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## APPENDIX B

### SOME TECHNICAL TERMS USED IN FARM INCOME ANALYSIS

FARM economists seem agreed that no single definition of farm income can be applied satisfactorily under all circumstances. To meet specific needs a large number of definitions have grown up, and with them a set of identifying terms—net cash income, return to capital, labor income, and so on. Since many of the terms have appeared from time to time in this book, we provide here working definitions, occasionally adding brief explanations. A complete discussion of farm income analysis is not intended. Emphasis is upon accounting under individual owner operation—but even that will not be covered completely—and virtually nothing will be said about aggregative income accounting for agriculture as a whole, or about landlord and tenant incomes.

The various definitions of farm income may be divided into two groups according to whether or not they take account of imputed income from farm perquisites and imputed costs of unpaid labor and capital furnished by the farm family. Table B-1 is an illustrative farm income statement from which all imputed items have been eliminated. It includes only the strictly financial transactions: bona fide money receipts, both cash and accruals; out-of-pocket operating expenses (cash and accruals) exclusive of family living; and an adjustment for changes in inventory.

The adjustment for inventory change requires comment, partly because it rarely occurs in this form in conventional corporate statements, and partly because the treatment of it in farm statements is not uniform. Undoubtedly some individual farm accounts follow corporate practice and dispense with the inventory adjustment altogether. When the adjustment is used, the primary purpose is to allow for crop carry-over and for changes in the value of the livestock inventory. Crops produced but not sold at year end are entered in the inventory, usually at current prices less estimated selling costs. An adjustment may be made also for the difference in the value of the livestock inventory at the beginning and end of the accounting year. In some systems of income analysis the inventory adjustment serves also as a depreciation account, as is indicated in Table B-1, which is specially itemized for purposes of illustration.<sup>1</sup>

<sup>1</sup> Handling depreciation through the inventory account follows an old system of payments and balances that was used by corporations before the days of depreciation accruals. In modern accounting, depreciation expense is charged directly against income through a special account set up for the purpose. The difference between the two methods is largely a matter of arrangement and presentation,

TABLE B-1  
An Illustrative Farm Income Statement,  
Imputed Items Excluded

<i>Receipts</i>	
Crop sales	\$4,500
Livestock sales	3,000
Miscellaneous	500
	\$8,000
<i>Expense</i>	
Hired labor	\$1,000
Feed, supplies, seed, etc.	1,500
Livestock bought	1,000
Tractor bought	800
Real estate taxes	500
Miscellaneous	200
	5,000
NET CASH INCOME	\$3,000
Net inventory change: increase	
Value of tractor at year end (\$800 cost less \$200 depreciation): increase	\$600
Crops and livestock on hand: increase	800
Depreciation on buildings: decrease	400
	1,000
NET OPERATING INCOME	\$4,000
Interest on mortgage	500
NET INCOME	\$3,500

But the practice is not universal. In some of the aggregative series of the Bureau of Agricultural Economics, depreciation is entered directly as an expense.

however, for both methods use the same basic data and eventually arrive at the same values for net operating income and net income.

The illustrative farm income statement contains, for example, an expense of \$800 for the purchase of a new tractor. At the end of the year, however, that expense is offset by an increase in inventory of \$600, equal to the original purchase of \$800 less estimated depreciation of \$200. In modern corporation accounting, on the other hand, only the \$200 expense item would appear in the income statement; the original purchase would not be included, since it would be considered a capital expenditure.

In the hypothetical statement three measures of income are highlighted: net income, net operating income, and net cash income (sometimes called net cash farm income). Net income is the farmer's final profit for the year—the amount on which he might pay an income tax.<sup>2</sup> Nevertheless, it is not extensively used by farm income analysts, partly because it takes no account of imputed income and costs. Net operating income is a standard concept in modern corporation accounting. It rarely if ever appears in farm accounts, but it might be used in farm income analysis as indicated in Chapters 7 and 8, which deal with that subject. Net cash income is a common concept in farm accounting. It was used by O. H. White in his study of capacity to repay debt, and it appears in the Department of Agriculture annual series net cash income of farm operators.

In the long run, net cash income and net operating income will be approximately equal, and if "the long run" happens to begin with the purchase of a farm and end with its sale, the two will be exactly equal. In the short run, however, substantial differences may appear from time to time. In general, net operating income will be more stable than net cash income. To illustrate with an extreme example, suppose that a farmer who keeps his books by the calendar year ordinarily sells his crops at the end of December, but in a certain year, say 1950, defers his selling until early January of the following year. In 1950, then, his net cash income will show a substantial loss because there were no cash receipts during that year though expenses occurred as usual. But in 1951 net cash income will be greatly swollen by the concentration of two full years' receipts into one year. Net operating income, on the other hand, will not be similarly affected. At the end of 1950 there will be a large increase in inventory as a result of the unsold crops, approximately compensating for the lack of cash sales during the year. In 1951, there will be a substantial decrease in inventory—from the previous year's abnormal accumulation—which will compensate for the two years' concentration of cash sales.

The income statement of Table B-1 may be modified by the inclusion of various imputed costs and returns. Two systems of modification have been encountered in data from studies discussed in this book, one used by some of the eastern land grant colleges, the other used by the Bureau of Agricultural Economics. Table B-2 illustrates some of the modifications used by the land grant colleges. The calculation of the return to capital under Alternative 1 is to provide an estimate of the investment return from a farm after allowance for all costs, including the operator's labor and manage-

<sup>2</sup>In view of the many intangibles in farm accounting and the substantial number of farmers who keep few or no accounts, it is impossible to say with assurance that net income—or any other quantity—is generally used for tax calculations.

ment. An analogous calculation, designed to measure returns to labor, is included under Alternative II. There the crucial step is a deduction for the imputed cost of capital, whether furnished by the operator or borrowed at going interest rates. The usual method of determining the cost is to multiply the total farm capital by the estimated average mortgage interest rate for the area under consideration.

TABLE B-2  
An Illustrative Farm Income Statement: Imputed Adjustments  
Used by Some Eastern Land Grant Colleges

<i>Alternative I, return on capital</i>	
NET OPERATING INCOME (from Table B-1)	\$4,000
Unpaid family labor	500
	<hr/>
FARM INCOME	\$3,500
Operator's labor and management	1,500
	<hr/>
RETURN ON CAPITAL	\$2,000
<i>Alternative II, returns to labor</i>	
NET OPERATING INCOME	\$4,000
Interest on total capital at 5 percent <sup>a</sup>	1,200
	<hr/>
FAMILY LABOR INCOME	\$2,800
Unpaid family labor	500
	<hr/>
OPERATOR'S LABOR INCOME	\$2,300
Value of farm prerequisites	
Rental value of house	\$900
Farm products used	500
	<hr/>
	1,400
	<hr/>
OPERATOR'S LABOR EARNINGS	\$3,700

<sup>a</sup> The 5 percent figure is chosen arbitrarily for illustration. Ordinarily, one would estimate the average going interest rate in the area under consideration.

Table B-3 illustrates some of the imputed adjustments used by the Bureau of Agricultural Economics. For the sake of authenticity, actual averages for central New York dairy farms are used, rather than hypothetical figures as in the preceding tables. Of the various adjustments presented, the allocation to labor deserves particular attention because it appears in Table 27 (Chapter 7). The amount

allocated to labor is a residual after deduction of the allocation to capital.

It is noteworthy that the BAE method of imputing a capital cost differs somewhat from that of the land grant colleges. To impute the cost of working capital, the value of working capital is multiplied by an estimated average interest rate for the region, which is consistent with the college method; but the imputed cost of land and buildings is determined from estimated net rentals rather than from an interest rate.

TABLE B-3

Combined Income Statement for Central New York Dairy Farms,  
Averages for Eleven Years 1930-40

Cash receipts	\$2,317
Cash operating expenditures (excludes family living expenditures)	1,555
	<hr/>
NET CASH FARM INCOME	\$762
Net inventory change: decrease	26
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NET OPERATING INCOME	\$736
Value of perquisites (farmhouse, fuel, vegetables, etc.)	416
	<hr/>
NET FARM INCOME	\$1,152
Rent and interest paid	140
	<hr/>
OPERATOR'S NET FARM INCOME	\$1,012
<i>Allocation of net farm income</i>	
To capital:	
Net rental value of land and buildings less upkeep	\$301
Interest on working capital <sup>a</sup>	211
	<hr/>
	512
To labor:	640
	<hr/>
	\$1,152

From *Typical Family-Operated Farms, 1930-45, Adjustments, Costs, and Returns*, by Wylie D. Goodsell, Ronald W. Jones, and Russell W. Bierman (Bureau of Agricultural Economics, F.M. 55, April 1946), page 33.

<sup>a</sup> Obtained by multiplying the total amount of working capital (machinery, equipment, livestock, and crops on hand) by an average interest rate for the region.