FI 13T-60</td>
<td>302.79</td>
<td>489.95</td>
<td>7.75</td>
</tr>
<tr>
<td>FPI 13T-60</td>
<td>352.23</td>
<td>569.95</td>
<td>12.25</td>
</tr>
<tr>
<td>FPI 15B-60</td>
<td>432.57</td>
<td>699.95</td>
<td>12.75</td>
</tr>
</tbody>
</table>

Source: Frigidaire Division, General Motors Corporation, Price List and Schedule of Warranty Reserves, 1960.

The manufacturer indicated that parts used in the first year warranty are supplied by them without cost to the dealer. The warranty provision recommended by the manufacturer is therefore concerned with service including such items as labor, car expense and overhead. The manufacturer determines the warranty provision as follows:

"The warranty reserve amounts are established on the basis of actual field studies, handling service with trained service personnel,"
using the correct tools and methods that apply to the individual product.\(^4\)

INCREASES TO THE WARRANTY PROVISION

An increase in the warranty reserve takes place in many different ways. The most common method is the sale of a product. In addition, there are transferred warranties and direct sales by the manufacturer. The discussion of these methods will follow.

WARRANTY SALE

As stated above, the sale of a product by the dealer will increase the warranty provision. According to the description of the accounts above, the sale of an item such as a SA-9 refrigerator for $200 (excluding retail sales taxes) would be accomplished as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Policy Expense</td>
<td>$ 5.75</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>200.00</td>
</tr>
<tr>
<td>Sales Revenue</td>
<td></td>
</tr>
<tr>
<td>Warranty Reserve</td>
<td></td>
</tr>
<tr>
<td>$200.00</td>
<td></td>
</tr>
<tr>
<td>$5.75</td>
<td></td>
</tr>
</tbody>
</table>

The Sales Journal which is constructed according to the manufacturer's recommendation treats the warranty cost somewhat differently from the description of the warranty accounts.

\(^4\)Letter from E. E. Landis, Service Manager, Frigidaire Division, General Motors Corporation, Dayton, Ohio, March 11, 1959.
The special columns provided in the Sale Journal indicate that the sale of the above appliance would be handled as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts Receivable</td>
<td>$200.00</td>
</tr>
<tr>
<td>Sales Revenue</td>
<td>$194.25</td>
</tr>
<tr>
<td>Warranty Reserve</td>
<td>5.75</td>
</tr>
</tbody>
</table>

The explanation which accompanies the Sales Journal indicates that accounts receivable would be debited for the total price of the article, warranty reserve credited for the amount of the suggested manufacturer's warranty and sales credited for the net amount.

According to the description of the Manual of Accounts, the creation of the warranty provision results in an expense. This expense is classified as a selling expense. The Sales Journal however, treats warranty amount as a deferral of revenue. Dealer A followed the latter method treating the amount of the warranty as unearned and unrealized revenue.

TRANSFERRED WARRANTY

The warranty reserve is also increased by the transfer of a warranty from one dealer to another. This can be best explained by the following example.

A consumer residing in San Francisco purchases a Frigidaire appliance. Two months after the date of purchase, the consumer moves to Atlanta. Upon arrival in Atlanta, trouble develops in the appliance. As the appliance is still
in warranty, the purchaser contacts a local Atlanta dealer. The local dealer furnishes the required service in making repairs. The servicing dealer then requests the area distributor to transfer the unexpired warranty provision from the selling dealer to the servicing dealer. This is accomplished by credit memorandum to the servicing dealer and a debit memorandum to the selling dealer. Any parts which are required are furnished by the manufacturer.

In the event that the additional service required and given by the servicing dealer does not exceed the amount of the transferred warranty, the difference is income. In the event additional service does exceed the amount of the transferred warranty, the servicing dealer must assume the loss.

DIRECT SALES BY MANUFACTURER

Sales of built-in units are made direct by the manufacturer to contractors. The dealer does not receive any commissions on these sales. However, the dealer may in some cases receive the warranty. The manufacturer first requests that the dealer handle the warranty, i.e., handle any service required under the warranty to the consumer. If the dealer agrees, the manufacturer issues him a credit memorandum for the amount of the warranty provision. The dealer treats this credit as a reduction of the amount due to the manufacturer on other purchases. Charges for services rendered to the
consumer on these built-in units are applied against the warranty provision. In this case the dealer is receiving compensation for a service policy. As this is a clear case of deferred income, no further discussion is necessary.

**TRAILER SALES**

A similar situation occurs in the case of sales made to trailer manufacturers. The equipment provided by the dealer's supplier to the trailer manufacturer may eventually end up in any locality. In the event that trouble develops within the warranty period, the servicing dealer provides the necessary parts and service. He further requests that the warranty provision be transferred to him. In the event that no service is required on appliances sold to trailer manufacturers, the appliance manufacturer accrues the income from this type of warranty.

**DECREASES IN WARRANTY PROVISION**

Decreases in the warranty provision occur as a result of charges for service rendered or the transfer of the warranty to another dealer. The charges for services are varied, however. Such items as repairs for which parts are furnished by the manufacturer would be considered typical charges against the warranty provision. There are other charges made against this provision which might not be considered typical. These unusual charges will be discussed after the usual ones.
IN-WARRANTY SERVICE

At the time a request for service is received from a customer, an invoice is prepared. A customer file is maintained for all products sold under warranty. The customer's file is compared with the invoice to determine if the item is still within the warranty period.

When an appliance is within the warranty period, the serial number and model number are noted on the invoice. This information is needed for factory reference in the event that parts are supplied by the dealer. The dealer can return the defective part to the manufacturer with information on the product and receive a reimbursement for parts installed to repair a defective product.

After the service is completed, a charge is made based upon a rate scale for all service calls. The accounting entry to record the charge decreases the warranty provision and increases service income. The transfer from the warranty provision to income is the nominal charge for service had the item not been in warranty. It is not the cost of such service. Thus, the transfer recognizes as revenue that proportionate part of the warranty provision which was created at the time the sale was made.
TRANSFERRED WARRANTY

It was mentioned earlier that service rendered on a product sold by another dealer results in an increase in the warranty provision. A decrease in the warranty provision occurs when an item is serviced by another dealer.

The distributor requests that the selling dealer transfer the balance of such a warranty provision from the selling dealer to the servicing dealer. The dealer determines the amount remaining by deducting the charge for service performed in warranty. The balance is then transferred to the distributor who further transfers the amount to the servicing dealer. A product may be sold and removed from the locality of the selling dealer. If no further service is required after the product is moved, the income is realized by the selling dealer when the warranty expires.

OTHER CHARGES AGAINST THE WARRANTY PROVISION

In addition to service provided in warranty and the transfer of the warranty to another dealer, there are other items which are chargeable against the provision for warranty.

These items were disclosed by the investigator in an analysis of service invoices issued over a three-year period. The normal warranty period is one year. A charge resulting after the one-year period as well as items not normally covered by warranty are included in this area.
Improper Operation

A complete demonstration explaining the operation of an appliance is given immediately after the delivery of the appliance. Occasionally the appliance is operated improperly and damaged. Although the fault is not with the product, the repairs are provided without cost to the purchaser.

Another instance in this area of improper operation is the overloading of electrical circuits. The use of electric irons and heaters on the circuit supplying the appliance may overload the circuit causing a blown fuse. The serviceman is called and the fuse replaced. In this case the appliance is not at fault. Not only is the service provided but a fuse furnished as well. The service and parts provided in this case are applied against the warranty provision instead of the customer's having to pay for them.

Out-of-Warranty Service

On numerous occasions, service as well as parts are provided after the expiration of the warranty. If the customer indicates that the service should be covered by the warranty, the service manager sometimes charges the retail price of such service against the warranty provision. In this case the warranty provision bears the service charge as well as the cost of any parts used.
A similar procedure is sometimes used to close another sale. The prospective customer may appear to be hesitant because of trouble developing in a product of the same brand. The product involved may be beyond the warranty period. It may have also been sold by another dealer in a distant locality. As a means to closing the sale of an additional product, the trouble may be corrected without charge to the prospective customer. In this case, the charge is applied against the warranty provision.

Uncollectible Accounts

As mentioned earlier, past-due accounts are reviewed periodically. If it is felt by the customer that the repairs should have been in-warranty and management feels that the claim is justified, the charge may be applied against the warranty provision.

Relocation of Appliances

After a product has been delivered, the customer may desire that the product be relocated. Because of the size of the product, its electrical and/or plumbing connections, it may be impossible for the owner to relocate the appliance. In this instance, the relocation is accomplished by the dealer's employees. Where the cost is not excessive, the charge for relocation is applied against the warranty provision.
Dealer's Comments on Unusual Charges

The many and varied charges mentioned above were discussed with the owner. He stated that he was aware that these procedures were being followed. He remarked that the warranty provision was provided to take care of customer complaints and to promote goodwill of the products that he sold. It was therefore his policy to use the warranty provision for what it was intended—to keep his customers happy. This he intended to do.

In the case of relocation of appliances, the dealer stated he actually saved by incurring the cost of relocation. His previous experience indicated that when the appliance was moved by the customer, the mechanism was sometimes damaged. This was due to improper handling or installation by the customer. The cost of repairing the damage caused by the customer would exceed the cost of relocation on his part.

In addition, the dealer stated that by making the charges against the warranty provision, the income from service would clearly show him what the service department was doing. Service income would not fluctuate because of work being done to satisfy customers.

YEAR END ADJUSTMENTS

The warranty provision account is reviewed annually. The balance of the account is adjusted somewhat as follows.
The total amount of services provided which were concerned with sales made in the previous year is used as a base. To this is added 1 per cent of the increment of growth in gross sales over the previous year. The owner stated that the liability account has in the past equalled the estimate needed. If a great excess developed, the excess would be realized as revenue. A deficiency would be resolved by a deduction from gross revenue.

INVENTORY CONSIDERATIONS

No allowances are made for probable defective items in inventory. Occasionally, there are defective items in inventory. This fact is not discovered until the item is uncrated and placed in operation prior to delivery to assure proper performance. If repairs are necessary, they are made prior to delivery. The charge for these repairs is applied against the warranty provision.

STATEMENT PRESENTATION

The warranty provision is treated as a current liability on the balance sheet. Certain statements which are prepared on printed forms for credit purposes indicate this liability as a long-term item. The amount of warranty provision is classified according to the form when the forms are completed. No attempt is made to correct the form.
One form which the owner had available indicated that in addition to treating the warranty provision as a long-term liability, depreciation allowances were also treated as long-term liabilities. Reserve for Bad Debts, incidentally, appears as a current liability on this printed form.

As sales are entered at net, the income statement does not show the deduction for future warranty costs. Supplemental statements give a breakdown of sales as including the sale of appliances, service, parts, interest and financing income. All of these categories are combined on the income statement and are labeled "Sales." Even though the revenue from warranties is deferred, the revenue is returned when realized under the category of service revenue.

INCOME TAX CONSIDERATIONS

There are no differences between income for tax purposes and income for statement purposes. The amount of net income appearing on the statements is the same upon which the tax is computed. The dealer would make no comment on the sections of the Internal Revenue Code dealing with estimating expenses and deferring revenue. It appeared that he desired to avoid this subject and it was explored no further.

SUMMARY OF PROCEDURES EMPLOYED

The accounting procedures employed by Dealer A appear to be adequate. Recommendations of the manufacturer are
generally followed. Revenue from warranties is deferred at the
time received. When service is rendered, the charge for
this service is recognized as revenue from service. This
method provides the owner with information concerning the
efficiency of the service department.

One area of deviation from the Manual of Accounts con­
cerns terminology. Although the Manual of Accounts titled
accounts Reserve, Dealer A had revised his title of accounts
to conform with more recent terminology. Statement presen­
tation, except in the case of printed form statement, was in
accordance with the recent classification of accounts of the
American Institute of Certified Public Accountants rather
than the Manual of Accounts.

The study of the accounting procedures employed by the
above dealer has revealed the methods by which the provision
for product warranty is increased and decreased. Before any
general conclusions can be formulated concerning the account­
ing for warranties on the retail level, it is well to look
into the procedures followed by others. It is therefore in
order to examine the procedures followed by Dealer B.

DEALER B - GENERAL INFORMATION

Dealer B is also engaged in selling and servicing home
appliances. This dealer handles General Electric Appliances
which are manufactured by General Electric Company.
General Electric Company is included among those companies which provide for future warranty costs on their financial statements. This company does not consider these charges in the determination of taxable income. The manufacturer does not furnish information to its dealers on accounting for future warranty costs. In fact, it makes no recommendations concerning the accounting procedure to be followed by its dealers. The form of business organization of Dealer B is a corporation, although it existed as a proprietorship until 1959. Dealer B has one competitor selling General Electric appliances in his locality. He has ten employees and is located in a secondary shopping area.

ACCOUNTING RECORDS

Dealer B uses the accrual basis of accounting. The books of account were prepared by the owner at the time the business operated as a proprietorship. A public accountant supervised this preparation. The books of account for the proprietorship were carried over when the corporate form of organization was instituted. The books are closed annually on September 30 of each year. A formal audit is carried out at this time by a certified public accountant. A perpetual inventory is maintained for major appliances.
USE OF ESTIMATES

The only estimate employed by Dealer B is that for depreciation. Generally, depreciation is computed on the straight-line basis, however there are exceptions to this in the case of assets acquired during 1959.

There is also in use a "Repossession Reserve" account. This account is concerned with financing by outsiders. The amounts involved are not determined by the dealer. As they are determined by the finance company, no further comment will be made concerning this account.

ACCOUNTS UNCOLLECTIBLE

No provision is made on the financial statements for probable bad debt losses. It is well, however, to comment on the procedures used by Dealer B for such losses. Accounts receivable are reviewed annually on September 30 to determine the accounts which will be uncollectible. Rather than establish an allowance at this time, the accounts are written off. In the event that a bad debt is recovered, the resultant revenue is recognized in the period in which the recovery is made.

In the case of Dealer B, most of the contract accounts receivable were financed by outsiders. The procedures employed by Dealer B are similar to that of Dealer A. It would be redundant to repeat the procedures followed.
Dealer B stated that it would be impossible to fix a percentage of bad debt losses in relation to sales as the amount of such losses varied considerably.

WARRANTY PROVISIONS

Dealer B does not make any allowances for future warranty costs. He did indicate that he felt that a need for such a provision did exist, but nothing had been done in this direction. He was unaware of the income tax implications concerned with warranty costs.

The procedure used for warranty charges as followed by Dealer B are somewhat in accordance with the franchise agreement between the dealer and General Electric Company.

FRANCHISE AGREEMENT

As part of the franchise between the dealer and the company, the dealer agrees to furnish the necessary labor without cost to the consumer for repairs or replacement necessary within one year after the date of sale. This agreement is concerned only with the sales made by the dealer. The company agrees to furnish the parts without charge to the dealer or the consumer within this period. Dealer B does not make any attempt to recognize the value of the labor which might be furnished during the time the product is in warranty. As part of the sales pitch, the free labor which is furnished
by the dealer to the consumer is used. At the time the sale is made, the full amount of such a sale is recognized as revenue in that period. No expense or estimated liability is set up at the time of the sale.

TRANSFERRED WARRANTY

The procedures followed in the case of a transferred warranty which were applicable in Dealer A's organization do not exist in Dealer B's organization. In the event that repairs are made to an appliance in warranty which was sold in another area, the customer has one of two courses of action. These are outlined as follows.

Customer Responsibility

One alternate which might be followed is that the customer will authorize the servicing dealer to perform the necessary work. In this event, the bill is rendered to the customer for the service work performed. The charge for parts used in this instance is handled directly by the servicing dealer with the nearest General Electric distributor.

The customer then contacts the dealer from which the appliance was purchased. The customer requests reimbursement for the work done. As part of the franchise agreement the selling dealer agrees to reimburse the customer for any work done by dealers outside the selling dealer's locality. Dealer B indicated that this procedure was "fairly" successful.
Dealer Responsibility

The second alternate is that the servicing dealer performs the work necessary to bring the appliance in working condition. The servicing dealer then bills the selling dealer for the service performed. The reimbursement for parts used is handled in the same manner as the "customer-responsibility" procedure above. The selling dealer then reimburses the servicing dealer for the charge for servicing this appliance.

Dealer B indicated that a schedule of suggested charges did not exist in the case of warranty service. The servicing dealer was not limited to the amount he could charge for the work performed. He further stated that most charges which were received by him were reasonable, but he was aware of several isolated instances in which the charge was too high.

Dealer-Distributor Responsibility

This alternate which is applicable to the dealer only occurs when the "dealer responsibility" alternate fails to work satisfactorily. In the event that the selling dealer fails to reimburse the servicing dealer for service work rendered, the servicing dealer has recourse to the distributor. In this event, the distributor credits the servicing dealer for the work performed and charges the selling dealer for the charge made by the servicing dealer.
DIRECT SALES BY MANUFACTURER

In the case of direct sales made by the manufacturer, the dealer does not receive a commission nor a warranty provision. In the event that servicing is required, the dealer furnishes it subject to reimbursement by General Electric Company. Parts are also handled on a reimbursement basis. The total charge is billed directly to the manufacturer through the distributor. Reimbursement is made by the latter. This procedure is followed in the case of trailer sales as well as built-in appliances sold to contractors.

CHARGES FOR WARRANTY SERVICE RENDERED

In the event that warranty service is necessary in the period that the sale is made, the cost is matched against revenue derived in that period. If the service is rendered in a subsequent period, that cost is applied against subsequent period revenue. The accounting procedures followed by Dealer B do not separate service revenue from sales revenue. Where service is rendered in the same or in a subsequent period, the value of such service is not recognized. Dealer B did indicate that he kept supplemental records as a basis to determine if the servicing operation was "paying its own way." The procedure outlined by Dealer B insofar as the supplemental records were concerned appeared to furnish the information that he desired.
OUTSIDER'S WARRANTY SERVICE

In the event of warranty work performed on sales made by the manufacturer or other dealers, these billings are included in revenue for the current period. Statements were rendered to the distributor or the selling dealers concerned. These charges were treated as a current accounts receivable until paid or a credit memorandum issued.

ACCOUNTING CONSIDERATIONS

As no provision was created for warranty charges, there is no necessity for year-end adjustments. In addition, no allowances were made for defective items in inventory. Statement presentation in Dealer B's case was not applicable and income tax considerations did not enter into the problem of income determination.

SUMMARY OF PROCEDURES EMPLOYED

The accounting procedures employed by Dealer B do not appear to be adequate. Revenues as well as costs are shifted from one period to another. Even though supplemental records are maintained concerning warranty servicing, profits tend to be overstated in the period in which the sales are made and liabilities are constantly understated. The supplemental records do not provide the estimated liability in connection with warranty servicing.
It would appear that when the customer must make outside arrangements and depend upon these methods to assure him of adequate servicing, ill will on the part of this product line would be created. This matter will be explored further in Chapter VI. As stated earlier, no definite conclusions can be formulated until the investigation is completed. It does seem appropriate, however, to mention these inadequacies at this time. It is now in order to examine the results of the investigation into the accounting practices followed by Dealer C.

DEALER C - GENERAL INFORMATION

Dealer C is engaged in selling and servicing home appliances. In addition, this dealer handles tires, tubes, batteries, gas and oil. This dealer handles Hotpoint appliances.

Hotpoint appliances are manufactured by a division of General Electric Company. General Electric Company does not provide for warranty costs nor does the company make any recommendations concerning warranty costs to its dealers. The procedure followed by Hotpoint dealers is very similar to that of General Electric dealers. The form of business organization of Dealer C is a corporation. Dealer C has one competitor in his locality. He has approximately thirty employees and is located adjacent to the main shopping area.
ACCOUNTING RECORDS

Dealer C uses the accrual basis of accounting. The books of account were designed by a public accountant. They were later reviewed by a national management services firm. The latter firm stated, according to the dealer, that the books of account appeared to be adequate. The books are closed annually on July 31 of each year. A formal audit is carried out at this time by a public accountant. A perpetual inventory is maintained for appliances, tires and batteries. This perpetual inventory is separate from the books of account.

USE OF ESTIMATES

Estimates are employed by Dealer C in the case of depreciation and uncollectible accounts. Generally, depreciation is computed on an accelerated basis with full use being made of any liberalized provisions of the Internal Revenue Code. It is the policy of Dealer C to take as much depreciation as possible in any year.

There is also in use a "Repossession Reserve" account. A limited number of contracts receivable are financed on a without-recourse basis. The finance company withholds 2 per cent of the sale for this reserve. The purpose of the reserve is to provide for repossessions by the finance company. If and when all accounts financed with outsiders are paid in full, the balance of the reserve will be returned to Dealer C.
ACCOUNTS UNCOLLECTIBLE

A majority of the accounts receivable of Dealer C are installment accounts. The gross profits method of accruing income is not used. Instead, this dealer provides a 5 per cent bad debts reserve. At the end of each fiscal year, the bad debt reserve is increased to 5 per cent of accounts receivable. Any losses which occur during the year are charged against the reserve.

WARRANTY PROVISIONS

Dealer C does not make any allowances for future warranty costs. The procedure followed by Dealer C varies in relation to the product in warranty. For appliances, one procedure is followed and in the case of tires, tubes and batteries, another procedure is followed.

APPLIANCES

Dealer C has agreed with Hotpoint Division to furnish all service necessary on any Hotpoint appliance sold by Dealer C, or any other dealer for that matter, free of charge to the customer. Dealer C is not reimbursed for work done on sales by other dealers. This does not present much of a problem to Dealer C as he has only one competitor in his locality. On sales made outside his locality, Dealer C furnishes the value
of the labor without cost to the consumer. Parts are handled on a reimbursement basis with the Division similar to the procedures employed by General Electric Company. Dealer C stated that he considered this method to be fair to him. He stated that the work he had to do on sales of others would balance out the work others had to do on his sales.

No attempt was made by Dealer C to recognize as service revenue the amount of service provided free of charge. Dealer C stated that the manufacturer did not make any direct sales to consumers in his area. Accordingly, the problem of direct sales are not applicable to Dealer C. This dealer also outlined the procedures followed in regard to warranty provisions for dealers located in large metropolitan areas. These procedures will be covered after those concerned with tires, tubes, and batteries.

**TIRES, TUBES, AND BATTERIES**

In the case of faulty tires, tubes and batteries, the dealer makes an adjustment with the consumer charging the consumer for the approximate amount of use received from the item. The consumer is given credit for the remainder when a new item is purchased. The warrantied item is returned to the factory (or the nearest distributor) for credit. The factory issues a credit memorandum for the wholesale value of the credit granted to the consumer.
WARRANTIES IN A METROPOLITAN AREA

Dealer C indicated that a separate warranty policy was followed in metropolitan areas where many dealers could be serviced by one Hotpoint Service Agency. Under this set-up, the dealer purchases from the Hotpoint Sales Agency a service contract for the period during which the item is in warranty. The agency will render all service, including the delivery and installation of the item, with no additional charge to the selling dealer. The initial charge is approximately $10 for a refrigerator and $12.50 for a washing machine. Dealer C stated that the same procedure was followed by General Electric Company in large metropolitan areas. In such a case, the dealers are relieved from the responsibility of maintaining a service department.

ACCOUNTING CONSIDERATIONS

No allowances are made for probable defective items in inventory. As the warranty provision is not created, there is no need for adjustments at the end of the year. Statement presentation and income tax considerations are not applicable in the case of this dealer. Dealer C stated that previously he had handled products manufactured by Westinghouse Electric Company. At that time, similar procedures were followed in
handling warranty costs. This was in line with the recommendations of Westinghouse Electric Company according to Dealer C.

SUMMARY OF PROCEDURES EMPLOYED

As in the case of Dealer B, the procedures employed by Dealer C do not appear to be adequate. Revenues are shifted from one period to another and liabilities are constantly understated. There is no procedure by which the efficiency of the service department can be judged.

The problem of ill will on the part of customers is not applicable as in the case of Dealer B. The purchaser of Hotpoint appliances is not forced to make supplemental arrangements for warranty servicing. In this connection, the customer is more easily satisfied than under the General Electric program. Even so, it is believed that the dealer might suffer considerable expense if he is forced to service a great number of appliances which are sold through mail-order and discount houses. In the case of tires, tubes and batteries, the procedures followed by Dealer C seems to be universal.

DEALER D - GENERAL INFORMATION

Although this investigation was aimed at warranties of a long-term nature, the study would not be complete without covering the warranty issued in connection with motor vehicles. Practically all manufacturers furnish a 4,000-mile or 90-day
warranty on trucks and automobiles manufactured. It is not generally known to the public, but these manufacturers have adopted a realistic attitude toward mechanical failures. Dealer D, who is retailer for Chrysler Corporation products, seems to be representative insofar as accounting practices are concerned. The study of the accounting practices on the retail level is therefore concluded with this dealer.

Dealer D accounts for warranty charges by the use of three-account classifications. These are "New Car Preparation Expense"—a selling expense, "Policy Adjustment Account Expense"—a selling expense also, and "Warranty Service Accounts"—a current receivable. These will be commented on in detail. In the case of Dealer D, it was impossible to obtain any information on other estimates employed in income determination. Dealer D has twenty employees.

NEW CAR PREPARATION EXPENSE

Automobiles and trucks are received by Dealer D in an incompleted status. Numerous mechanical adjustments must be made and certain parts of the vehicle must be installed. For example, floor mats and hub caps are packed inside the automobile and must be installed on the car. This procedure must be carried out before the car can be placed on sale. The cost of these adjustments and installation is charged to the New Car Preparation Expense account. It would be more proper to
charge these costs to the inventory account. They are properly classed as a cost of completion and selling. The present accounting procedure, however, relates the expense of preparation for sale to the period in which the vehicle is received rather than when sold.

POLICY ADJUSTMENT ACCOUNT EXPENSE

The Policy Adjustment Account Expense is charged with the cost of the 1,000-mile check-up. This check-up involves numerous adjustments to be made to the vehicle. The items which are to be checked at this time are in accordance with the manufacturer's recommendations. The charge for this service covers only the usual items to be checked and does not include the unusual repairs or replacement of parts. At the time service is performed, service revenue is recognized for the value of services performed.

WARRANTY SERVICE ACCOUNT

This account is concerned with unusual repairs or the replacement of defective parts. There appears to be no time limit within which service under warranty can be performed. If a defect occurs, repair or replacement is made and the value of such service is billed to the manufacturer. The manufacturer reimburses the dealer for the warranty service provided as well as for parts supplied by the dealer.
Consequently, this account is self-balancing. Charges made to the manufacturer for warranty service provided increase this account. Credits issued by the manufacturer decrease this account.

The judgment of the dealer is generally accepted by the manufacturer on this type of warranty service claim. If a claim is disallowed by the manufacturer, the value of the claim is transferred to the Policy Adjustment Expense account. According to Dealer D, the total amount involved for the disallowed claims is very small and does not require an estimated liability.

TRANSFERRED WARRANTY

In some cases, the dealer selling the vehicle does not perform the service required at the end of 1,000 miles. The servicing dealer in such a case bills the charge for such service to the manufacturer. The charge by the servicing dealer includes a normal margin of profit. The manufacturer then bills the selling dealer and reimbursement is completed via the manufacturer. The selling dealer charges the Policy Adjustment Account Expense with the price of such service. The servicing dealer treats this amount as revenue.

STATEMENT PRESENTATION

Policy Adjustment Expense and New Car Preparation Expense are both treated as selling expenses. The Warranty
Service Account is treated as a current receivable on the balance sheet. As no estimated liabilities are created, their presentation problem and income tax considerations are not applicable.

COMMENTS BY DEALER D

This dealer indicated that there constantly existed an overstatement of new car preparation expense and an understatement of the Warranty Service Account. This can be well understood when the inventory problem is considered. There may be a number of vehicles on hand at the end of the accounting period. The expense involved in preparation for sale has been incurred and is treated as an expense of the period the vehicle is received rather than when sold. The same applies insofar as the car which has been sold, but for which the 1,000 miles service has not been performed.

The cost of satisfying the liability for unusual charges within the warranty period is assumed by the manufacturer. It seems reasonable to conclude that no estimated liability is needed for warranty costs except those which would be disallowed by the manufacturer. As indicated, earlier, because of the small amount involved, no estimated liability is needed.

OTHER STUDIES PERFORMED

Five other studies concerning warranty costs were made. These studies were limited in that free access to the books
of account was not granted. For this reason and because of the similarity of these additional studies to those previously made, only the significant differences will be summarized.

Dealers E and G are both Frigidaire dealers. They follow accounting practices outlined by the manufacturer. These were covered in the discussion of Dealer A. These two dealers, like dealer A, treat warranty provisions as a deferral of revenue. Dealer G, however, does not defer revenue for tax purposes.

Dealers H and I are General Electric dealers. There were no variances between these dealers and Dealer B.

Dealer F handles automobiles manufactured by Ford Motor Company. The only significant difference between this dealer and Dealer D is that the cost of new car preparation is charged to inventory rather than to current expense.

An attempt was made to investigate the accounting procedures followed by a dealer of General Motors Corporation automobiles. This was met with no success. From a personal experience on the part of the investigator, it is known that the manufacturer reimburses the dealer for the value of labor and parts expended on service performed within and beyond the warranty period.

SUMMARY

There have been presented four case studies concerning the accounting procedures employed by dealers for their warranty
provisions. In addition, five partial studies have also been presented. It is believed that these studies represent the various treatments afforded to warranty costs.

One of the cases points out the detailed procedures which can be followed when a liability on the part of the dealer exists. The dealer was aided materially by the manufacturer in formulating the accounting methods as well as determining the amounts involved. The amounts involved in such a plan were based upon historical data.

Two of the cases studied do not provide for costs even though a liability does exist. There appears to be no justification for the failure to provide for these provisions. In these two cases, both dealers indicated that a need existed for the liability for future warranty costs.

In the case of the automobile dealer, the need for such a liability on his part does not exist. The manufacturer assumes the liability for both the parts and the service. The dealer is reimbursed for the value of the services and parts provided to the consumer.

It is now in order to examine the accounting considerations governing warranty provisions as well as their relation to other estimates employed in income determination. This problem is covered in the next chapter.
CHAPTER IV

ACCOUNTING CONSIDERATIONS

INTRODUCTION

Income determination is concerned with many estimates which are used to arrive at total costs to be matched with revenue. Estimated uncollectibles are deducted from sales revenue to determine net revenue. However, this estimate may be treated as an expense. The rule "lower of cost or market" in regard to inventory employs as part of the determination of market estimated selling price in the ordinary course of business and reasonably predictable costs of completion and disposal, both of which are estimates.¹ Depreciation or cost assignment of plant and equipment is based upon estimated useful life or estimated probable productive hours.

Historical data are generally used as the basis for estimate determination. Such a procedure has been well accepted by the accounting profession as well as those persons who rely upon the data included in financial statements.

¹American Institute of Accountants, Committee on Accounting Procedure, Restatement and Revision of Accounting Research Bulletins (Accounting Research Bulletin Number 43 and hereinafter cited as ARB 43), (New York: American Institute of Accountants, 1953), p. 31. (On June 1, 1957, the name of this organization was changed to The American Institute of Certified Public Accountants).
Among those accepted estimates there appears to be considerable thought in that particular area to improve the methods which are used as a basis for the estimates. One needs only to consider the areas of inventory and depreciation accounting and the proposals made for the determination of the estimates in these areas to judge the degree of acceptance. Even though disapproval has been expressed in the area of depreciation determination based upon future replacement cost,\(^2\) this has not precluded further writings or proposals in the area of depreciation accounting.

**AREAS OF NON-ACCEPTANCE**

There are other costs, however, which are based upon estimates which are sometimes considered to be of little consequence or completely ignored in the determination of income. In these areas of non-acceptance, little has been done to stimulate the thinking and to arrive at some fairly consistent procedures which should be used in order that the estimates employed represent the best information available.

Estimated costs and estimated deductions from revenue in the latter area include such items as estimated cash discounts which might be taken on sales, estimated sales returns and allowances, estimated collection expenses, estimated

\(^2\)Ibid., p. 69.
freight allowances, estimated vacation payments and estimated provisions for warranties and guarantees. All of these estimates appear very sparingly on financial statements. As no one seems to question their omission, there seems to be an approval of the procedure followed in a negative manner.

These estimated or future costs have also been referred to as after-costs. They present a difficult problem of interpretation. As no one appears to question the exclusion of these items in the determination of income, one can also wonder why such a situation exists. It might be that their omission could be explained by the difficulty in estimate determination. On the other hand, it would be difficult for any one to accept such a reason for the omission of a provision for estimated uncollectibles. This future loss associated with revenue because of the credit risk factor is a definite after-cost. It is based upon an estimate that cannot be determined with absolute accuracy.

Before any comparison can be made among the various estimated costs, it is better to look into the background, both from the practical and theoretical point of view, of each of the estimates which are used in income determination. These estimates will be covered in order of their appearance

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3Paton and Littleton, op. cit., p. 55.
or the appearance of the accounts affected on the balance sheet, and not in order of their importance.

UNCOLLECTIBLE ACCOUNTS

The provision for uncollectible accounts is usually the first of the provisions for after-costs that appears on the financial statements. The account normally appears as an offset or contra to accounts receivable. Accounting Trends and Techniques indicates that of the 600 company financial statements examined, 508 companies provided for uncollectibles. Formerly known as "Reserve for Bad Debts or Uncollectible Accounts," over 80 per cent of the companies used such an account as a deduction from accounts receivable to determine the net realizable value of the accounts receivable.

ESTIMATE DETERMINATION

Accounting literature indicates that there are generally two methods of determining probable uncollectibles. The first method consists of applying some percentage to total sales, total net sales, sales on account or net sales on account. This percentage is based upon uncollectibles in

4Accounting Trends and Techniques, op. cit., p. 42.

the past. Such a procedure assumes that a company is constantly selling to the same group of customers composed of the same type credit risk, or that those former customers of one particular risk are being replaced by another group of customers. As a credit risk, the latter group of customers are no better nor worse for that matter than the replaced group. Adjustments may be made in this percentage rate to correspond with changing economic conditions. Any such adjustment is again based upon an estimate.

Insofar as the credit risk factor is involved, considering the number of credit reporting firms and the greater use of the service which these companies provide, would it not be a sound conclusion that credit losses should decrease percentage-wise instead of remaining constant? Even so, an estimate is used for the determination of probable credit losses. As a means of more accurately determining the future credit losses, adjustments to the estimate should consider current and future economic conditions. The latter is nothing more than another estimate.

The second method involves the aging of accounts receivable. From the aging schedule, a percentage of future losses is applied to each age group and the estimated uncollectibles are determined. Again, the estimate of percentage is used to determine the amount to be provided for uncollectibles.
Although it may not be possible to identify the particular account which will result in a loss, it is reasonable to make an allowance based upon past experience or current conditions. Such a provision for credit losses is therefore based upon experience. As such it is impossible to tell at the time the provision is made whether the provision will be too large, too small, or of the correct amount. It would be surprising indeed if the provision created were just the exact amount of the accounts which ultimately prove to be uncollectible.

Instead, it is expected that the periods in which the estimate is too small will be offset by the periods in which the estimate is too large—that the one will balance out the other somewhat like an insurance company's premium/loss ratio.

It would appear then that one of the prerequisites for future credit losses is that the estimate must be reasonable. In addition, it must be determined by an estimate based upon either past experience or current and future conditions or both.

The criterion of reasonableness is also found in the Internal Revenue Code of 1954 which provides for losses from uncollectibles. A thorough study of the impact of tax legislation on estimates will be presented later. However, Section 166 of the Internal Revenue Code of 1954 which pertains to worthless debts provides in subsection (a) as follows:
Reserve for Bad Debts.—In lieu of any deduction under subsection (a), there shall be allowed (in the discretion of the Secretary or his delegate) a deduction for a reasonable addition to a reserve for bad debts.

It is therefore easy to conclude that this type of estimate is well accepted by the accounting profession as well as the Secretary of the Treasury. Notwithstanding its acceptance, there are still areas of controversy concerning its position on both the balance sheet and the income statement as well as lack of agreement over the title of the account which appears on the balance sheet.

FINANCIAL STATEMENT CLASSIFICATION

It was not too long ago that such a provision was commonly known as "Reserve for Bad Debts" and was shown as a liability on the balance sheet. Slowly this account found its way to the asset side and appeared as a deduction from Accounts Receivable. This was done on the premise that the balance of the accounts receivable should reflect an amount not in excess of the estimated cash realizable value instead of present realizable cash value. Terminology for the contra or valuation account varies from simply "Allowance" and "Reserve" to "Deduction, etc." This terminology difference

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7ARB 43, op. cit., p. 23.
is of little consequence to the trained reader, but may result in confusion to the untrained reader. There are still some people who believe that "Reserve for Bad Debts" represents a sum certain of money which has been set aside for receivables which prove to be uncollectible.

On the problem of income classification, the dispute is much broader. The more common view treats such a provision as either a cost or an expense. This group classes the provision as a selling expense or a general administrative expense. In this case it is a true after-cost rather than unrealized revenue. Uncollectibles usually vary directly with sales. Those who advocate treating this cost as an expense do so on the basis that credit losses are connected with the selling function rather than the administrative function.\(^8\)

There is the objection to such a procedure. Seldom is the privilege of granting credit given to the selling department. It might be that an over-zealous selling department would grant credit to anyone if the power to grant credit were vested with this department. They would do so as a means of meeting sales quotas. This seems to be a plausible reason that the credit granting privilege is not vested with the selling department.

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In most cases the granting of credit function is outside the jurisdiction of the selling department. In such an instance, those persons heading the selling departments object to having this after-cost appear under the analysis of selling expenses. They raise this objection on the grounds that the credit granting and collection costs are not controllable by their department and consequently their department should not be charged with the costs associated with selling merchandise on account. They further advocate that the credit loss be charged against the administrative unit which controls credit policy. In such a case, credit losses should be treated as a general and administrative expense.

The classification of credit costs as general or administrative expenses seems to be the most generally accepted treatment of this item. There are no available studies which show the frequency of allocation of credit costs to either the selling or administrative classifications which would bear out the above treatment. Most accounting textbooks indicate that the most popular view is to treat credit losses as an administrative cost rather than as a selling cost. A much better treatment, however, would show credit losses as a contra to revenue. Such a treatment removes these bad debt losses from the after-cost category and places them in an unrealizable revenue category. The merits of such a treatment become clear if the definition of revenue is analyzed.
Such a definition, according to Paton and Littleton, is as follows:

"Revenue is the product of the enterprise, measured by the amount of new assets received from customers; income emerges when the assets which express revenue exceed the total of assignable costs."\(^9\)

Under the new assets received approach, one can hardly call a worthless account a new asset. At the time a sale is made, it is difficult to determine which of the accounts will be uncollectible. Here again the problem of estimation appears. The precise account or the amount of that account for that matter is not known. Historically a firm, through the judgment on the part of its officers, can estimate the amount of the accounts which will be uncollectible. Therefore, the amount of new assets which will not materialize can be estimated. The amount is a form of unrealizable revenue rather than an after-cost. Paton and Paton define such a loss as an involuntary sales allowance.\(^10\)

It is at this point, that the firm can state that of the anticipated revenue, a certain percentage will not be realized. The anticipated revenue should then be reduced by the amount which will never materialize and is therefore unrealizable. It is well to note that Paton and Littleton further indicate that the treatment of credit losses as a

\(^9\)Paton and Littleton, op. cit., p. 47.

contra to revenue "does not preclude the alternative treat-
ment of reporting bad-debt allowances in the expense section
of the income statement as an item related to collection
expense."\textsuperscript{11}

Under the definition given of revenue above, it should
not include accounts receivable from customers which are not
in effect new assets. Revenue should not include those
anticipated revenues which will never materialize. Had a firm
known that the customer would not honor his promise to pay
(that firm), the firm would not have extended the credit
privilege in the first place. They would not show as revenue
the sale which was made and later on the income statement as
item of expense such as "bad debts from undelivered sales."

Carrying such an instance further, had in the course
of the business transaction, but before its completion, the
seller determined that the account would be uncollectible,
what would be the seller's action? The seller would have can-
celled the sale as well as any such anticipated revenues. The
accounting procedures should not necessarily vary if a period
elapses between the start of the sale and the final payment.

There is a variation be cancelled sales and credit
losses. Such a variation deserve comment. In the case of a
cancelled sale, there has not been a decrease in the salable

\textsuperscript{11}Paton and Littleton, \textit{op. cit.}, p. 55.
goods on the part of the seller. The inventory is unaffected in this instance. In the case of credit losses, there has been an outflow of assets in the form of inventories to the buyers. Generally speaking, the goods are retained until the credit is approved. There are, however, exceptions to a procedure by which goods are retained until the credit is approved.

SERVICE-TYPE ORGANIZATIONS

If one considers the service-type organization, seldom is payment received in advance of services to be rendered. Usually the service is rendered and payment is received either at the completion of the service performed or at some later date. In the event the person furnishing the service is unable to collect for services rendered, it is impossible for the person to demand and receive the return of the services rendered. Mechanic and contractor liens provide for such a situation, but sometimes collection and court costs exceed the cost of the service rendered.

Ignoring the legal remedies provided, what is the status of the revenue which has been earned by providing the service, but which will never be received because of the attitude of the purchaser? In this case total revenues should not include those items which will never materialize. Total revenues should be reduced by the amount of revenue which is unrealizable. The cash basis of accounting considers such a
problem as this in that revenues are not considered earned until payment has been received.

Returning to the exchange of a tangible product for an uncollectible promise to pay, it might be feasible to advocate a difference in treatment for the sale of a product and the sale of a service. But the best interest of accounting would not be served if such a procedure were instituted which would in effect indicate that losses from uncollectibles as a result of the sale of a tangible asset were to be treated as an expense of doing business. On the other hand, losses as a result of an intangible service were to be treated as a deduction from revenues. To borrow an economic term, utility is being bought or sold in both cases and accounting treatment should be the same.

The solution to the problem is that credit losses which are estimated should be deducted from revenue as they do not represent revenue. There has been no exchange of assets. This does not mean that probable credit losses should be treated in such a way that their total is not reflected on the income statement or the books of account. The amount of estimated uncollectibles should be properly measured as well as the actual credit losses.

Accounting is not only concerned with the proper measurement of income; accounting must provide other interested parties such as management with necessary control information.
The actual credit losses as well as the estimated losses should be available in order to judge the relative efficiency of those to whom the authority is given to grant credit. Detailed information on credit losses will aid any manager in arriving at a proper decision concerning credit as well as in formulating policies regarding credit.

INVENTORY CONSIDERATIONS

There still remains the problem of physical assets given in exchange for the bad debt. As mentioned previously, if the credit standing is found wanting before the exchange takes place, the entire sale as well as the receivable is cancelled. There is no reduction in inventory nor is there an increase in receivables. There has not been a two-way flow of assets. But if the exchange has been completed and a bad debt results, receivables have not been increased, but a reduction in inventory has occurred. It is therefore necessary to resolve this problem if one exists.

At first thought it might be that the easiest method of resolving such a problem is that in the process of formulating the estimate for credit losses, an adjustment, or reduction, to the amount of the credit losses should be made for the probable value of any assets repossessed which might be resold. This solution, however, has two serious defects.
First, such a procedure disturbs the base of unrealized revenue. The credit loss becomes the difference between the selling price of the article and the probable resale value of the item. It has been established that the sales price is the basis of unrealizable revenue. If probable bad debt losses are treated as a deduction from revenue, the sales basis must be adhered to. Such a situation is also true if credit losses are considered to be a general or an administrative expense. If the basis for credit losses is reduced by the probable resale value, then credit losses must be considered as part of the cost of goods sold as such a charge would narrow the gross margin.

Secondly, the use of estimated resale value of repossessed goods would involve an estimate based upon the conduct of those outside the business. It is a difficult process to estimate the possible credit losses; an almost impossible process to estimate the fair market value of any assets which might be returned or repossessed when all other methods of realizing probable uncollectibles had been exhausted. The established policies of a company may also enter into the formulation of an estimate such as this.

It may be one company's policy to repossess at first default or at the other extreme, not to repossess under any circumstances. It is also well to consider the probable market value of the item repossessed. It might be one person's
intentions to protect and maintain the best care over an item which had been purchased on account since the possibility of non-payment in the future might result in the item being repossessed. At the other extreme, another person may take a completely opposite view and fail to exercise any care whatsoever under the assumption that the item will not be in his possession for any length of time. The result of such a view would cause an accelerated reduction in value. With these facts in mind, the solution to this problem can now be approached.

When a company gives proper credit to the buyer for any goods which are returned or repossessed, the amount of the actual loss due to uncollectibles is correspondingly reduced. Credit losses lose their identity as either unrealizable revenue or expense. They become a part of cost of goods sold because the loss is being reduced by the value of the goods which might be returned. The total credit losses in the past is the basis upon which future estimates are made. Therefore, as the actual credit losses are reduced by the market value of returns, any future estimates based upon past performance in effect considers the estimated value of any merchandise which will be returned or repossessed. Although the account title itself is not indicative of this fact, estimated uncollectibles in this case have been reduced by any assets which might be returned.
Note that this condition is predicated on the buyer being given proper credit for goods returned. As such the loss does not represent a complete reduction in revenue. Bad debts is not the uncollectible sales price and not an offset to revenue. Instead it is an offset to gross margin because gross margin is reduced by the fair market value of the goods repossessed. It might be added that the credit loss could be considered a reduction to revenue if, and only if, a contra account were provided for the cost of goods sold, an addition to inventory equal to the possible resale value and a loss or gain equal to the difference between cost and resale value. The net effect of this condition is a loss equal to the difference between cost and resale value.

The estimates involved as well as the condition of repossession being in the control of the buyer makes this procedure impracticable if not impossible. It is also probable that the materiality in recognizing the possible loss on goods repossessed would be small in comparison to the cost involved.

The contra account "Allowance for Uncollectibles" is the after-cost or revenue deduction which appears most frequently on the balance sheet. There are others that appear very infrequently or are completely ignored. A discussion of these will follow but not on as broad a scope as presented above concerning credit losses. The intense review of credit losses and their many facets was deemed necessary to indicate
their many different position classifications on both the income statement and the balance sheet.

ESTIMATED RETURNS AND ALLOWANCES

Closely allied to uncollectibles, is the problem of estimated sales returns and allowances. In some cases an administrative decision will determine if the account is to be treated as an uncollectible or if an allowance is to be granted.

First, consider the instance when an allowance is not granted. When a customer expresses dissatisfaction with the company's product, it is a managerial decision that would determine whether the customer were granted an allowance or not. When a customer notifies the seller of this dissatisfaction, management has one of two decisions to make. The manager may consider the claim to be justified. Accordingly, the manager grants an allowance or permits the return of merchandise. This will partially or completely cancel the debt.

On the other hand, the manager may consider the claim to be unjust and hold the customer for the amount due. If the customer feels that such a decision was unfair, he may refuse to settle the indebtedness. After all methods of collection are exhausted, the account will eventually be charged against the provision for uncollectibles.
Many companies provide a time limit within which goods must be returned. This time limit may vary from several days to longer than a year. If a sale made in one accounting period is returned in a subsequent period, revenues in the former are overstated and in the latter are understated. The end of the period in which the sale is made is the point in time that an estimate should be provided for such returns. Paton and Paton base the need for such an adjustment on liberal return privileges which result in returned goods of considerable volume.  

For some concerns, returns may be of such a small amount that such a provision is ignored and justifiably so. For others, returns may be of a considerable amount, in which case an allowance is needed. As justification for the exclusion of an estimate for probable sales returns and allowances, it might be argued that the overstatement of a present year's revenue is counter-balanced by the returns of a prior year which have been deducted from present year.

If there is any validity to that reasoning, then the same could be said about the accepted methods of providing for possible credit losses and against accrual accounting in general.

Many of the arguments given for uncollectibles can also be advanced for possible returns and allowances. Actual sales returns and allowances have always been considered as a deduction from revenue under the premise that revenue is unrealized.

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12 Paton and Paton, Jr., op. cit., p. 18.
in the amount of actual returns and allowances. It therefore stands to reason that the estimate should appear as a deduction from revenues on the income statement and a deduction from accounts receivable on the balance sheet.

ESTIMATE DETERMINATION

The estimate of returns and allowances can be determined by analyzing returns and making a comparison of the returns with total sales for a given period. As most of the returns would occur within a period of one month, that period might be sufficient for analysis. If the policy of the concern permitted a longer return period, that longer period would have to be analyzed.

The estimate for possible returns and allowances could be accomplished with possibly a greater degree of accuracy than the estimate for credit losses. The composition of all customers of a concern may differ from that of the credit customers and the composition of the former group remains more stable insofar as habits are concerned than the latter group of credit customers.

INVENTORY CONSIDERATIONS

Accounting for the inventory becomes a more pressing problem in the case of returns than in the case of repossessions. There are no merchandise returns where allowances
and probable allowances are concerned, but in the case of a sale return, the returned inventory is usually in a better salable condition than repossessed merchandise. A customer who decides to return goods for credit usually exerts better care and control over the merchandise. The decision to accept the returned merchandise is generally dependent upon the condition of the returned merchandise. The buyer, knowing this, takes much better care of it.

When an actual allowance occurs in the same period in which the sale is made, revenues and receivables are reduced by the amount of the allowance. The same occurs when an actual return is made except the reduction is equal to the amount of the sale. If a perpetual inventory system is not maintained, any difference between the cost of the article and its realizable value is not recognized on the books. Instead, the difference (if any) appears automatically as an increase to the cost of goods sold if the item is not resold. If the item is resold, the difference appears automatically as a decrease in gross margin through a decrease in revenues.

Where perpetual inventories are employed, a corresponding entry to cost of sales is needed. Inventory is increased by the realizable value of the article returned and cost of sales is decreased by the cost of the article sold. There may be a reduction from the original cost of the article before sale to a lower realizable value at the time of the
return due to handling. When such a difference existed, this would be treated as a loss on returned merchandise if full credit were given the customer.

If full credit were not given the customer and the customer were required to absorb the difference between realizable value and cost, the amount of the sale return would be reduced as well as the reduction to accounts receivable. The increase to inventory and the decrease to cost of sales would be equal to the realizable value.

For estimated sales returns, the procedure followed does not vary according to the inventory system employed. The procedure for estimated sales returns is closely allied to that of the perpetual inventory described above. The sales return account is increased by the selling price of the articles which might be returned. A contra account to receivables such as allowances for estimated sales returns is increased by a corresponding amount. This procedure corrects the revenues by the amount of assets which will not materialize as well as decreasing the receivables.

The accounts which reflect costs must also be corrected. Such a correction can be accomplished by increasing the inventory by the estimated realizable value of the articles which might be returned. This can be accomplished by means of a valuation account which adds to, rather than subtracts from, the inventory account. In addition cost of goods sold would
be reduced by the cost of the articles which might be returned. Any difference between the cost and realizable value would be added to a loss account. This would be identical to the loss on returned merchandise mentioned above. It might be added that any loss on estimated returned merchandise would be connected with the period in which the sale was made.

**RETURN OF CASH SALES**

The discussion on probable sales returns and allowances has ignored returns which involve cash payments to customers. In this case a liability account would be increased for the selling price of the article rather than a *contra* account to receivables. The remainder of the procedure would be similar.

The proposals presented above involve some difficulty in determining the amount to be provided. This difficulty should not be the justification for omission. On the other hand, if the amounts involved were immaterial or the costs involved were prohibitive, these two reasons could account for the omission of probable returns and allowances from financial statements. As income determination for tax purposes specifically provides only for estimated credit losses, the influence of our taxation laws is possibly a reason such an item as estimated returns and allowances is excluded from income determination. The problem of variations between accepted accounting procedures in regard to estimates and
income tax procedures will be covered later. The next item to be examined will be cash discounts which are available and which might be taken by the customer.

ESTIMATED CASH DISCOUNTS

Cash discounts on sales are widely used as a method of encouraging prompt payment. Although such a system is called a cash discount, in reality this discount is nothing more than a penalty for late payment.\textsuperscript{13}

The most popular method of handling cash discounts is to treat this item as a financial expense or an item of other expense. This creates an expense or cost which is concerned with the payment of an account rather than an expense or cost connected with the sale.

There appears to be an increased acceptance of the accounting procedure for cash discounts on the books of the buyer which treats such discounts as a deduction from purchases. It seems that such a similar procedure would be carried over to the books of the seller. This would treat cash discounts as a deduction from sales.

The problem of cash discounts could easily be solved if the present procedures ceased. In their place, there could be substituted lower prices with a penalty for late payment.

\textsuperscript{13}Ibid.
Concerning discounts for prompt payment, Paton and Littleton write:

"Business concerns in general would do well to write their invoices, as do the utilities, in a manner which emphasizes the net amount of the bill, that is, the amount of the market price of the goods or services and the amount the customer is expected to pay. It is also more convenient in many cases from a bookkeeping standpoint to base the accounts on net prices. The acceptance of the net amount as the basis of record also has a decided advantage in minimizing the importance of discounts taken and in emphasizing discounts neglected as an element of importance worthy of attention."\(^{14}\)

SALES AT GROSS

Under the popular method of handling cash discounts, revenue from sales is overstated by the total amount of discounts applicable (whether taken or not). An expense for early payments received appears on the income statement. At the close of the accounting period, receivables are overstated by the amount of cash discounts which are still available to customers and which might be taken. The problem here is not to resolve the accounting treatment for cash discounts, but to provide for estimates for the amount of cash discounts still available to customers which might be taken.

Consider the accounts receivable on the statement of financial position of a company which sells goods under some

\(^{14}\)Paton and Littleton, *op. cit.*, pp. 56-57.
type of cash discount such as 2/10, n/30. If this company has a sixty-day turnover of accounts receivables, approximately 1/6 of the accounts will be subject to a 2 per cent discount if paid within the discount period. When sales are entered at gross before sales discounts both the sales revenue and accounts receivables are overstated. Accounts receivable should be stated at estimated cash realizable value. A failure to provide for estimated cash discounts which are available to customers and which might be taken by them, overstates not only the receivables but revenue and income as well.

It could be argued that only a small number of customers will take advantage of the discounts and consequently estimated cash discounts which are available should be ignored. A 2 per cent cash discount (with net terms of 30 days) is equal to a 36 per cent per annum interest rate. Any prudent businessman would be wise to borrow sufficient funds in order to take advantage of the discounts available.

SEPARATION OF REVENUES

In addition, there should be a separation of sales revenue from interest revenue. When a sale is made subject to a cash discount, the discount is nothing more than a penalty. The payment of the penalty is not in the hands of

15ARB 43, op. cit., p. 23.
the seller, but of the buyer. It is the buyer's decision whether he will pay early and avoid the penalty or pay after the discount date and include in his remittance, the penalty for late payment. To recognize the penalty as revenue prior to the discount date is unjustified by the seller. The seller has no control over what the action of the buyer will be. If the seller records the sale and the late payment penalty as revenue at the time the sale is made, it appears to be in order for the seller to reduce his revenue and receivables on the statement date to provide for estimated cash discounts which might be taken.\(^{16}\)

SALES AT NET

It was mentioned earlier that the problem would be solved if the sales were quoted at a net price with a penalty for late payment. At first, it might appear that the adjustment necessary at the close of the accounting period should accrue a portion of the late payment penalty for those sales which were made within the initial ten-day period allowed for payment. The penalty for late payment does not accrue over the ten-day period however. The penalty can be avoided completely for the first ten days. On the eleventh day, the penalty is realized. The penalty is not earned over the ten-day period. Therefore, if sales were entered at net, there

\(^{16}\)Paton and Paton, \textit{op. cit.}, p. 17.
would be no need to accrue a proportionate part of the dis-
count which might or might not be realized. It would be
necessary to accrue penalty for those sales upon which the
discount period had expired and were yet unpaid. As this
becomes a fact, rather than an estimate, the procedure requires
no further discussion.

DETERMINATION OF ESTIMATE

If it is the company's policy to age its accounts
receivable to determine uncollectibles, an additional column
for accounts less than ten days old would give the total of
the required adjustment providing the discount period were
ten days. This column could be so arranged as to provide for
accounts within the discount period if the discount period
were more than ten days. A simpler method would be to deter-
mine from the sales journal sales made on account subject to
a discount. The amount of the discount could be determined
from the total sales on account within the discount period.
The required adjustment could then be made as a reduction to
revenue and accounts receivable. The latter could be accom-
plished by means of a valuation or contra account similar to
provisions for credit losses.

Even with the need stated above for taking all cash
discounts, there will be some which will be ignored. The
accounting treatment in subsequent periods must be considered.
The revenue from cash discounts should be recognized in the period in which they are realized. The question arises whether they were realized in the period in which the sale was made or in subsequent periods when the account was paid beyond the discount period. It is obvious that the revenue was realized when the total amount of the account became due. The amount of additional revenue becomes certain and a new asset which is "suitable as a gauge of revenue realization" appears. Consequently the revenue should appear on the latter income statement.

There is no available information which explains why this item is ignored in income determination. Although the amount of possible sales discounts may be negligible, if this item, as well as probable sales returns and allowances and other after-costs were considered, the total amount will possibly exceed that provision for uncollectibles. The total amount then becomes material.

INVENTORIES

There are many problems concerned with the valuation of inventories. Some of these problems are concerned with estimates; some are not. The generally accepted method of handling these estimates does not require the establishment

\[17\] Paton and Littleton, op. cit., p. 49.
of valuation or contra accounts and a reduction of revenue. Instead the estimates are considered as a reduction in total of inventories, which in effect increases the cost of goods sold.

In the determination of floor and ceiling for lower of cost or market, the following estimates are used. Estimated selling price in the course of ordinary business is not a difficult estimate if similar goods which are selling in the market are available. Even so the use of an estimate determines selling price.

Reasonably predictable costs of completion and disposal are nothing more than an estimate based upon historical events within a company. An allowance for normal profit margin is another estimate which creates many questions. What is a normal profit margin? How is it determined? Does such a normal profit margin vary from company to company? The questions which arise with floor and ceiling concepts are resolved by the use of estimates. Although these estimates are sometimes difficult to determine, they have the approval of the accounting profession.18

The use of estimates is not limited to concepts of lower of cost or market. An allowance should be made for obsolete and shopworn merchandise which is based upon estimates.

18 ARB 43, op. cit., p. 31.
Such obsolete and shopworn merchandise should be shown at net realizable value. This is defined as selling price in the ordinary course of business less reasonably predictable costs of reconditioning and disposal.\textsuperscript{19} It is also acceptable to reduce the net realizable value by an allowance for an approximately normal profit margin.

Scrap materials, when they can be sold, should be shown for inventory purposes at net realizable value. By-products are sometimes valued at net realizable value. Valuation of inventory at estimated selling price less a provision for disposal costs is often regarded as an acceptable practice if production costs are difficult to determine and the product is readily marketable, such as in the meat-packing industry. The retail method of inventory uses the ratio of cost to retail to determine inventory at cost. Such a method is based upon the assumption that an average cost-ratio can be applied to the selling price of the inventory. Departmental averages may vary insofar as the initial mark-on is concerned and special sales of merchandise at low rates of mark-on may distort the average. This does not preclude the use of estimates in determining inventory at cost.

It is not the intention to approve or condemn the methods of inventory valuation which require the use of estimates. It is only to point out that estimates are used to determine

\textsuperscript{19}Ibid.
inventory at cost for statement presentation and income
determination. The use of these estimates is considered to
be in keeping with generally accepted accounting procedures.

OTHER ESTIMATES

There are many other estimates which are used in income
determination. A complete discussion of each of these esti-
mates on the scope of those previously mentioned is not in
order, but several of these estimates and the accounts affected
will be mentioned at this point and then the problem of war-
ranties will be covered.

Depreciation—the cost assignment of plant and equip-
ment items—is accomplished by a charge against revenue and
the addition of a similar amount to a contra account to
plant and equipment. Such an account is termed "Allowance
for Depreciation," "Accumulated Depreciation," or "Provision
for Cost Assignment." The estimates used normally consider
estimated useful life, estimated productive hours and units
or some other type of estimate.

Depletion is the cost assignment of natural resources
or wasting assets such as a mine, timber tract, or an oil
well. Depletion is usually computed by dividing the cost of
the asset by the estimated number of barrels, tons, thousand
feet or some other units into the total cost of the asset
thereby determining the unit depletion charge. The total
deployment charge for each period is determined by multiplying
the unit charge by the number of units removed from the wasting asset during that period. An estimate in this case determines the charge against revenue for depletion and for income determination.

Amortization is the cost assignment of intangible assets such as patents, copyrights, franchises for limited periods, leaseholds and leasehold improvements. The cost of such intangible assets are usually amortized over the periods benefited. Although the life of a patent is seventeen years, many patents do not benefit operations for that length of time. Instead, the cost of a patent is amortized over its estimated life which may vary in time considerably under seventeen years.

WARRANTIES AND GUARANTEES

Closely allied to the estimated sales returns and allowances mentioned above is the provision for warranties and guarantees. Where the estimated sales returns and allowances provision is created specifically for short-term customer benefits, the warranty provision is for long-term satisfaction of customer claims.

The problem of warranties and guarantees may be approached from two views. The first view is that the warranty is a separate purchase. It is purchased in addition to the product which is purchased. A common example of this type
of warranty is that which is attached to the purchase of certain brands of television receivers. At the time of such a purchase, the buyer may, for an additional cost, obtain a service contract which provides service within a given period. The purchaser has the option of buying or not buying the service contract. The price of such a service contract is clearly stated. For ease in comparison, this warranty will be referred to as the separate-warranty.

The second view is that at the time of a purchase, the buyer receives free of charge a warranty providing for repairs or replacement for a given period of time. A common example of this type of warranty is that which is attached to the purchase of mechanical refrigerators. In addition, the television receivers mentioned above usually have such a warranty available covering parts and tubes which is available in addition to the separate-warranty. At the time of such a purchase, the buyer receives the warranty without additional cost. The purchaser does not have the option of buying or not buying the warranty. The price of the article includes and does not separate the cost of the warranty. This type of warranty will be referred to as the combined-warranty.

SEPARATE WARRANTY

The separate-warranty could best be compared with an insurance contract provided by the seller. Upon payment of a fixed fee by the purchaser, the manufacturer agrees to
maintain the equipment in good operating condition. In the event of a defect, the manufacturer will provide the necessary service, as well as the parts in most cases, to repair the item purchased or replace the defective item completely without any cost to the purchaser.

In this instance, the manufacturer is acting as an insurer as well as a manufacturer. He is insuring his reputation and that of the product. The article sold is not in his possession but the reputation of the product is dependent upon the manufacturer making good any claims. It might be said that the manufacturer is a self-insurer. Although the term "self-insurance" is a misnomer, the manufacturer is performing such a function when he sells a warranty which provides for repair or replacement of defective items. The manufacturer is insuring the product for the buyer and is insuring his reputation by making such a warranty available.

At this point, it would be well to examine the prerequisites of a self-insurance program to see if the warranty program is similar. Loschen enumerates five prerequisites which govern a successful self-insurance program.\textsuperscript{20} As these are listed, their applicability to the separate-warranty will be reviewed.

The first of the prerequisites is that the number of risks be large. This would be the case for in the separate-warranty for with each unit manufactured, the warranty would be available. Next, the risk must be small and of a uniform size. Although the replacement of the warranted unit might not be small to the consumer, the replacement would be small in comparison to the total units produced by the manufacturer. Furthermore, because each unit sold is dispersed over a large area, specific geographical factors will have little if any effect on increasing the risk.

The third prerequisite is that for each risk involved, the risk must have an equal degree of hazard, and fourth, they must be independent of each other. The warranted product surely meets these two requirements. Lastly, the insurer must be in a strong financial position. It is believed that this requirement is not applicable to the warrantied products.

As mentioned previously that the term self-insurance is a misnomer. In the case of a warrantied product there is a risk created. The risk is the successful operation of the product. The purchaser is relieved of the risk and shifts it to the manufacturer by an additional payment. The manufacturer therefore assumes a risk for which he is being compensated. In addition the manufacturer is insuring his reputation and that of his product. The former is self-insurance, the latter is not. There are some elements of self-insurance present.
But that part of the risk which is shifted from the purchaser to the manufacturer is not self-insurance.

It would be in order to propose that if the warranty is a type of insurance program maintained by the manufacturer, the manufacturer would treat such receipts from warranties as revenue. This revenue would be apportioned over the period of the warranty which is the risk period. The cost of maintaining warrantied equipment could be applied against the apportioned revenue. The residual, if any, would be income or loss. Such a procedure would not involve cost cancellation. Instead, the revenue would be realized proportionately and the actual costs incurred would be matched against such revenue.

The deferred revenue would be shown on the statement of financial position as a liability, possibly part current and the remainder as a long term liability. Such treatment would be similar to serial bonds payable when part of such bonds are maturing currently. The problem of accounting for warranties could be simplified if all warranties were considered to be separate from the item warrantied.

On the subject of separate-warranties, the courts have held that certain type warranties have become so common in their fields that they must be considered as incorporated with the product and inseparable therefrom. In addition, it is

21 General Motors v United States, AFTR 2nd 6539.
very infrequent that the warranty is sold separate and apart from the product. Almost all products sold on the market today with a warranty attached are quoted at a price which includes the warranty. The price is seldom quoted separate and apart from the warranty. Because of the infrequent appearance of the separate-warranty and the accounting treatment proposed above, this type of warranty needs no further comment. Let us now turn to the combined-warranty.

COMBINED-WARRANTY

Dominant in the field of warranties is that which is ancillary to the product. Sales effort is directed toward selling the product rather than the warranty. The fact that the warranty is provided and without cost is usually used as a selling point, but little effort is applied to sell the warranty. Usually the salespitch is directed in such a way as to lead the purchaser to believe that the warranty is provided free of any additional charge. This type of warranty is very common in the field of merchandising and no attempt will be made to recommend any one method to determine the cost of such warranties. The methods used to determine cost vary considerably as was pointed out in Chapter II. Such determination may be based upon dollar value of sales, dollar value per unit sold, by averaging warranty expense for previous periods, and by other methods which were considered confidential by the manufacturers.
Regardless of the method used to determine cost, the method used is based upon past events or historically as in the case of most estimated expenses. The cost is treated in various ways on the financial statements. The statement of financial position will be considered first after the need for the recognition of warranty costs is presented.

NEED FOR RECOGNITION OF WARRANTY COST

The first consideration is to ignore future warranty costs. This practice appears to be quite popular but the practice is not justified. For income determination purposes, warranty costs are as important as any other after-cost and should not be ignored either because they are based upon estimates, because of income tax legislation, nor any other reason. The American Institute of Certified Public Accountants recognizes warranty costs, the Securities and Exchange Commission recognized warranty costs, and many others recognize these costs either in textbooks or monographs. With the need for recognition of warranty costs in mind, we can proceed to the second consideration.

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22 ARB 43, op. cit., p. 22.
23 Louis H. Rappaport, op. cit., p. 287.
24 Paton and Littleton, op. cit., p. 54.
The second consideration is to treat the entire amount as an estimated liability under the current liability section of the balance sheet. Such a procedure was followed by one-half of the thirty companies which provided for warranty provisions.25 This treatment is specified by the American Institute of Certified Public Accountants which outlined estimated liabilities as follows:

"This concept of current liabilities would include estimated or accrued amounts which are expected to be required to cover expenditures within the year for known obligations (a) the amount of which can be determined only approximately (as in the case of provisions for accruing bonus payments) or (b) where the specific person or persons to whom payment will be made cannot as yet be designated (as in the case of estimated costs to be incurred in connection with guaranteed servicing or repair of products already sold)."26

The third consideration is treatment of warranty provisions as long-term or other liabilities above the stockholder's equity section of the statement of financial position. This practice was followed by the remaining fifteen companies.27 As the liability for warranties may extend up to twenty years, this procedure has its acceptance in the

26 ARB 43, op. cit., p. 22.
27 Accounting Trends and Techniques, op. cit., p. 97.
fact that the liability may run longer than the current operating period and consequently the liability is non-current. This position is also the typical place to show deferred revenue which the long-term warranty may be considered.\footnote{ARB 43, \textit{op. cit.}, p. 22.}

The second and third considerations presented above are the procedures followed in most instances. In some cases, the warranty provision might be separated between the two. Part would be current, the remainder would be non-current. This would be somewhat like the treatment of current maturities of serial bonds payable. It is well to examine others, however, to consider their merit or lack of merit.

\textbf{INVENTORY CONSIDERATIONS}

The warranty, as a general rule, provides for repair or replacements. In such a case, inventory is used for the repair of the defective unit. Or, a new unit is removed from inventory for replacement. It would therefore appear that a part of the current inventory might be used for the satisfaction of warranty provisions. There is no certainty that such a situation will prove to be true. Even though this doubt exists, would it be proper to provide a deduction from inventory for warranty provisions? The fourth consideration which involves this deduction will be further examined to determine its usefulness.
When the cost of the warranty includes the cost of the part (or inventory) for replacement, there is also included an allowance for labor to install that part. There are other things as well. For example the Frigidaire Division of General Motors indicates that:

"Warranty reserves are normally set up in a separate credit accrual account. Warranty expense including direct labor, car expense, overhead and miscellaneous items are charged against this accrual account on the basis of actual service to the product.

"The parts used in the first year warranty are supplied by the manufacturer.

"These warranty reserve amounts are established on the basis of actual field studies, handling service with trained service personnel, using the correct tools and methods that apply to the individual product."29

To include as a deduction from inventory the cost of labor, as well as the other items mentioned above, would unduly reduce the inventory carrying value and would understate current assets. It might be possible to separate each of these items from one another. Even if this were possible, it would also be necessary to further provide for the estimated value of any parts which were defective and could be repaired for further use. The practical limitations of such a consideration make it prohibitive. The theoretical aspects place such a consideration even further from use.

29 Letter from E. E. Landis, Service Manager, Frigidaire Division, General Motors Corporation, Dayton, Ohio, March 11, 1959.
The use of the above consideration involves an offset to inventories. It is a general principle of accounting that offsetting of assets and liabilities in the balance sheet is improper except where the right of set-off exists. The right of offset exists in tax anticipation notes and certain government contracts. The right of offset in the case of inventories and warranty liabilities does not exist.

The claim and the item which settles the claim in the case of warranties are not the same. To hold otherwise would be similar to showing accounts payable as an offset against cash. In the case of receivables with credit balances representing overpayments or advances, the proper treatment is to report these credit balance receivables as a liability on the statement of financial position.

It is not difficult to conclude that any procedure which involves an offset to inventory has no theoretical foundation. The practicality of separating the many items which form the composition of a warranty provision leaves no alternative but to abandon such a consideration. The answer to the question raised earlier is "no." It is not proper to provide a deduction from inventory for warranty costs.

\[\text{30}^{\text{ARB 43, op. cit., p. 25.}}\]
\[\text{31}^{\text{Ibid., p. 93.}}\]
\[\text{32}^{\text{Paton and Paton, op. cit., p. 13.}}\]
The last consideration of warranty provisions treatment is that of a reserve and an appropriation of retained earnings. Such an appropriation does not enter into income determination but merely reduces the retained earnings which are said to be available for dividends. Such a procedure is very much in line with the first consideration which ignores warranty after-costs completely. As the need for proper cost matching has been established and as such an appropriation of retained earnings ignores after-costs, a procedure which only restricts retained earnings is neither justified nor recommended.

Of the five considerations presented above, only the second and third have merit. From a practical standpoint, the second consideration which treats the total after-cost as a current liability is recommended. The liability, although for a longer period of time than the current operating period, may require an expenditure of either labor and/or parts within the current operating period. In addition, in the case of installment-contracts receivables which may run longer than the current operating period, an exception has been made to include these deferred accounts as a current asset if they conform generally to normal trade practices and terms within a business.33 As warranty provisions can be classified as a normal trade practice, it seems

33ARB 43, op. cit., p. 20.
feasible that even though such provisions may extend beyond the current operating period, such provisions would be better classified as a current liability rather than as an item above the stockholder's equity section of the balance sheet. This procedure has also been recommended by others and less misunderstanding by users of the statements would result if such a procedure were followed by all persons whose responsibility it is to prepare financial statements.

INCOME STATEMENT PRESENTATION

In the determination of balance sheet treatment of the warranty after-costs, such costs arose only when a provision for future costs was made. For income statement purposes, the problem must be examined in two areas. These areas are costs which are associated with revenue in a previous period and estimated costs (as well as actual costs) which are associated with current revenue.

DEFERRAL OF REVENUE

The treatment of estimated costs will be examined first. This treatment is in line with the establishment of estimated provisions for after-costs associated with the warranty. In such a case the revenue from sales should be

\[^{3/4}\text{Ibid.}, \text{p.} \ 22.\]
reduced by the estimated sales value of the future or after
cost. This removes warranty costs from the after-cost category
and places it in the deferred revenue category.

The revenue for the period in which the sale is made
is reduced by the estimated sales value of the after-costs
under the assumption that although the original total revenue
from sales included the warranty, a part of the warranty
revenue is postponed to be matched against future costs.

At the time of repair or expiration of the warranty,
the provision will be returned to revenue. Cost of repair
will then be matched against revenue provided for repair.
There will be no cancellation of costs but a matching of
costs with revenue.

It has been mentioned previously that the separate-
warranty was actually the sale of two items--the product and
the warranty. In such a case it would be in order to post-
pone the revenue from the warranty until such revenue was
realized. This procedure resembles very much the deferring
of prepayments such as subscriptions income and rental income.
It is also similar to the accounting treatment for service
contracts which provide for service over a period of time such
as maintenance contracts for equipment.

COST OF SALES

The second consideration is to recognize the cost of
the warranty at the time of sale. This could be accomplished
by increasing the cost of goods sold and the liability for warranties. Such a procedure would show the warranty revenues as being realized when the sale was made. It would also conform to the court decision which stated that the warranty and the product were one and the same. As the actual costs occur, they would be charged against the liability for the warranties.

In this instance there would be no reduction of revenue. Instead the full amount of revenues received would be realized at the time the sale took place. The warranty provision would then become a true after-cost. On this subject, Paton and Littleton present the following:

"Adjustments to recognize the effect of costs applicable to current sales which are expected to be incurred in the period following sale ("after-costs") present a more difficult problem of interpretation. The usual procedure, when an effort is made to anticipate the effect of such a cost, is to charge expenses and credit some form of allowance or 'reserve' account with the estimated amount."35

After a discussion of estimated costs of billing and collecting the outstanding receivables, Paton and Littleton return to the difficult problem of interpretation:

"The difficulty is resolved when it is perceived that adjustments for after-costs are a part of the process of measuring the revenues applicable to a particular period on a sales basis. The charge for the estimated amount of such costs then becomes a direct deduction from revenue that would otherwise be overstated, in its current effect, and the corresponding credit becomes

35Paton and Littleton, op. cit., p. 55.
an offset to outstanding receivables as part of the process of reducing the gross amount to net amount to be realized." 36

Although Paton and Littleton indicate that the costs should be associated with revenue by deduction, this is not recommended when the after-costs for warranties are not considered to be a deferral of revenue. Where the after-cost is considered to be a cost of the goods sold, charges could then be made directly to the liability account. There would be no deferred revenues. Nor would it be proper in this instance to return the liability to revenue.

COST OF GOODS MANUFACTURED

The third consideration involves treating the warranty cost as an addition to the cost of goods manufactured. Such a procedure would include in the inventory the estimated cost of warranties which have not become effective. The inventory which is unsold and remains in the possession of the manufacturer would include a proportionate part of the estimated warranty costs. This procedure would be similar to including selling expenses in the total cost of the inventory. As the warranty does not become effective until the sale of the product, such a treatment which mingles after-costs with inventory is not advocated.

36 Ibid., pp. 55-56.
OPERATING EXPENSES

The fourth consideration involves treating warranty after-costs as a selling expense. Selling expenses are usually defined as any expense or class of expense incurred in selling or marketing. On this consideration, the question becomes one of whether warranty after-costs are incurred in selling or marketing. The answer is "no." Although the provision for warranty after-costs may increase as sales increase, the actual costs involved in the warranty after-costs are determined by the quality of the product and by managerial policy insofar as warranty conditions are concerned. Unrealizable salesmen's claims may lead to customer dissatisfaction and costs may be incurred for satisfying the customer. In this event, the cost may be associated with selling, but cannot all costs be construed to be associated with selling? Cost of goods sold, general and administrative expenses are all associated with selling, but all of these costs can be better classified within their own respective areas. The question of probable bad debt losses can also be construed as a selling cost, but the former fits better into another area. Warranty costs are similar. They could be construed to be a selling cost, but warranty after-costs are better classified elsewhere.

Warranty after-costs could also be construed to fit into the area of general and administrative expenses. This classification of expenses is defined by Kohler as a:

"classification of expenses incurred in the general direction of an enterprise as a whole as contrasted with expenses of a more specific function such as manufacturing or selling, but not including income deductions." 38

The applicability of warranty after-costs to this classification is similar to selling cost considerations. Warranty after-costs fit better elsewhere and should be so classified.

The problem of warranty after-costs when such a provision is made is best treated as one of the first two considerations. It can be treated as a deferral of revenue on the following basis. Of the revenues received, a portion of such revenue should be deferred over the effective period of the warranty. This deferred revenue is recognized over the life of the warranty. Actual costs are then matched as they occur, but are not cancelled, against such revenue.

On the other hand, the revenue can be realized at the time of the sale. A liability is created for warranty provisions by a charge to cost of goods sold. As actual costs are incurred, these are charged directly to the liability account.

38 Ibid., p. 27.
ACTUAL COSTS

There remains the problem of warranty costs which occur subsequent to the period in which the sale is made and for which no provisions have been made. The practice of not providing for these after-costs, whatever the reason, is not justified. Because of the prevalence of such a practice, it will be examined at this point.

When costs occur which are associated with past revenue, they can only be considered as general or administrative expenses. Such costs fall into this area by a process of elimination. The cost cannot be deducted from current revenues but with past revenues instead. Nor can these costs be considered as a cost of production or a cost of sales. To do so would narrow the gross margin by the use of a cost which is concerned with past revenue.

To treat warranty costs as a selling expense would charge this classification with an expense not associated with current selling. By a process of elimination, the only remaining area is general and administrative expenses.

It could be also said that warranty costs are a form of advertising or of maintaining a good reputation for the company's product. This is true in a somewhat negative manner. If a company fails to honor its warranty, or fails to have a warranty of any type to back up the product, the reputation
of the product might suffer. When a company maintains the quality of its product, the customer will continue to buy that brand and possibly encourage others to do likewise. Is this not a form of advertising? The answer is obviously yes and consequently such costs might be called advertising and treated as a selling expense.

When such a parallel is further analyzed, it is found that all of the company, rather than just the selling department benefits by honoring or maintaining a warranty. Costs incurred for public relations are usually considered to be general and administrative costs. The benefits derived accrue to the company as a whole rather than just the selling department. The same can be said of the allocation of officers' salaries. In view of the circumstances which surround these two items, it is felt that the warranty costs associated with past sales fall into a similar category. Accordingly, these costs are best described as a general and administrative expense and should be so classified.

There remains the final possible classification on the income statement into which after-costs might fall. This section is usually titled "other expenses" or "financial expenses." This classification is primarily intended as a catch-all for items which cannot be classified elsewhere and which are not related to the manufacturing, selling or administrative operations of a company. The only item which makes
its appearance regularly in this area of classification is interest expense which is associated with the financial operations of a company. Sales discount once appeared in this area quite frequently, but slowly found its way up to the top of the income statement as a deduction from revenue. This was its rightful place.

As both present and future warranty costs can be treated in other areas of the income statement and as the area "other expenses" is more or less reserved for interest expense, no further comment is deemed necessary on this classification.

SUMMARY

The treatment of warranty costs both on the income statement and the balance sheet has been presented above. It has also been mentioned that the practice of providing for warranty after-costs has been, to a great extent, ignored. One of the reasons for the failure to provide for warranty after-costs is the taxing structure of our economy. The tax laws and provisions thereto as they apply to deferred revenue and estimated expenses will now be reviewed.
CHAPTER V

INCOME TAX CONSIDERATIONS

INTRODUCTION

Possibly the external influence which exerts the greatest force upon the accounting profession is that of law. Gilman classes the external influences into the categories of law, economics and business.\(^1\) He further indicates that the influence of law "has had a profound and far reaching effects, some good, some bad, some based upon clear thinking, some based upon confusion and misunderstanding."\(^2\) It must be remembered that Gilman's comments were crystalized in the late 1930's. Since that time the influence of law has exerted an ever greater force upon the accounting profession, particularly in the area of taxation.\(^3\)

It was mentioned previously that specific provisions of the present federal income tax law provides only for estimates in the case of uncollectibles or bad debts. The present Internal Revenue Code was overhauled in 1954 but court decisions affecting the prior law have a continuing effect upon


\(^2\)Ibid., p. 14.

the present law. Because of the similarity of some provisions of the prior and present law, any discussion of the taxation aspect of estimated expenses and deferred revenue must include a comparison of the features of both our prior and present law. For the convenience of the reader, the prior law enacted on February 10, 1939, will be referred to as the Internal Revenue Code of 1939 and the present law enacted on August 16, 1954, will be referred to as the Internal Revenue Code of 1954. This procedure is adopted in conformity with the preface to the Internal Revenue Code of 1954.

ACCOUNTING PERIOD AND METHODS

For the determination of the accounting methods as well as the period for which income is determined, the Internal Revenue Code of 1939 provided the following general rule:

"The net income shall be computed upon the basis of the taxpayer's annual accounting period (fiscal year or calendar year, as the case may be) in accordance with the method of accounting regularly employed in keeping the books of such taxpayer; but if no such method of accounting has been so employed, or if the method employed does not clearly reflect the income, the computation shall be made in accordance with such method as in the opinion of the Commissioner does clearly reflect the income."

The Internal Revenue Code of 1954 is much more explicit as it provides three specific features: a general rule,

4Section 41, Internal Revenue Code of 1939.
exceptions and methods. These features are presented as follows:

"(a) General Rule.--Taxable income shall be computed under the method of accounting on the basis of which the taxpayer regularly computes his income in keeping his books.

"(b) Exceptions.--If no method of accounting has been regularly used by the taxpayer, or if the method used does not clearly reflect income, the computation of taxable income shall be made under such method as, in the opinion of the Secretary or his delegate, does clearly reflect income.

"(c) Permissible Methods.--Subject to the provisions of subsections (a) and (b), a taxpayer may compute taxable income under any of the following methods of accounting--

1. the cash receipts and disbursements method;
2. an accrual method;
3. any other method permitted by this chapter; or
4. any combination of the foregoing methods permitted under regulations prescribed by the Secretary or his delegate."

The Internal Revenue Code made no specific provision for the accrual method of accounting prior to 1954. Such a method was understood however in that the Code, in approving a method which clearly reflected income, approved the accrual method of accounting. In addition the courts recognized the accrual method of accounting as early as 1927. At that time,

5Section 446, Internal Revenue Code of 1954.
the courts recognized the accrual basis of accounting as the method generally accepted by accountants.6

The Internal Revenue Code of 1954 in approving the use of the accrual method of accounting authorized the use of generally accepted accounting principles, concepts, standards, methods and procedures in determining income.

Because of the addition of the accrual method clause above, it would appear that features such as the bad debts provisions which were included in the Internal Revenue Code of 1939 could have been omitted when the law was revised in 1954. Such a provision of the law prior to 1954 provided as follows:

"(1) General Rule.--Debts which become worthless within the taxable year; or (in the discretion of the Commissioner) a reasonable addition to a reserve for bad debts; and when satisfied that a debt is recoverable only in part, the Commissioner may allow such debt, in an amount not in excess of the part charged off within the taxable year, as a deduction."

Section 166 of the Internal Revenue Code of 1954 provided similar treatment but was more definite providing as follows:

"(a) General Rule.--
(1) Wholly worthless debts.--There shall be allowed as a deduction any debt which

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6 Beecher v U. S. 21F2d 1003 (5 Cir 1927) as cited in Hills, op. cit., p. 158.

7 Internal Revenue Code of 1939, Section 23K1.
becomes worthless within the taxable year.

(2) Partially worthless debts.---When satisfied that a debt is recoverable only in part, the Secretary or his delegate may allow such debt, in an amount not in excess of the part charged off within the taxable year, as a deduction.

"(b) Amount of Deduction.---For purposes of subsection (a), the basis for determining the amount of the deduction for any bad debt shall be the adjusted basis provided in section 1011 for determining the loss from the sale or other disposition of property.

"(c) Reserve for Bad Debts.---In lieu of any deduction under subsection (a), there shall be allowed (in the discretion of the Secretary or his delegate) a deduction for a reasonable addition to a reserve for bad debts."

LEGISLATIVE HISTORY

A thorough study was made of the United States Code Congressional and Administrative News. This publication brings together the various committee reports of the United States Congress. A gleaning from the committee hearings on the Internal Revenue Code of 1954 indicates that the new law attempted to cause agreement between the generally accepted accounting procedures and the taxation laws. Furthermore, the new law attempted to remove the differences in interpretation which existed in the old law. It appears that Congress wanted to make each provision of the new law as concrete as

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8 Section 166, Internal Revenue Code of 1954.
possible and leave no doubt as to what was an income determining factor and what was not.

As part of the task of revising the Internal Revenue Code, the committee meetings questioned various groups who were concerned with the many aspects of income determination. The accounting profession was invited to participate at the hearings. They did so presenting their advice and recommendations.

The House Ways and Means Committee, after a number of conferences with various groups, made as a part of the proposed legislation, a section dealing with deferred revenue and estimated or future expenses.\(^9\)

The proposal for estimated expenses was to provide for such items as cash discounts, repairs or replacement under guaranty, sales returns, freight allowances, quantity discounts, vacation pay and certain liabilities for self-insured injury and damage claims. The proposal further provided the Secretary of the Treasury with the necessary authority to disallow any of the estimated expenses which were not reasonably supported.\(^10\)

The report of the House Ways and Means Committee, in addition to outlining the above conditions, gave an example


\(^10\)Ibid.
of a taxpayer engaged in selling air-conditioners. The taxpayer guarantees his product for one year. The estimated cost of such a guarantee is $24. For each unit sold, the report stated that $24 would be deducted from the sale and placed in the reserve account. As expenses occur, charges would be made to the reserve account and in such a way the reserve would be eliminated. The example further stated that at the end of the year, adjustments would be made to reflect the changes in the cost experience of the taxpayer.\textsuperscript{11}

The Senate Report indicated in substance similar provisions. This report called attention to the fact that the authority given the Secretary of the Treasury relative to bad debts in section 166 B of the then proposed revenue code was similar in this instance.\textsuperscript{12} The report called attention to the specific elimination of contingent and contested expenses as well as future losses. The eliminating clause did not appear in the proposed law however.\textsuperscript{13}

The end result was the enactment of legislation which provided for the deferring of revenue and the estimating of expenses. These are provided in separate sections of the Internal Revenue Code of 1954. Although both sections are lengthy, they are presented herewith in their entirety as

\begin{itemize}
\item \textsuperscript{11} Ibid., p. 4302.
\item \textsuperscript{12} Ibid., p. 4945.
\item \textsuperscript{13} Ibid., p. 4946.
\end{itemize}
they no longer are a part of the United States Code Annotated as both sections were repealed in the following year.

SECTION 452 - PREPAID INCOME

"(a) Prepaid Income To Be Earned Over Short or Indefinite Period.--

(1) Short Period.—In the case of any prepaid income to which this section applies, if the liability described in subsection (e) (2) is (at the time the income is received) to end before the first day of the sixth taxable year after the taxable year in which such income is received, then such income shall be included in gross income for the taxable year in which received, and for each of the 5 succeeding taxable years, to extent proper under the method of accounting used under section 446 in computing taxable income for such year. If the liability does not in fact end before the first day of such sixth taxable year, such income shall be included in gross income for the taxable years specified in the preceding sentence except that with the consent of the Secretary or his delegate it shall be included in gross income in such proportions, and for such taxable years, as are specified in such consent.

(2) Indefinite Period.—In the case of any prepaid income to which this section applies, if the liability described in subsection (e) (2) is (at the time the income is received) of indefinite duration, then such income shall be included in gross income for the taxable year in which received and for each of the 5 succeeding taxable years, consistently with the principles prescribed in paragraph (1) and (b), under regulations prescribed by the Secretary or his delegate the consent of the Secretary or delegate the prepaid income shall be included in gross
income in such proportions, and for such taxable years, as are specified in such consent.

"(b) Prepaid Income To Be Earned Over Long Period.--In the case of any prepaid income to which this section applies, if the liability described in subsection (e) (2) is (at the time the income is received) to end after the close of the fifth taxable year after the taxable year in which such income is received, then--

(1) one-sixth of the prepaid income shall be included in gross income for the taxable year in which received, and one-sixth shall be included in gross income for each of the 5 succeeding taxable years; except that

(2) with the consent of the Secretary or his delegate, the prepaid income shall be included in gross income in such proportions, and for such taxable years, as are specified in such consent.

"(c) Where Taxpayer's Liability Ceases.--In the case of any prepaid income to which this section applies--

(1) If the liability described in subsection (e) (2) ends, then so much of such income as was not includible in gross income under subsections (a) and (b) for preceding taxable years shall be included in gross income for the taxable year in which the liability ends.

(2) If the taxpayer dies or ceases to exist, then so much of such income as was not includible in gross income under subsections (a) and (b) for preceding taxable years shall be included in gross income for the taxable year in which such death, or such cessation of existence, occurs.

"(d) Prepaid Income to Which This Section Applies.--

(1) Election of Benefits.--This section shall apply to prepaid income if and only if
the taxpayer makes an election under this section with respect to the trade or business in connection with which such income is received. The election shall be made in such manner as the Secretary or his delegate may by regulations prescribe. No election may be made with respect to a trade or business if in computing taxable income the cash receipts and disbursements method of accounting is used with respect to such trade or business.

(2) Scope of Election.—An election made under this section shall apply to all prepaid income received in connection with the trade or business with respect to which the taxpayer has made the election; except that the taxpayer may, to the extent permitted under regulations prescribed by the Secretary or his delegate, include in gross income for the taxable year of receipt the entire amount of any prepaid income if the liability from which it arose is to end within 12 months after the date of receipt. An election made under this section shall not apply to any prepaid income received before the first taxable year for which the election is made.

(3) When Election may be made.—

((a)) Without consent.—A taxpayer may, without the consent of the Secretary or his delegate, make an election under this section for his first taxable year (i) which begins after December 31, 1953, and ends after the date on which this title is enacted, and (ii) in which he receives prepaid income in the trade or business. Such an election shall be made not later than the time prescribed by this subtitle for filing the return for such year (including extensions thereof).
((b)) With consent.—A taxpayer may, with the consent of the Secretary or his delegate, make an election under this section at any time.

"(e) Definitions.—For purposes of this section—

(1) Prepaid Income.—The term 'prepaid income' means any amount (includible in gross income) which is received in connection with, and is directly attributable to, a liability which extends beyond the close of the taxable year in which such amount is received. Such term does not include any income treated as gain from the sale or other disposition of a capital asset.

(2) Liability to render service, etc.—The term 'liability' means a liability to render services, furnish goods or other property, or allow the use of property.

(3) Receipt of prepaid income.—Prepaid income shall be treated as received during the taxable year for which it is includible in gross income under section 451 (without regard to this section)."14

It is well to note at this point that the section relating to prepaid income is very difficult to understand. It requires several readings in order to grasp the concepts presented therein. The definition of prepaid income given in section (e) (1) above is in reality an inflow of assets. This should be labeled prepaid revenue to correspond with the definition of revenue.15 Furthermore, this section makes

14 Section 452, Internal Revenue Code of 1954.
15 Paton and Littletton, op. cit., p. 46.
no mention of installment financing and recognition of revenues under such a method of financing. Such a procedure is, however, outlined in a separate section. 16

SECTION 462. RESERVES FOR ESTIMATED EXPENSES, ETC.

"(a) General Rule.—In computing taxable income for the taxable year, there shall be taken into account (in the discretion of the Secretary or his delegate) a reasonable addition to each reserve for estimated expenses to which this section applies.

"(b) Adjustments Where Reserve Becomes Excessive.—If it is determined that the amount of any reserve for estimated expenses to which this section applies is (as of the close of the taxable year) excessive, then (under regulations prescribed by the Secretary or his delegate) such excess shall be taken into account in computing taxable income for the taxable year.

"(c) Estimated Expenses to Which This Section Applies.—

(1) Election of benefits.—This section shall apply to estimated expenses if and only if the taxpayer makes an election under this section with respect to the trade or business to which such expenses are attributable. The election shall be made in such manner as the Secretary or his delegate may by regulations prescribe. No election may be made with respect to a trade or business if in computing taxable income with cash receipts and disbursements method of accounting is used with respect to such trade or business.

(2) Scope of election.—An election made under this section shall apply to all estimated expenses attributable to the trade or business.

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16 Section 453, Internal Revenue Code of 1954.
(3) When election may be made.--

((a)) Without consent.--A taxpayer may, without the consent of the Secretary or his delegate, make an election under this section for his first taxable year (i) which begins after December 31, 1953, and ends after the date on which this title is enacted, and (ii) for which there are estimated expenses attributable to the trade or business. Such an election shall be made not later than the time prescribed by law for filing the return for such year (including extensions thereof).

((b)) With consent.--A taxpayer may, with the consent of the Secretary or his delegate, make an election under this section at any time.

"(d) Estimated Expenses Defined.--

(1) General Rule.--For purposes of this section, the term 'estimated expense' means a deduction allowable by this subtitle--

((a)) part or all of which would (but for this section) be required to be taken into account for a subsequent taxable year;

((b)) which is attributable to the income of the taxable year or prior taxable years for which an election under this section is in effect; and

((c)) which the Secretary or his delegate is satisfied can be estimated with reasonable accuracy.

(2) Exceptions.--The term 'estimated expense' does not include--

((a)) any deduction attributable to income taken into account in computing taxable income for taxable
years preceding the first taxable year for which the election is made;

((b)) any deduction attributable to prepaid income to which section 452 applies by reason of an election made under such section by the taxpayer; or

((c)) any deduction allowable under section 166 (relating to bad debts).

"(e) Special rule for Deductions Attributable to Periods Before Election.—Any deduction attributable to income taken into account in computing taxable income for taxable years preceding the first taxable year for which the election is made shall be allow­able in the same manner and to the same extent as if this section had not been enacted."

REPEAL OF LEGISLATION

The following year, Senate hearings were held concern­ing proposed changes to the Internal Revenue Code of 1954. Among the changes being considered were those concerned with sections 452 and 462.

During the hearings, it was brought out that the Presi­dent of the United States had recommended that tax accounting treatment be brought in line with acceptable business account­ing procedure relative to prepaid revenue and estimated expenses. The report referred to these items as prepaid

17 Section 462, Internal Revenue Code of 1954.
income and reserve for expenses. In addition, the report went on to censure the Secretary of the Treasury for not exercising the discretionary controls granted to him relative to prepaid income and estimated expenses. Testimony presented at the hearing placed the loss of tax revenues because of the sections dealing with prepaid income and estimated expenses at approximately one-half billion dollars.\textsuperscript{18}

One can conclude from the remarks of the Senate Committee that flagrant abuse was made of sections 452 and 462 of the Internal Revenue Code of 1954, particularly the latter section. Numerous taxpayers made use of this latter provision to establish reserves for questionable expenses.\textsuperscript{19}

Although the initial year's tax loss was one-half billion dollars in revenue, the committee did not consider that the subsequent years' loss would decrease. Instead, it was intimated that the revenue loss would be of a continuing nature, possibly increasing. Almost any change from one accounting period to another will distort income for the period in which the change is instituted. This distortion of income does not continue if the new method is applied consistently. A change from first-in-first-out to last-in-first-out per se may distort income for the period in which the


\textsuperscript{19}Ibid., p. 2048.
change is effective. Income for the first year may be reduced considerably in relation to the amount of income reduction in subsequent periods. The distortion of income does not continue from year to year over a business cycle. It may continue, however, over a period of inflation.

The House and Senate Committees had as their goal the removal of the loop-holes in the law relating to prepaid revenue and estimated expenses. The revisions did not come into being. Other items which both the House and Senate Committees considered to be more important required the committees' time. When the revisions to the Internal Revenue Code of 1954 were presented, they did not include revisions to Section 452 and 462. Instead, these two sections were removed in their entirety from the law effective for taxable years beginning after December 31, 1953, and ending after August 16, 1954.20

The reason for the complete removal of the two sections of the Internal Revenue Code of 1954 is not given in the Committee Reports. Any statements of cause would be entirely speculative, but these possible causes will be presented.

The first proposal has as its basis the lack of need for specific provisions for prepaid revenue and estimated expenses.

expenses. The Internal Revenue Code of 1954 provides that income be determined on the accrual basis. In so providing, Congress may have felt that no further definition of the accrual basis was needed. The accrual basis of accounting, as defined by numerous publications previously mentioned, provides for matching cost with revenue. One only needs to refer to any of the dozens of textbooks written upon accounting principles to find support for the accrual basis accounting. The proper methods of income determination based upon the accrual method of accounting are enumerated by all of these writers.

The second proposal is that of halting the additional loss of tax revenues and removing from the tax law any provisions for income determination based upon the accrual method of accounting. In short, to do away with the accrual basis of accounting. Had this been the case, the sections relating to bad debts or credit losses as well as the phrase "an accrual method" would have been removed from the law. If it had been the intention of Congress to abolish the accrual method of accounting for tax purposes, this could have been accomplished by the insertion of a provision denying the taxpayer the right to compute his income on the accrual basis. As this was not done, it is believed that it was not the intention of Congress to abolish the accrual method of accounting.

The last proposal concerns a directing of attention. By permitting provisions for deferring revenue and estimating
expenses to appear in the Internal Revenue Code, the attention of all taxpayers is directed toward these sections. The taxpayers become aware of such provisions and without a proper understanding of them, they make use of estimated expenses and deferred revenue. In addition, because of the length of the two sections, the difficulty in understanding them may have been a source of confusion as well as misinterpretation to the taxpayer.

PRESENT STATUS OF THE LAW

The present status of the law can therefore be summarized as follows. The accrual basis of accounting is recognized by the Internal Revenue Code. As such, a proper method of matching costs with revenues is acceptable. The methods which are employed in income determination have in some cases been established by court decisions. These decisions must therefore be appraised to determine their application to the problem of deferral of revenue and estimation of expenses.

COURT DECISIONS AFFECTING THE LAW

The courts have shown little consistency in their recognition of estimated expenses. In some decisions, estimated expenses have been recognized for income determination; in others they have not. The history of court decisions affecting estimated expenses is well presented by George S. Hills. His summary is presented as follows (with citations removed):
"The 1954 Internal Revenue Code for the first time permitted an accrual-basis taxpayer (but not a cash-basis taxpayer) to deduct, at the discretion of the Commissioner, reasonable additions to a reserve for estimated expenses. Previously this was not ordinarily permitted except in connection with depreciation and bad debts. Although the Code was later amended to repeal this provision retroactively, the courts had acquired sophistication in accounting technique and had given an increasing recognition to generally accepted principles of accrual accounting. It had been held, for example, that a canning company which accrued upon its books income from sales of unshipped goods, the title of which had passed to the buyer, could accrue shipping costs and brokerage fees for such unshipped goods in the year in which they were billed. Since title had passed to the buyer it was plain to the court that the taxpayer's method of accounting and of accruing its gross income from sales of merchandise clearly reflected its income. Consistently, and to make reflection of income complete, the taxpayer properly accrued its shipping expenses relating to this merchandise as part of its cost of goods sold in the respective years billed. The record showed that the standard accounting procedure employed by the canning industry was to record on the billing dates sales of the unshipped goods, and also the amount of unpaid brokerage fees applicable to such sales as well as the estimated cost of shipping the goods; the items making up these expenses were either precisely known or determinable with extreme accuracy. This decision rests upon generally accepted principles of accrual accounting but it is also consistent with the long-established tax rule that where a liability has been incurred in an amount not definitely ascertained but susceptible of a reasonably accurate estimate within the tax year based on actual experience, deduction of such amount may be taken by the taxpayer in the same tax year in which the related income accrued."

The lack of consistency in the area of deferred revenue is similar to that of estimated expenses. Hills summarizes the developments in this area prior to 1958. His comments are also presented with citations removed.

"Although the 1954 Internal Revenue Code was later amended to repeal retroactively those sections which permitted the deferral of prepaid income and the taking of deductions for estimated future expenses, the courts may have induced the same improvement in the techniques of tax accounting by a reappraisal of those practices under the accrual method of accounting. It has been held, for example, that prepaid newspaper subscriptions received by a taxpayer keeping books and filing income tax returns on the accrual basis could be spread by the taxpayer over the unexpired subscription periods. The court asserted that taking such prepaid items as income for the period of receipt would create a hybrid bookkeeping system of reporting prepaid income on a cash basis while taking deductions on the accrual basis, thereby to a large extent destroying the principles of accrual which are inherent in the accrual method of accounting. The Tax Court disagreed, and later held that 'Irrespective of the merits of the generally accepted commercial accounting treatment of prepaid income, it has been clearly established that, under the "claim of right" doctrine, prepaid income must be reported as income in the year of receipt.' As to estimated future expenses, another court has held that a manufacturer who accrued upon its books income from sales of unshipped goods, the title of which had passed to the buyer, could accrue shipping costs and brokerage fees for such unshipped goods in the year in which they were billed.

"The earlier tax practice, as distinguished from generally accepted accounting practice, has been upheld by the courts on numerous occasions. Included are decisions relating to advance rentals received whether the taxpayer used the cash or accrual method of accounting; advance sale of
transportation tickets; overriding insurance commissions; prepaid newspaper subscriptions; prepaid storage charges; receipts for advertising material and services in excess of expenditures; and various other advance payments. Distinction must be made, however, as to moneys received in escrow and therefore not subject to unrestricted use, deposits in connection with executory contingent contracts, and 'reserves' withheld by a finance company to cover delinquent notes discounted."22

On the various other advance payments mentioned above, those which were received by an automobile club were included. These annual membership dues were deferred by the club. The Commissioner of Internal Revenue held that such dues were revenue when received. They could not be deferred. The decision of the Commissioner was affirmed throughout the journey of the case up to and including the Supreme Court.23

In each subsequent case involving the deferral of revenue, the automobile club case was cited as the basis for disapproval of deferring revenue by the adjudicative agency. It made little difference if the adjudicating agency was the Commissioner of Internal Revenue or one of the lower courts. The same was true in the case of an appliance dealer who received revenues in advance and attempted to postpone the revenue until it was actually earned. The Commissioner of

22 Ibid., pp. 128-130.
Revenue, in disallowing this deferral, called attention to the above mentioned automobile club case. The dealer appealed the case to the United States Court of Appeals. The Court of Appeals reversed the Commissioner's decision in 1959. The case originated under the Internal Revenue Code of 1939. The Court of Appeals called attention to the fact that the Supreme Court disallowed the automobile club case on the basis of the method employed in deferring income or revenue. They did not do so on a basis of the principle. The Court of Appeals stated that the method employed by the automobile club was not a realistic method and had they been more realistic, the Supreme Court would have allowed such a procedure. The Court of Appeals held that such a deferral of revenue when supported by the taxpayer was permissible if such a method was in accordance with the actual rules of the business transaction.\textsuperscript{24} The Commissioner of Internal Revenue is not bound by this decision, however. He may refuse to follow any decision of the Court of Appeals and await further determination by the United States Supreme Court. The procedure which may be followed by the Commissioner of Internal Revenue is defined by the \textit{Prentice-Hall Federal Tax Service} as follows:

\textquote{Appeal from the decision of the Tax Court and the District Courts may be taken to the United States Court of Appeals in the proper circuit. The decision of the Court of Claims and the Court of Appeals may be reviewed, upon

\textsuperscript{24}\textit{Pressner Radio, Inc. v. Commissioner of Internal Revenue}, 3 APTR 2d 1530.
certiorari, by the Supreme Court. The Commissioner of Internal Revenue may refuse to follow the decision of a Court of Appeals, and await final determination by the U. S. Supreme Court. Where there is conflict of opinion between different Circuits of the U. S. Court of Appeals, of course, the Commissioner follows the opinion sustaining his view of the issue. The decision of the Court of Appeals of a particular Circuit is deemed a binding precedent for suits brought by taxpayers in that Circuit until the Supreme Court reviews and decides upon the issue. In other Circuits, while the decision has weight, it is not binding. Supreme Court decisions are binding on the points at issue.\(^25\)

**PRESENT STATUS OF COURT DECISIONS**

The present status of court decisions affecting estimated expenses and deferral of revenue can be summarized as follows. Such items may be permissible if based upon generally accepted accounting principles. In the area of estimated expenses, they must be susceptible to a reasonably accurate estimate and may be taken in the year when the related income accrues.\(^26\)

In the case of deferred revenue, the method used must be supported by actual rules of the business transaction.\(^27\) In this instance the Internal Revenue Service has announced that it will continue its general policy of taxing prepaid

\(^{25}\)Prentice-Hall Federal Tax Service - 1959, op. cit., paragraph 5606.

\(^{26}\)Hills, op. cit., p. 127.

\(^{27}\)Bressner Radio, Inc. v. Commissioner, op. cit.
revenues in the year of receipt,\textsuperscript{28} and is not abiding by the decision of the Court of Appeals.\textsuperscript{29}

\section*{NEED FOR FURTHER LEGISLATION}

The decisions of the courts have amplified our present tax law in providing for estimated expenses as well as the deferral of revenue. Court decisions have to do with one specific case. Each subsequent case must have almost identical circumstances in order for the court decision to become binding in the subsequent case. If the facts are slightly altered, the Director of Internal Revenue may disallow the method used by the taxpayer. To appeal the Director's decision may involve considerable legal cost. Rather than incur additional cost, the taxpayer conforms to the Director's decision. In short, our judicial system insofar as tax questions are concerned, places the taxpayer on the offensive, rather than the defensive. The burden of proof is on the taxpayer and not upon the government. When the taxpayer is forced to abandon generally accepted accounting principles to conform to the mandates of the Director of Internal Revenue, it is a victory for the latter by default. Not only does the taxpayer suffer, but

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\textsuperscript{28}\textbf{Technical Information Release 205}, Internal Revenue Service.
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\textsuperscript{29}\textbf{Pressner Radio, Inc. v. Commissioner}, \textit{op. cit.}
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the whole accounting profession is forced to conform with principles set forth by the Internal Revenue Service.

In Chapter II it was brought out that almost without exception, warranty costs were not used in the determination of income for tax purposes. The Internal Revenue Code of 1954 is specific about bad debt losses. The Internal Revenue Code should also be specific about other estimated expenses as well as deferred revenue. There is need for specific provisions in our tax law to provide for these two items.

Such provisions should be drawn up similar to Section 166 of the Internal Revenue Code of 1954 which provides for credit losses. The provisions should be easy to read and understand. The complex wording of the repealed sections of 452 and 462 of the Internal Revenue Code must be avoided. The revenue or cost item should be clearly defined. The method of applying the provision should also be clearly stated in order that no misunderstanding will exist. Such provisions are needed in all areas of revenue and cost apportionments. Any of the proposed provisions should be similar to the following:

"Warranty Cost - There shall be allowed a deduction for a reasonable addition to a provision for warranty after-costs. Such deduction must be formulated according to the generally accepted accounting procedure."

These proposals should be compiled in consultation with a group of independent accountants after considering the many
types of revenue and cost groups which require apportionment. The proposals should then become a part of the Internal Revenue Code through the bounds of our legislative process.

IMPLICATIONS OF DIFFERENCES IN ACCOUNTING TREATMENT

Income Differences

The omission of estimated expenses in the determination of income results in an overstatement of income. An inclusion of revenue in a period prior to that revenue being earned brings about a further overstatement of income.

In future periods when the expenses actually materialize, income becomes understated. The costs associated with deferred revenue also materialize in later periods. When revenue has been recognized in the period received rather than earned, the revenue as well as the net income in the period when actually earned becomes understated. In almost all cases there are some elements of expense related to revenue when that revenue is actually earned.

Tax Liability

When net income is overstated, taxes are also overstated. They cannot be deferred but must be paid prior to the recognition of revenue. Such a procedure removes from the business those assets which should be used in the business for operations rather than for the payment of taxes. If our
tax rates were stable and the rates were the same regardless of the net income, the total taxes paid during the life of the business would be the same regardless of the treatment of prepaid revenue and estimated expenses.

Our taxing system does not operate in this manner. The progressive system in effect for the individual particularly provides more tax proportionately as net income increases. An overstatement of one year's net income can easily result in a tax liability in that year which is not offset by the reduced liability for taxes on a lesser income in subsequent years.

Funds Available

The tax consideration is one of great magnitude. One should not lose sight of the accounting implications involved in the ignoring of prepaid revenue and estimated expenses. Nor should one forget the effect on funds which are available for the use in the business which are reduced by increased taxes.

The true matching of all costs with revenues presents financial statements which provide adequate basis of comparison of one year's operations with another. The owners of the business rely upon financial statements as a check upon past operations and as a basis for forecasting future operations. Management relies upon financial statements for adequately carrying out their control and planning function. These
groups, and others such as creditors and prospective investors, may be misled by financial statements which are prepared in such a manner that they do not provide for deferred revenue and estimated expenses.

Within the area of determining income in accordance with tax provisions as they now exist, the increase in tax liability calls for the use of assets in the payment of tax due. This commands the use of assets for taxes rather than for other business purposes. In essence, a deferral of unearned revenue and an estimation of expenses related to present revenue reduces the flow of cash from the business for the payment of taxes. This outflow of assets can be channeled into income producing assets. In turn, the business will be provided with funds for its expansion. The amount of additional funds will not equal the deferred revenue and estimated expenses. The amount will only be equal to the reduction of the tax liability. The amount channeled in other directions will vary in relation to the volume of business and net income.

SUMMARY

This chapter has presented the income tax considerations as they apply to estimated expenses and deferred revenue. There have also been presented the implications of the differences between accounting and tax treatment of estimated
expenses and deferred revenue. The revisions to the Internal Revenue Code which apply to these items have been reviewed.

It has been pointed out that the court decisions have amplified our taxation laws. The degree of acceptance of these court decisions by the Director of Internal Revenue has determined the degree to which generally accepted accounting procedures can be applied.

There is a need for specific legislation in the field of deferred revenue and estimated expenses. Such legislation would aid materially in establishing a good relationship among the taxpayer, the internal revenue service and the accounting profession. It is now in order to summarize the facts present and arrive at the conclusions and recommendations. These items are presented in the following chapter.
CHAPTER VI

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This study has been prompted by the lack of information with one segment of current liabilities. This segment has sometimes been referred to as estimated liabilities. There does exist today a great amount of literature in the field of accounting for assets. One might be led to believe that liabilities are of a lesser importance. This is far from being the case.

The procedures followed to account for assets may, at the same time, reflect upon the financial statements the proper amount of liabilities. Consider the problem of inventory. In clearly reflecting the correct inventory upon the statements, the liabilities concerned with inventory are also correctly stated. This procedure does not hold true in the case of all liabilities. One of the chief problems concerning liabilities is that the danger of omission is constantly present. Accounting for assets does not solve this problem. A failure to account for all liabilities may result in an overstatement of income as well as an understatement of liabilities.

It was not within the scope of the original problem to attempt to set criteria for all liabilities. Such estimated liabilities as those under pension plans, income tax allocation
and profit-sharing agreements have been entirely omitted from this study. It is believed, however, that many of the conclusions afforded from this study concerning liabilities under warranty and guarantee provisions would be applicable to other estimated liabilities. Certainly the need for the recognition of this particular estimated liability has been established. This need is applicable in the area of all estimated liabilities if they are of a material amount.

The investigation of accounting for warranties on the manufacturers' level has revealed a lack of uniformity within this group. Where such a liability was provided, the amount involved is based upon historical data. Statement presentation was usually as a current liability.

An attempt to discover why manufacturers do not provide for future warranty charges met with no success. It is believed that the principal reason for failure to provide for this liability is the influence of income tax legislation. This in itself should not exert the influence which it appears to do. In other areas in which good accounting procedures and tax considerations are in conflict, good accounting procedure has not been discarded.

Some manufacturers provide accounting recommendations to their dealers on the problem of warranties. All such recommendations were not investigated. These manufacturers realize the need for the dealer to be aware at all times of
the financial condition as well as the obligations of the dealer under the service contract. From an investigation of the dealer organizations, it is believed that a considerable amount of goodwill is created by those companies which provide for their future warranty charges. The liberal repair policy can go a long way in establishing continuing buying habits on the part of the consumer.

The matter of adequate management control is ever present where a company provides for its warranty costs. The data for adequately controlling costs within a service department should be an integral part of the accounting records. It should not be a supplemental record upon which amounts might be omitted or erroneously entered.

Although the problem of future costs was made an integral part of our tax law, the provisions for such were later removed. The need still exists. Where there is conflict between the law and accounting, the differences should be reconciled. To avoid the conflict which occurred when the law was first enacted, future laws should be specific. The justification for the failure to follow acceptable accounting procedures should not be tax law.

One can therefore conclude that companies which manufacture a warranted product should make provision for such future costs. Income for the period in which the sale is made as well as subsequent periods should be correctly stated.
When the dealer organization is to assume part of the cost, the manufacturer should assist the dealer in formulating his accounting procedure. The selling price of the warranty should clearly be indicated to the consumer. The dealer should be well indoctrinated upon the reasons that such a provision is created.

The greatest need, however, exists in the area of tax legislation. President Eisenhower, in his State of the Union message in 1954 outlined the need very clearly. His remarks are well applicable to the problem presented herein.

"Tax accounting should be brought more nearly in line with accepted business accounting by allowing prepaid income to be taxed as it is earned rather than as it is received, and by allowing reserves to be established for known future expenses."1

It might well be that the problem of differences between tax accounting and business accounting will be settled within the courts. If the Supreme Courts should rule favorably on the Bressner Case,2 it will become the law of the land. The decision will be applicable in every district rather than only one.

It is the opinion of this investigator that the court decision will be far-reaching. Future reconciliation of the

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2Bressner Radio, Inc. v. Commissioner of Internal Revenue, op. cit.
differences between accounting and tax procedures will become a more expedient process. Generally accepted accounting procedures will be accepted by all.
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69 STAT 134 Public Law 74, 84th Congress.


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Bressner Radio, Inc. v. Commissioner of Internal Revenue, 3 AFTR 2d, 1530.

General Motors v. United States, 163 F Sup 854 cited as AFTR 2d, 6539.

C. ARTICLES AND PERIODICALS


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Glick, George W., "Is Your Sales-Service Activity Profitable as Well as Useful?" N. A. C. A. Bulletin, XXXVI (June, 1955), 1287-1292.


"How Long Does a Refrigerator Last?" Electrical Merchandising, XCI (September, 1959), 56-57.


Peloubet, Maurice E., "Inventory Control and Valuation," N. A. C. A. Bulletin, XXXVII (September, 1958), 170-173.


D. UNPUBLISHED MATERIAL


Letter from E. E. Landis, Service Manager, Frigidaire Division, General Motors Corporation, Dayton, Ohio, dated March 11, 1959.


APPENDIX
APPENDIX A

COMPANIES PROVIDING FOR FUTURE WARRANTY COSTS

Admiral Corporation
Avco Manufacturing Company
Baldwin-Lima-Hamilton Corporation
Babcock and Wilcox Company
Barber Oil Corporation
Borg-Warner Corporation
Burroughs Corporation
Carrier Corporation
Certain-Teed Products
Combustion Engineering Company
Diamond-T Motor Car Company
Douglas Aircraft Company, Inc.
Eversharp, Inc.
The Flintkote Company
General Electric Company
The Grand-Union Company
Johns-Manville Company
Motorola, Inc.
National Cylinder Gas Company
Parker Pen Company
Philco Corporation
The Ruberiod Company
Servel, Inc.
A. O. Smith Corporation
Sonotone Corporation
Studebaker-Packard Corporation
Tecumseh Products Company
Westinghouse Electric Corporation
APPENDIX B

SAMPLE OF COMPANIES NOT PROVIDING FOR

FUTURE WARRANTY COSTS

Addressograph-Multigraph Corporation
Boeing Airplane Company
Chrysler Corporation
Emerson Radio and Phonograph Corporation
Ford Motor Company
General Motors Corporation
International Business Machines Corporation
Mack Trucks, Inc.
Rheem Manufacturing Company
Republic Aviation Company
Sperry Rand Corporation
Stewart-Warner Corporation
Sylvania Electric Products, Inc.
Worthington Corporation
Zenith Radio Corporation
APPENDIX C

QUESTIONNAIRE CONCERNING WARRANTIES AND GUARANTEES

Name of Respondent:

Background

Under generally accepted accounting procedures, a business using the accrual method of accounting computes its income for any given year by taking into account all expenses and liabilities relating to the earning of such income. Among these expenses and liabilities are provisions for maintaining or replacing products sold with some type of warranty or guarantee. Information provided by the respondents will aid in arriving at practices prevalent in industry as well as conclusions regarding those practices.

* * * * *

1. Please list the principal products which you manufacture or sell under your brand name and which you guarantee or warrant for a period in excess of 90 days. In addition to the product, please indicate the length of warranty.

2. Does your company in determining income for any given period, estimate the future costs which might be incurred as a result of such guarantee and deduct this estimated cost from such income?

   ( ) Yes  ( ) No. If the answer to this question is no, please skip questions 3 through 9 and proceed to question 10.

3. Are such estimated costs considered to be: ( ) a reduction of revenue, or ( ) an expense.

4. In determining taxable income, are such estimated future costs also deducted from taxable income? ( ) Yes ( ) No.

5. If estimated future costs are provided for, how are they derived:
   ( ) By a fixed percentage of sales (such as 1% of sales). Please indicate percentage ____%.
( ) By a fixed amount for each unit sold regardless of selling price. Please indicate this fixed amount $____ per unit.

( ) By a variable amount which corresponds with selling price. Please attach a copy of this schedule if available.

( ) A method not listed above. Please indicate briefly the method used.

6. What is the title of the corresponding liability account which provides for future costs and indicate in which position (or classification) this liability account is shown on the statement of financial position (balance sheet)?

7. Are separate liability accounts maintained for each year's sales with charges carried to appropriate year's liability.
   ( ) Yes
   ( ) No. If all liabilities for each year's sales are merged into one liability account, is this account analyzed at the time financial statements are prepared to determine if the liability is excessive or deficient?
   ( ) No  ( ) Yes. Please indicate briefly the procedure used.

8. If separate liability accounts are maintained for each year's sales with charges carried to appropriate year liability account, what is the disposition of the balance of this account when the warranty or guarantee expires?

9. When the liability for future costs is created or increased, is this charge considered to be:
   ( ) a deduction from sales.
   ( ) an addition to cost of goods sold or manufactured.
   ( ) a selling expense.
   ( ) a general and administrative expense.
   ( ) an appropriation of retained earnings or earned surplus.
   ( ) some other addition or deduction not listed above. Please explain briefly.

10. If future costs are not provided for by the creation of an estimated liability, how are expenses in connection with product warranty treated?
    ( ) a deduction from sales.
    ( ) an addition to cost of goods sold or manufactured.
(  ) a selling expense.
(  ) a general and administrative expense.
(  ) a correction of prior years profits by a charge to retained earnings.
(  ) some other addition or deduction not listed above. Please explain briefly.

11. Are allowances made as to the total dollar value of the physical inventory for probable defective items which are included in the inventory? (  ) Yes (  ) No.

12. Do you as the manufacturer make any recommendations to the dealers regarding adequate and proper accounting procedures for warranties and costs associated with warranties? (  ) Yes. Please attach copy of such recommendations. (  ) No.

13. When the Internal Revenue Code of 1954 was first enacted, Section 462 of the law provided for the establishment of reserves for such items as warranties. Did this section of the Code bring about any changes in accounting procedures at the time of its enactment? (  ) Yes (  ) No.

14. Did the repeal of section 462 of the Code in 1955 bring about any changes in accounting procedures at the time of its repeal? (  ) Yes (  ) No.

15. If the warrantied products are sold through dealers or retailers, are the costs incurred under the warranty assumed by:
(  ) the manufacturer entirely.
(  ) the dealer (or retailer) entirely.
(  ) jointly by the manufacturer and the dealer. Please indicate briefly how this is accomplished.

16. Please indicate any remarks you have regarding estimated liabilities for future costs under warranties and guarantees.
VITA

William Ross Heck was born in Columbus, Georgia, November 28, 1925, son of Harry Roswell and Myrtle Ann (Turner) Heck. After graduating from Jordan Vocational High School of Columbus in 1942, he enlisted in the U. S. Navy. He served with air and minecraft forces and was separated in January, 1947. He was employed in the Personnel Department of the Muscogee Manufacturing Company of Columbus until he was recalled to active duty in the Navy in September of 1950. While employed, he attended the University of Georgia's Off-Campus Center in Columbus from March to August of 1950.

He was released to inactive duty in March of 1952 and enrolled at the Alabama Polytechnic Institute in June, 1952. He received his Bachelor of Science degree in Business Administration in August of 1954 and his Master of Science degree in August of 1955.

After serving as an Instructor of Business Administration at Alabama Polytechnic Institute for one year, he enrolled in Graduate School at Louisiana State University in September of 1956. While enrolled at Louisiana State University, he was appointed as an Instructor in Statistics and later, in Accounting. He is currently a candidate for the Doctor of Philosophy degree.
EXAMINATION AND THESIS REPORT

Candidate:  William Ross Heck

Major Field:  Accounting

Title of Thesis:  Estimated Liabilities for Warranties and Guarantees

Approved:

[Signatures and titles]

EXAMINING COMMITTEE:

[Signatures]

Date of Examination:

July 18, 1960