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ABSTRACT

The unit method of accounting for investments, also called the market-value method, is defined as a procedure for accurately allocating income and investment gains and losses, both realized and unrealized, between component funds of an investment pool. This procedure provides a data base for the calculation of investment performance. Advantages of the procedure are described, and basic implementation methods are outlined. Details are offered on conversion or start up problems, frequency of calculations, valuation dates, accounting for withdrawals, transfer between pools, distribution of income, performance evaluation, number of investment pools, and recordkeeping. It is noted that the unit method can be made as simple or as sophisticated as the institution may desire and its advantages offset the efforts it takes. (LBH)

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Pooling of funds and investing for total return require better procedures for accounting and reporting. The method described here is not overly difficult and meets these objectives.

UNIT METHOD OF ACCOUNTING FOR INVESTMENTS

By Leigh A. Jones

Historically, the procedures followed in accounting for investments have had little attention because there were no "problems." Maintaining records on where funds were held, what they were invested in, and how much they earned were the important aspects of investment accounting. From an accounting standpoint, this required nothing more than keeping detailed records. When funds were received for restricted purposes, they were usually invested separately so that the identity of the funds could be maintained for valuation and income determination purposes. While I believe that many trustees thought this was the only prudent way to handle restricted funds, I suspect that this belief was fostered by the accountants who either didn't know how to or were not interested in accounting for investments in any other way.

As all of us are aware, the attitudes of the trustees (and I might add the accountants) have been changing in recent years with regard to the investment of funds and the "pooling" concept is now commonly accepted. With the pooling of funds and the new investment philosophy of investing for "total return" the need for better accounting and reporting procedures relating to investments becomes obvious. This is where the unit method of accounting for investments comes into play.

Before discussing the details of the unit method of accounting for investments, an explanation should be made about other commonly used names for this same procedure. The Unit Method is also known as the Share Method; the Unit-Share Method; the Mutual Fund Method; and the Market-Value Method. The Market-Value Method is the name used by the American Council on Education in its book *College and University Business Administration*. For the purposes of this report it will be referred to as the Unit Method.

Using the Unit Method to account for investments serves two distinct purposes. First, it provides a means for accurately distributing income and capital appreciation or depreciation earned by a pooled investment account equitably between the component parts of the pool. This might be referred to as its accounting purpose. Secondly, it provides a means for evaluating investment performance. This might be referred to as the evaluation purpose. Most literature on the subject usually refers to the Unit Method in terms of accomplishing one or the other of these purposes. We will try to cover both aspects in this report.

Basically, the Unit Method might be defined as a "procedure for accurately allocating income and investment gains and losses, both realized and unrealized, between component funds of an investment pool, which procedure provides a data base for the calculation of investment performance."

The Unit Method is not new but was evolved many years ago when mutual funds were faced with the problem of providing a precise continuing record of the net asset value of an individual's investment, irrespective of new subscriptions and redemptions. It also solved for them the problem of measuring the change in total value produced by investment performance, without allowing contributions and withdrawals to affect the measurement. Bank trust departments have also been using the Unit Method for a number of years in the management of their "common trust funds." It would appear that until recently colleges and universities have not, for the most part, adopted such procedures for handling their investment funds. In fact, there is some evidence to indicate that there are still many who have not adopted this procedure even though principle 17 in *College and University Business Administration* indicates that it should be followed.

The advantages of using the Unit Method are several.

1. It provides an accurate means of distributing earned income between funds received at different rates. This is particularly important where endowment funds or other funds with different restrictions are invested in the same investment pool.
2. It provides a precise continuing record of the net asset

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value of each fund addition irrespective of new fund additions or withdrawals Knowing the net asset value is extremely important when it becomes necessary to withdraw funds from an investment pool

3 It provides a method whereby various funds can be pooled for investment purposes and yet maintain the separate identity and the accountability for each fund.

4 It provides a data base whereby the performance of separately invested funds or pools can be compared

Basic Procedure

The basic procedures for the Unit Method of accounting are fairly simple At the time an addition to an investment pool is to be made the total market value of the pool is calculated The number of units outstanding are then divided into this valuation to determine the market value of each unit. This unit value is then divided into the value of the addition to determine the number of units the new addition will be assigned The deposit of cash or securities is then made and the number of units outstanding is increased by the number of units assigned to the new addition When a withdrawal is to be made, the market value of the pool and of each outstanding unit is again determined. This unit value is multiplied times the number of units owned by the fund being withdrawn to determine the amount of cash or securities to be withdrawn After the withdrawal has been made, the number of units outstanding is reduced by the number of units previously owned by the withdrawing fund

Pooled Investment Account Immediately Before Addition	
Total Market Value	$125 000
Number of Units Outstanding	1 000
Market Value Per Unit	$ 125
Addition	
Market Value of Addition	$ 25 000
Number of Units to be Issued ($25,000 ÷ $125)	200
Pooled Investment Account Immediately After Addition	
Total Market Value ($125,000 + $25,000)	$150,000
Number of Units Outstanding (1,000 + 200)	1,200
Market Value Per Unit	$ 125
Withdrawal	
Number of Units Owned by Withdrawing Fund	350
Market Value Per Unit on Date of Withdrawal	$ 125
Market Value of Units Being Withdrawn (350 × $125)	$ 43,750
Pooled Investment Account Immediately After Withdrawal	
Total Market Value ($150,000 − $43,750)	$106,250
Number of Units Outstanding (1,200 − 350)	850
Market Value Per Unit	$ 125

Conversion or Start Up Problems

Conversion from the book method (cost method), to the Unit Method of accounting for investments creates some interesting problems. The first question which comes up is the date of the conversion. Should the conversion be made as of a current date or should the conversion be made retroactive to some earlier date? In order to insure the fairness of the distribution of net assets and income to funds that have been received at different dates in the past, it is preferable that a retroactive conversion be made How far back it should be made can best be ascertained by determining the most recent date that the market value and the book value of the investments were nearly similar However, if previous to that date there had been significant differences between cost and market an earlier date of similarity should be chosen. The date of conversion, however, may have to be chosen from some later date if adequate historical financial information is not available

The second problem that is faced is how much prior year information will be needed to make the conversion As pointed out earlier, the total market price of an investment pool is needed for those dates when additions and withdrawals are made from the investment pool For many institutions it may be extremely difficult not only to calculate the market price of the investment fund on the date of each prior year's addition or withdrawal but also the exact date of each transaction may be difficult to determine Accordingly, in making a retroactive conversion one should first determine those dates when the total market value of the fund is known As a minimum one would suspect that these market values are readily ascertainable from the institution's annual financial statements for each prior year end The values for other dates may be available from prior year's investment reports or other data Once a determination has been made as to the valuation dates which will be used, the date of each prior year's addition or withdrawal needs only to be determined with enough preciseness to classify each between any two valuation dates.

After the informational problems have been resolved, the retroactive calculations of the number of units outstanding can be made. First an arbitrary value is set for each unit, Usually a value of $10, $100 or $1,000 is selected. This unit value is divided into the total market value of the investment fund on the beginning date to arrive at the number of units to be assigned to each of the component funds as of that date. From there the usual calculations are made with as much frequency as data are available.

From a practical sense, the making of prior year calculations might only be made as of each prior year end. While the accuracy of such a determination may not be precise, it would be sufficiently accurate to provide information for making reasonable allocations of future income and for reviewing prior year performance and growth trends.

For some institutions the task of going back and ascertaining the year or period in which a specific gift or addition was made may be the most difficult part of the whole conversion. In those cases where this is the problem, or the problem is that the institution does not have sufficient staff time to ascertain this information, the conversion can still be made using additions and retirement on a gross basis as they show up in the fund balance account for each year. The unit value and number of units outstanding for each year end can be determined from this information and then related back to

specific additions or retirement as time permits In some cases this information may be related back to only those funds such as restricted funds where it is important to know the amount of income earned From the standpoint of reviewing prior year's performance of the fund the unit prices arrived at in this way may not be precise but should be sufficiently accurate to show overall growth trends

Frequency of Calculations

After the Unit Method has been established for a fund a determination should be made as to how often the calculations will be made in the future It goes without saying that the more often they are made the more accurate the results will be In the case of mutual funds, it is essential that they make their calculation on a daily or a weekly basis From the standpoint of colleges and universities, it would seem that the calculations would have to be made no oftener than monthly and, depending on the frequency of additions and withdrawals, may be made less often Other alternatives might be quarterly or semi-annually It could also be possible to make the calculation only on those dates when additions or withdrawals are made if market values for those dates could be easily ascertained

Valuation Dates

The total market value of all assets owned by the pool is determined on the last business day of each month or other valuation date that may be selected and from this total the value of each participating unit is computed This unit value is used to calculate the additions and withdrawals made during the following month or period While it would be possible to use the valuation at the end of the month for determining the accounting for transactions made during that month, the bookkeeping is much simpler using the beginning of the month unit values. In the case of significant additions or withdrawals from a pool a valuation as of the date of the transactions should be made.

Accounting for Withdrawals

Where cash is added to the pool the additional number of units issued is determined by dividing the unit value of the units outstanding at the end of the preceeding period into the total cash deposited When securities or other assets are added to the pool their fair market value at the date of addition is used for determining the additional number of units to be issued. The same is true for withdrawals from the pool in that the value of the units being withdrawn determines the value of the assets to be removed

However, in accounting for withdrawals two problems generally arise First, the amount withdrawn (number of units times unit value) generally will not equal the book value of the fund being withdrawn This is due to the fact that after a fund has been added to an investment pool the book value will remain the same but its market value will increase or decrease as the value of the pooled investments increase or decrease The second problem arises if assets other than cash are withdrawn from the pool In this case the recorded price of the investments being withdrawn usually will differ from their current market value

When the book value of the fund being withdrawn is different from the market value of the assets being withdrawn, the difference for accounting purposes is debited or credited to the "realized gains or loss account" for that pool If withdrawals are significant in size or occur frequently, a separate account might be established to accumulate these amounts For statement purposes the separate account would be offset against the regular realized gains or loss account for the pool

When the book value of the securities being withdrawn is different from the market value the difference is also debited or credited to the realized gains or loss account

Transfer Between Pools

When a transfer of funds is made between pools the same two problems may result as discussed under withdrawals, namely, that the book value or cost of the fund being transferred will, in most cases, differ from the total market value of the units owned by that fund, and that if marketable securities, rather than cash, are to be transferred, chances are the book value of these securities will not be the same as their market value.

The general rule that should be followed for transfers is that the fund balance and the marketable securities should be transferred at their recorded cost or carrying value. It should be quickly pointed out, however, that the fair market value of the securities being transferred should be equivalent to the total market value of the units owned by the fund being transferred In other words, the fund balance and the securities transferred are recorded in the new pool at the same costs as they were recorded in the old pool, but the amount of securities being transferred is determined by the market value of the units owned by the fund being transferred.

In recording these transfers, the differences between the cost of the fund and the cost of the securities is either debited or credited to the gain or loss account on the old pool with just the opposite entry being made on the new pool.

Again, however, it should be emphasized that the amount of cash or securities transferred from the first pool is determined by the total value of the units owned by the fund being transferred.

Distribution of Income

In determining the distribution of income earned by a pool during the year, the average number of units outstanding during the year is divided into the total income earned. The resultant amount is the income per unit which is used to calculate the total income each fund in the pool has earned In computing the average number of units outstanding, either the total units at the beginning of the month or the end of the month can be used. Using the month end total seems

to be the most often used method and results in additions getting a full month's income for the month in which they were made and withdrawals getting no income for the month during which they were withdrawn. If the beginning of the month totals are used, just the opposite income distribution results.

Performance Evaluation

Evaluating the performance of a given investment pool which is using the Unit Method for recording additions and withdrawals is quite simple. By comparison of the unit value at the beginning of any period with the unit value at the end of the period the increase or decrease value can be ascertained. This figure can be converted into a percentage for comparison with other pools or indexes. By adding the average income earned by each unit to the increase or decrease in the unit value, the total return of the pool can also be calculated and converted to a percentage for comparison purposes.

Number of Investment Pools

Often the question is asked, how many investment pools should a college or university have? While it is not the point of this report to discuss the proper number that any particular institution should have, it should be noted that by using the Unit Method for recording transactions, the number of pools can be determined solely by investment reasons. It is no longer necessary to maintain separate investment accounts in order to accurately account for income and gains and losses for an individual fund.

Records

The only additional record that needs to be maintained under the Unit Method is a record of the number of units owned by each fund in a particular investment pool. If fund balances are computerized, the addition of the number of units owned by each fund can be easily incorporated in the computer program. On the other hand, if fund balances are not computerized a simple ledger, set up for the purpose of maintaining a record of fund balances and units, can be established without much difficulty.

As a last admonition, the Unit Method of accounting for investments is not difficult and can be made as simple or sophisticated as the institution may desire. The advantages which adhere to it, will greatly offset the efforts that it takes.

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