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## ACCOUNTING AND PLANNING FOR FARM MANAGEMENT: A REVIEW ARTICLE

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### INTRODUCTION

During 1963 the Director-General of the Queensland Department of Primary Industries appointed a select committee to examine the general development of farm management accounting in that State. The committee was headed by E. O. Burns, Director of Economic Services in the Department of Primary Industries, and comprised another member of that Department together with representatives from the University of Queensland, the Institute of Chartered Accountants in Australia, the Australian Society of Accountants and the Australasian Institute of Cost Accountants.

The *Report of a Joint Committee on Standardization of Farm Management Accounting*<sup>1</sup>—generally known as the *Queensland Report*—sets out the unanimous views, opinions, and recommendations of the members. No particular mandamus is claimed except that “. . . it is the result of two years' thinking by a group of public accountants, university lecturers, and departmental officers. The combined experience of this group in practical accounting, academic, and applied management fields gives a unique authority to their recommendations.”<sup>2</sup> Of course, only time will tell whether or not the proposals and recommendations will be approved by the councils of the various accounting bodies, or adopted by the general accountant practitioner and farm management consultant. However, the report was enthusiastically received by some 50 accountants, economists, and management advisers who used it as the working paper for the Workshop on Standardization of Terminology and Procedures in Farm Management Accounting held at the University of New England during August 1966.<sup>3</sup>

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The author was a member of the Committee on Terminology and Procedures in Farm Management Accounting established by the Australian Agricultural Economics Society, and of the National Workshop on Standardization of Terminology and Procedures in Farm Management Accounting organized by the Society and held at the University of New England during August, 1966.

The review has benefited considerably from discussions on the practical aspects of farm management accounting with Mr S. J. Filan, Economics Research Officer, New South Wales Department of Agriculture; Mr H. A. Crafter, Public Accountant, of Wellington; and several landholders in the Western Agricultural Region. However, as always, final responsibility for fact, omission, and error rests solely with the author.

<sup>1</sup> *Accounting and Planning for Farm Management* (Report of a Joint Committee on Standardization of Farm Management Accounting; Brisbane: Queensland Department of Primary Industries, 1966), referred to in this article as the *Queensland Report*.

<sup>2</sup> *ibid*, p. vii.

<sup>3</sup> Australian Agricultural Economics Society, *Report of National Workshop on Standardization of Terminology and Procedures in Farm Management Accounting*, (Armidale: University of New England, mimeo), referred to in this article as the *National Workshop Report*.

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## ORIENTATION AND SCOPE

The committee in its deliberations had no particular terms of reference beyond those in the original suggestion by the Department of Primary Industries that it should examine the whole basis of farm management accounting and attempt to devise some uniform method of preparing and using farm accounts. In practice, the committee concentrated chiefly upon the second aspect, with the aim of devising "a practical system, capable of immediate application, and meaningful alike to accountants, farm management economists, extension officers, and primary producers".<sup>4</sup> However, achieving this aim apparently involved the sacrifice of certain economic and accounting principles. Throughout the report there is evidence that some of the fundamental problems of both farm management economics and farm management accounting were avoided or ignored; in many places little attempt was made to relate the accounting system to the needs and abilities of the users.

From the outset the committee had troubles of definition and attitudes. First, how could one recommend a system of *farm* management accounting to a clientele, the majority of whom only answered to the name of "grazier" or "pastoralist"? Then, secondly, how was it possible to devise a system of accounting for primary producers who did not want it or accountants who could not operate it?

The first problem was quickly overcome. It was accepted that the term "Farm Management" (and "Farm Management Accounting") could be used and applied indiscriminately because it was a technical term "having a specialized connotation in the literature . . . (and) . . . moreover, the virtue of simplicity".<sup>5</sup>

On the second point the committee had less self assurance. Members had little doubt about the meagre recognition given to the part which farm management accounting could play in the operation of the farm or grazing property, but more doubt about the factors which appeared to have inhibited its development. On the one hand:

Primary producers have made only limited demands on public accountants for management accounting services. Some have adopted a generally sceptical attitude . . . Others, possibly most, have not adopted any attitude at all. Having no knowledge of the subject, they are completely unaware of the possibilities . . .<sup>6</sup>

While, on the other hand:

The reluctance of many accountants to enter the field of farm management accounting can be attributed to the realization that farming is different in many respects from other businesses, and to a failure to comprehend adequately how the technique of management accounting can be usefully applied in this specialized field.<sup>7</sup>

Interestingly, the committee praised rather than deprecated the activities of agricultural economists and farm management advisory workers. The demand for farm accounting data, satisfied in the past by adapting taxation returns or endeavouring to interest farmers in keeping records, was felt to have made an impact on thoughtful farmers and accountants. A strong feeling existed that the agricultural economist

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<sup>4</sup> Queensland Report, *op. cit.* p. ix.

<sup>5</sup> *ibid.*, p. 3.

<sup>6</sup> *ibid.*, p. 3.

<sup>7</sup> *ibid.*, p. 4.

should not have to offer this service; greater efficiency could be expected to follow from the combination of the skills of the economist with the skills of the accountant.

From these preliminary discussions of bases and objectives, the committee concluded that there were at least four separate groups of people to be catered for in the design of a farm management accounting system: the farmer, the practising accountant, the agricultural extension officer or farm adviser, and the agricultural economist.<sup>8</sup> Thus the committee defined its aim as the standardization of terminology and procedures in the preparation and presentation of management accounting statements, the development of comparative analysis as the cornerstone of farm management accounting, and the integration of accountancy with the budgeting of future farm activity. Little attention was given to the mechanics of data collection or to the large-scale processing of annual statements to provide comparative and, ultimately, standard data on a regional and State-wide basis. This activity was considered to be the function of some central agency, completely divorced from and independent of practising accountants: "This role would naturally seem to devolve on the agricultural economists of the various State departments of agriculture or primary industries."<sup>9</sup>

### THE RECOMMENDED SYSTEM

The system of accounting proposed by the committee is centred on three major statements—a profit statement, a statement of assets and liabilities, and a statement of sources and use of cash—with these statements supported by a schedule of efficiency factors and backed up by budgets and partial budgets prepared as required at any time throughout the year. In total, the system is expected to provide a more satisfactory measure of farming profit, and a better expression of the relationship between profit and the resources used, than can be obtained in the preparation of a tax return. In the particular instance of the statement of sources and use of cash—a comparative newcomer to the format of management accounts for primary producers—the information provided about cash usage and control should be a most important aid for forward planning. As the committee commented: "Poor utilization of cash and the inability to plan because there is an absence of cash forecasting appear to have been severely limiting factors in primary production businesses in the past."<sup>10</sup>

For full utilization of the statements, the committee envisages that accountants obtain physical data from their clients, prepare a range of efficiency factors, and assist in the interpretation of the accounts. Somewhat surprisingly, the committee also envisages that the accountant "should prepare partial budgets covering all the alternative lines of action contemplated by the farmer . . . (and) . . . once the selection of a plan of action is made (budgets) to enable financial control to be obtained throughout the coming year".<sup>11</sup> The sagacity of this suggestion was

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<sup>8</sup> *ibid.*, p. 6.

<sup>9</sup> *ibid.*, p. 7.

<sup>10</sup> *ibid.*, pp. 12-13.

<sup>11</sup> *loc. cit.*

questioned by National Workshop members, who felt that an accountant would need to consult and perhaps even join with an agricultural extension officer before attempting to prepare budgets.<sup>12</sup>

### PRESENTING THE FINAL ACCOUNTS

Implicitly assuming a knowledge of double entry book-keeping, the report approaches the practicalities of farm management accounting at the point of drawing up the annual profit and loss statement and balance sheet. Despite the fact that budgetary control might require a more regular and more detailed accounting service than is available in the normal course of events, the committee's opinion appears to be that it is sufficient for the accounts and reports prepared by accountants to provide simply a financial history of the farming business and some physical data arranged in such a form as to assist in the analysis of the accounts.

The classification of records in the ledger and the end-of-year adjustment and transfer journal entries are dealt with in some detail. However, the concepts used are frequently neither those of the economics profession nor of the accounting profession. On the one hand, economists may baulk at a recommendation to apportion the sale and purchase price of sheep between the carcass and the wool, or to include deferred receipts as an item of gross income. On the other hand, accountants may find it difficult to accept the principle of valuing home grown fodder and seeds at farm gate price rather than the traditional cost of production price. Even the National Workshop felt that it might be necessary in some instances to vary the principle of valuing home grown produce at its opportunity cost. It recommended that, provided the basis of valuation was stated as a footnote to the accounts, "the value of home grown feed to be credited to the gross income of the producing enterprise and charged to the expenses of the consuming enterprise may be either—(1) farm gate price, or (2) the variable cost of production."<sup>13</sup>

### THE PROFIT STATEMENT

Despite the reported impossibility of deciding upon an ideal style and content, the committee—in strict accounting tradition—selected the profit statement as the core of all the accounting statements.

In the presumably compromise form, the statement<sup>14</sup> comprises a five-step determination of net profit for the year. The first step is to calculate the gross income created by each type of economic activity (that is, each enterprise) during the year under review. Then, the enterprise variable expenses are deducted from these gross incomes to provide the enterprise gross margins which are available to the business from each enterprise. The third step is to reduce the gross margins by the enterprise overhead expenses, and the fourth step is to deduct all unallocated expenses to provide the figure of "operating profit". In the fifth and final step the non-operating expenses (items unrelated to the business activities, such as interest paid) are subtracted and non-operating income is added to arrive at the net profit for the year under review.

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<sup>12</sup> National Workshop Report, *op. cit.*, pp. 45-46.

<sup>13</sup> *ibid.*, p. 50.

<sup>14</sup> Queensland Report, *op. cit.*, p. 18.

The approach used in compiling the profit statement is a loose rendering of the gross margins concept.<sup>15</sup> The first step is akin to measuring the value of output from the property, while the derivation of "operating profit" corresponds to that for the more commonly accepted figure of "net farm income". However, in actual detail the resemblance is less obvious. In the first place:

"The committee recommends that gross income include:

- Livestock sales less livestock purchases.
- Gross proceeds from sales of produce.
- Value of production used on property.
- Changes in value of livestock and produce inventories.
- Deferred receipts.
- Other income such as that from contract harvesting or agistment."<sup>16</sup>

Yet this is likely to produce a very different figure of gross income from that obtained by the more usual method of calculation which includes an estimate of the money owing on produce sold and *excludes* the value of deferred receipts. As the National Workshop commented: "... the Joint-Committee's decision:

- (i) contradicts the economic aim of determining the value of the output of the property;
- (ii) thwarts the process of matching income and expenses;
- (iii) invalidates the meaning of gross margins for many enterprises; and
- (iv) does not hold the farmer or his adviser who has to make some assumption about overall product price before he can plan ahead or select enterprises."<sup>17</sup>

The Workshop recommended<sup>18</sup> in preference that the calculation of gross income should include separate calculation of the gross proceeds received and *receivable* from sales in the current period, and any deferred receipts should be accounted using an asset account debited with the estimated total amount receivable, credited with the proceeds of receivables through time and closed after receipt of the final payment by the transfer of any balance to the profit statement as an item of "non-operating" income or expense.

A second criticism which must be made against the details of the approach used in compiling the profit statement concerns the practice of permitting some variable expenses to be classified as "expenses not allocated". The practice is no doubt a neat solution to the problem of certain expenses such as fuel and oil and vehicle running expenses which appear to be variable but cannot be allocated to an enterprise. However, it is definitely not in accordance with established convention. By definition, a gross margin is the margin of gross income over variable

<sup>15</sup> cf. A. G. Jeffrey, *Records and Accounts for Farm Management* (London: H.M.S.O., 1963), pp. 28-39.

<sup>16</sup> Queensland Report, *op. cit.*, p. 19.

<sup>17</sup> National Workshop Report, *op. cit.*, p. 47.

<sup>18</sup> *loc. cit.*

expenses, and variable expenses in turn are the raw materials, services, and labour “which are specifically incurred for the enterprises of the farm (and) which are relatively easy to allocate because they have been incurred for the individual enterprises.”<sup>19</sup> Thus, expenses which cannot be allocated to enterprises—even though they might have been incurred for them—cannot be regarded as variable expenses. Indeed, Jeffrey even holds that machinery expenses are not variable expenses since they are “in general, incurred in relation to the farm as a whole and not to specific enterprises. Given a particular set of machinery and equipment, a high proportion of the machinery expenses will be the same whatever the use made of the machinery for any particular period.”<sup>20</sup> Not all writers accept such a strict definition of a variable expense,<sup>21</sup> but they do agree that there are only two classes of expenses—variable and overhead—and variable expenses are only those which can be allocated to an enterprise or a production process.

The point which arises from this discussion is that one must question the whole approach of determining gross margins in a profit statement. The problems of identifying the various items of variable and overhead expenses indicate that the practice of expense allocation could easily lead to inaccuracies in the basic measures of performance. It is easy to visualize a situation in which the enterprise gross margins are grossly inflated because of a large element of non-allocated variable and overhead expenses, or quite meaningless because of allocation of expenses on an arbitrary basis.

#### THE STATEMENT OF ASSETS AND LIABILITIES

Again in strict accounting tradition, the statement of the assets and liabilities of the property and the proprietor is set out using the written-down rather than present-day value of each item. Such a process may well fit in with double entry book-keeping principles—witness the balancing of the Total Funds Employed with the total of Employment of Funds in property account, livestock, and current assets<sup>22</sup>—but it is quite meaningless for decision-making purposes. The calculation of return to capital is ordinarily made against the total value of assets employed in the business, and if this value is understated then the percentage return is overstated; the net result is a false basis established for comparison of alternative investment possibilities. Nor is it a satisfactory palliative that “a notation of the owner’s estimate of current market valuation of the property appear at the foot of the statement of assets and liabilities”,<sup>23</sup> particularly when the rider is added that “care should be taken to make it evident that it is the owner’s estimate and not that of the accountant”.<sup>24</sup>

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<sup>19</sup> Jeffrey, *op. cit.*, p. 29.

<sup>20</sup> *loc. cit.*

<sup>21</sup> cf. C. A. Mallyon, *The Principles and Practice of Farm Management Accounting*, 2nd Edition (Sydney: The Law Book Company Ltd, 1966), and J. A. Hopkins and E. O. Heady, *Farm Records and Accounting*, 5th Edition (Ames: Iowa State University Press, 1961).

<sup>22</sup> Queensland Report, *op. cit.*, p. 44.

<sup>23</sup> *ibid.*, p. 43.

<sup>24</sup> *loc. cit.*

In many instances the important consideration is not the total amount of capital invested in the property, but the amount of capital invested in the different enterprises and items of plant, machinery, and livestock, for it is the ratios between and among the various items of the statement or balance sheet which indicate the soundness of financial structure and the efficiency of resource use.<sup>25</sup>

#### SOURCES AND USE OF CASH

The statement showing the "Sources and Use of Cash" is a most welcome addition to the usual ambit of annual accounts. The intermingling of farm business and farm household expenses, often with a common cheque book for all transactions, can make it difficult for the farmer or his adviser to work out where funds have originated or how they have been used. All too frequently, it is impossible to establish the link between the profit statement and the bank statement, to reconcile the accounted profit with an increased overdraft and establish some basis for cash budgets in the preparation of a new farming programme.

Two forms of a Sources and Use of Cash Statement are illustrated in the report. In the first example,<sup>26</sup> the sources of cash are grouped together and added to the opening cash balance to show the amount which has become available during the year. Appropriate deductions, for repayments of the capital borrowings, new capital expenditures, personal cash drawings, income tax payments and changes in the debtors, creditors, and inventory stocktakers, are then made to provide, finally, a cash balance at the end of the particular period. In the second example, which is cited as "a form that might be suitable where the client is somewhat more sophisticated in his approach to farm management accounting . . .",<sup>27</sup> the form works towards the figure of cash available for expansion and then reveals how this money is dispersed to yield the balance of cash at the year end. The amount available for expansion comprises the "amount available from operations" (gross income less expenses and income tax paid, plus charges not absorbing cash and the net movements in creditors, debtors, and inventories) less the fixed capital commitments and personal drawings. When capital sales and purchases are accounted, the amount available for expansion reduces to the net cash movements for the year and can be adjusted for the cash balance at the beginning of the year to provide the cash balance at the end of the year.

#### INTERPRETING AND USING THE ACCOUNTING STATEMENTS

Taking the now widely held view that farm management accounting includes not just the bookkeeping activities of preparing the final accounts but also all the wider aspects of farm business management, the report deals at some length with the analysis of annual accounts and the preparation of new farm plans.

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<sup>25</sup> On this point, see Mallyon, *op. cit.*, especially pp. 164-173, and Anon., "Establishing Areas, Priorities for Improvement in Profit", *Australian Financial Review*, July 4, 1967, p. 23.

<sup>26</sup> Queensland Report, *op. cit.*, p. 47.

<sup>27</sup> *ibid.*, p. 48.



In the first place, the committee considered that the maximum benefit to be gained from a farm management accounting system would lie in relating the financial data to some of the other aspects of production, and for this purpose a schedule of "efficiency factors" should be prepared and attached to the annual accounting statements.<sup>28</sup> As some guide in this work, the report provides<sup>29</sup> a 7-page table setting out no less than 44 ratios and measures which may be calculated in various combinations to assess the level of business efficiency in the dairying, pig, sheep, beef, agricultural, fruit, small crops, and poultry industries. Although less than a quarter of the factors can be calculated in the normal way on most farms—because of the enterprise combinations and lack of records—the list with its accompanying explanations is a most useful compendium of the measures of performance which are available for use when records are kept in sufficient breadth and depth. Each factor extends the enquiry initiated by one or other of the four key factors—gross income per effective acre, yield per acre or per unit of livestock, operating profit per effective acre, and rate of return on assets employed<sup>30</sup>—and in ideal circumstances it would be possible to examine such intimate details of a business as annual machinery cost per cultivated acre, gross income per labour unit, and capital investment per labour unit.

Efficiency factors are seen by the committee as essential aids to the analysis of the annual account statements. The study and year-to-year comparison of income, expenses and gross margins as reported in the profit statement, or the capital situation as reported in the statement of assets and liabilities, is useful but limited. It can be the basis of the enquiry, but the detailed knowledge of the business strengths and weaknesses comes only through using efficiency factors to measure performance against certain standards or results.

#### COMPARATIVE ANALYSIS

For the detailed interpretation of accounts the committee considers that:

. . . Comparison is the key . . . (and) . . . there are five basic methods of comparison:

1. *With notional standards.* These are merely preconceived ideas; for example, that wheat should produce 30 bushels per acre; that a dairy cow should produce 200 lb butterfat per annum; that the operator should earn \$2,500 labour income per annum; or that a reasonable return to capital would be 6 per cent. These have no objective basis, and should be used only when no other information is available.

2. *With budgeted figures.* If the budget has been carefully drawn up, and particularly after a number of years practice of management accounting, this can be the most important comparison of all.

3. *With previous actual results.* These will not be available for the primary producer who is just starting to use management accounts, but the longer records are kept the easier it becomes to measure efficiency in succeeding years.

4. *With other properties.* Care should be taken that the comparison is with similar businesses of comparable size. Very little comparable data is available at present, but more will become available as management accounting extends.

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<sup>28</sup> *ibid.*, p. 63.

<sup>29</sup> *ibid.*, pp. 66-72.

<sup>30</sup> *ibid.*, p. 64.

5. *Objectively determined standards.* Much research work remains to be done in Australia before objectively determined standards based on a satisfactory level of management become available for various industry types. In Queensland the Department of Primary Industries is working towards this end, and when available these should be of great assistance to public accountants.<sup>31</sup>

The place and role of comparative analysis in farm management accounting is dealt with in a later section of this review, and for the moment it is sufficient to note that, to demonstrate the "with other properties" method of comparison, the report contains a section setting out and analysing a hypothetical profit statement and schedule of efficiency factors for Farmer X.<sup>32</sup> An income and expenses comparison produces very obvious remarks concerning the comparative level of income, expenses, and operating profit; from the key efficiency ratios the conclusion is drawn that a relatively unprofitable situation is brought about by low output per acre and per unit of livestock; and more stringent analysis produces a list of seven items that need to be checked or amended. Interestingly enough, all of these are technical considerations requiring technical advice, yet they have been pinpointed by analysis of records orientated more towards financial management.

#### FARM PLANNING

In its consideration of budgeting and programming, the report demonstrates how farm management accounting is truly the combination of the skills of the accountant, the economist, and the farm adviser or agriculturalist. There is ample evidence that the correction of errors by forward planning involves the choice of alternatives by the economist, the preparation of a production plan by the agriculturalist, and an examination of financial consequences by the accountant; when the planning is by use of mathematical programming there is the need for all parties to work together in extremely close co-operation to specify the restraints and co-efficients of the matrix.

It is not necessary in this review to consider in detail the full extent of the budgeting and programming procedures recommended by the Committee. In common with most other texts, the report provides an adequate introduction to the topic. The various requirements and sequences of linear programming and wholefarm, partial, and parametric budgeting are set out and illustrated more than adequately. One point worthy of note is that the treatment of whole-farm budgeting is developed in some detail on the grounds that the process is a necessary preliminary to budgetary control. Using examples for several different situations, both profit and cash budgets are prepared for the planning period, and these are supplemented where appropriate with development budgets covering profit, cash, and finance. Individually, the profit budget forecasts the likely net profit to be earned during the period, the cash budget indicates how operations are to be financed by estimating the inward and outward flows of money, and the financial budget traces the levels of financial assistance required at all stages of the plan.

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<sup>31</sup> *ibid.*, pp. 75-77.

<sup>32</sup> *ibid.*, pp. 79-80.

Mention is made on numerous occasions of the need or at least usefulness of a farm plan "showing paddock acreages, land utilization, buildings, water supply facilities, and shelter, to ensure that all these aspects of the property are taken into account".<sup>33</sup> However, the importance of physical details in the preparation of plans is not extended to the incorporation into the budget statement of the physical activities required to implement and operate the plan. There is no suggestion of the need, for instance, to document the number and type, estimated price, and period, of livestock purchases and sales. Yet without such detail it is not possible to trace and evaluate the consequence of any discrepancy between the budgeted and actual results. For example, in Table 15—*Profit Budget Restated in Vertical Form to Permit Comparison with Actual Results and Calculation of Variances*—a "variance" of minus \$420 is shown as having occurred between the budgeted and actual gross income from cattle; yet no indication is provided in either this or the cash budget of even the number to be sold or the number actually sold, let alone what type of stock were to be sold at what price. In such circumstances, the calculation of the differences between the budgeted and the actual figures becomes no more than an interesting exercise because the cause of the budget error cannot be traced—was it due to the variation in number or type of animal sold or variation in the prices received? In the same way, the example budgets lack the completeness required for budgetary control in this case because of the committee's attitude that partial budgeting needs to provide only estimates of the net increase and decrease in income and expenses, rather than estimates of the total changes. The different emphasis<sup>34</sup> stems chiefly from the accounting approach that a partial budget considers only the changes in the financial situation. If it is necessary to consider some technical aspects:

After this information has been obtained or estimated with the farmer's help, it is possible to set up a partial budget . . . (to show) . . . the probable change in accounting profit which would result from the proposal . . .

The technique of partial budgeting is simple but depends on a clear appreciation of the distinction between extra, or incremental, costs, and committed, or sunk, costs. Accountants should be careful to preserve this distinction.<sup>35</sup>

## TWO SHORTCOMINGS

Although for the most part the report is a highly commendable amalgamation of the committee members' individual preferences and opinions, in two respects it falls short of providing a desirable level of critical appraisal when it is referred to as "something which will undoubtedly be used as a text book in many institutions for agricultural accounting education"<sup>36</sup> and as "a *must* for any practitioner having clients in primary industry".<sup>37</sup> First, there is the undue emphasis given to the role of comparative analysis; and second, there is the insufficient attention given to the problems of initial data collection on the property.

<sup>33</sup> *ibid.*, p. 89.

<sup>34</sup> cf. Jeffrey, *op. cit.*, pp. 56-66, and Hopkins and Heady, *op. cit.*, pp. 317-319,

<sup>35</sup> Queensland Report, *op. cit.*, pp. 105-107.

<sup>36</sup> D. G. Neilson, "Review—Accounting and Planning for Farm Management", *The Australian Accountant*, Volume 36, No. 10 (October, 1966), pp. 535-536.

<sup>37</sup> W. Bowie Wilson, "A Review—Accounting and Planning for Farm Management", *The Chartered Accountant in Australia*, Volume 37, No. 3 (September, 1966), p. 192.

## COMPARATIVE ANALYSIS AS A CORNERSTONE

In the first chapter of the report the remarks are made: "The committee believes that comparative analysis is the *cornerstone* of farm management accounting. Without it, the accountant has no objective basis for gauging the relative efficiency or inefficiency of various aspects of the farm business."<sup>38</sup> Subsequently, considerable attention is given to the development of comparative analysis—or interfarm comparison as it is sometimes called—as the key to the more detailed interpretation of the annual statements.

The remarks and emphasis given to comparative analysis is symptomatic of the undertone of opinion filtering through from Europe and America. Several writers have described the development of the technique as a tool for the interpretation of accounts from various industries in overseas countries.<sup>39</sup> In Australia, the use of comparative analysis has been reported in the hardware retailing, pharmaceutical, food manufacturing, and printing industries,<sup>40</sup> as well as in agriculture.<sup>41</sup>

Despite the apparently widespread use of comparative analysis, most agricultural economists in Australia and New Zealand are sceptical of its value under local conditions except at a pragmatic level and with careful use. The National Workshop members disagreed that the technique was the "cornerstone"<sup>42</sup> and, in another context, Schapper even stated: "It is appropriate at this point to question the value of between-farm comparisons which are now becoming fashionable in Australia. It is my view that they are a useful gimmick rather than a useful guide."<sup>43</sup>

The main danger seen in the extensive use of comparative analysis is that the process in time can become a means of comparing gross margins and, more particularly, a source of standards for use in farm planning.<sup>44</sup> For as Cozens<sup>45</sup> shows, misleading results may arise from

<sup>38</sup> Queensland Report, *op. cit.*, p. 8 (my italics).

<sup>39</sup> See, for example: C. H. Blagburn, *Farm Planning and Management* (London: Longmans: 1961). H. C. M. Case and D. B. Williams, *Fifty Years of Farm Management* (Illinois: University of Illinois Press, 1957). R. W. Gibson, "Interfirm Comparisons to Aid Management", *The Australian Accountant*, Volume 34, No. 7 (July, 1964), pp. 371-374. E. O. Burns, "Comparative Analysis of Farm Accounts", *The Australian Journal of Agricultural Economics*, Volume 10, No. 2 (December, 1966), pp. 169-182. A Harris, "Pay-off From Interfirm Comparisons", *Financial Times*, May 31, 1967.

<sup>40</sup> Burns, *op. cit.*, and C. Jay, "Strong Company Support for Comparisons", *Australian Financial Review*, June 22, 1967.

<sup>41</sup> W. Moorehouse and A. L. O'Neil, *Farm Management Accounting Groups, Report No. 1 South Burnett* (Brisbane, Queensland Department of Primary Industries, 1965). Farm Management Service Centre, *Annual Report 1964-65* (Armidale, University of New England, 1965). C. P. Bird & Associates, *Accounting and Farm Management Service* (Perth, C. P. Bird & Associates, 1966).

<sup>42</sup> National Workshop Report, *op. cit.*, p. 45.

<sup>43</sup> H. P. Schapper, "Farm Management Accounting for Planning Ahead", *Farm Policy*, Volume 6, No. 1 (June, 1966), p. 27.

<sup>44</sup> On this point see, particularly, W. Candler and D. Sargent, "Farm Standards and the Theory of Production", *Journal of Agricultural Economics*, Volume 15, No. 2 (December, 1962), pp. 282-290, and also P. C. Druce, "Some Developments in Farm Management Extension in Australia", *Australian Journal of Agricultural Economics*, Volume 8, No. 2 (December, 1964), pp. 112-123.

<sup>45</sup> L. E. Cozens, "Production Economics, Averages and Standards in Research and Extension", *Australian Journal of Agricultural Economics*, Volume 9, No. 2 No. 2 (December, 1965), pp. 111-128.

reliance on comparative analysis to produce recommendations for the future organization of the property. He cites the example of a tryptile analysis which suggests that, on certain dairy farms in Victoria, increases in stocking rates and concentrate feeding lead to an increase in net income while increases in hay feeding lead to a decrease in net income. Yet regression analysis (using a Cobb Douglas function) reveals no differences in output over a range of hay feeding from 700 to 6,000 lb—the obvious conclusion is that “. . . it would appear safe enough for an adviser to suggest to farmers to slowly reduce hay fed per cow to 1,500 lb, keep the rest, and see what happens”.<sup>46</sup> The production function also highlights the effect which superphosphate has on production—a relationship not noticed in the tryptile analysis—and thus further emphasizes the point that recommendations based on less-than-complete investigation of the inter-relationships between input and output are likely to result in sub-optimal resource use. One is left in no doubt that comparative analysis may have a role to play in farm management accounting, but it cannot be regarded as a cornerstone.

#### PROBLEMS IN DATA COLLECTION

As previously mentioned, the report refers in several places to the collection and processing of data, though detailed consideration of this aspect is limited to no more than some examples of recording schedules which might be used to collect information not available from the financial statements and books. The inadequacy was recognized by the National Workshop,<sup>47</sup> but the group appointed to examine Appendix A did no more than amend some of the forms and recommend an order of priority for their completion.<sup>48</sup> At no stage in either enquiry was any comment offered on the problems attaching to data collection.

Few people appear to appreciate the extent of the workload involved in the primary collection and analysis of farm records. It is freely believed that farmers have no difficulty in supplying the data required for the preparation of management accounts and schedules of efficiency factors. Yet record-keeping projects in many areas<sup>49</sup> have shown that even the most enlightened farmers cannot generally supply more than a small part of the total detail. The physical volume of material to be recorded is such that the majority of farmers are not able to make more than the initial entries—and in many cases these entries are no more than a copy of information already available from invoices, dockets, and the like.

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<sup>46</sup> *ibid.*, pp. 126-127.

<sup>47</sup> National Workshop Report, *op. cit.*, p. 60.

<sup>48</sup> *ibid.*, p. 62.

<sup>49</sup> See, for example, R. E. Cooke-Yarborough, “Farm Management Accounting and the Farmer”, Paper presented to the Annual Conference of the Australian Agricultural Economics Society, Armidale, February 14-16, 1967; *Machine Accounting—Applied to Farm Management Accounting* (Perth, C. P. Bird and Associates, mimeo); and P. R. Carrick, “Practical Approach to Producing Basic Farm Management Accounts for Primary Producers at a Satisfactory Cost”, *The Chartered Accountant in Australia*, Volume 37, No. 9 (March, 1967), pp. 685-692.

As one example of the problem to be overcome, it has been shown that on a typical wheat/sheep farm there is an average weekly work load of some 20 to 30 jobs to be recorded; during the winter months, this recording, complete to details of inputs used and outputs produced, requires up to eight pages of the New South Wales Department of Agriculture's Daily Farm Activity Record.<sup>50</sup> Continuing observations have indicated a clear need for a farmer to have a well organized and relatively simple recording system or, alternatively, assistance provided by an accountant or some other bookkeeping service. At the same time, it has also become obvious that the on-farm collection processes ideally should not involve more than the initial entries for data that cannot be obtained from other sources.

As a final comment, it may be noted that in addition to the problem of data collection on the property there is the problem of data processing in the accountant's office. Experience has shown that considerable reorganization of office routines is required to cater for the processing of physical data and the preparation of management accounts on a timely and part-yearly basis. Crafter has observed<sup>51</sup> that whereas physical records can be collated in an accountant's office from entries on a Daily Farm Activity Record, financial records cannot be collated on even a quarterly basis without a complete revision of office procedures—and the experience has been echoed in part in Carrick's description of his "mail-in" accounting system operating in Queensland.<sup>52</sup> As is stated in the Report: "the accountant's limited knowledge of farming procedures is not an insuperable barrier to farm management accounting as visualized by the Committee . . . (but) . . . there are certain features in primary industry which call for the application of yet unfamiliar management accounting procedures."<sup>53</sup> In total, the report forms an excellent basis for formal account presentation and analysis, but a need remains for all parties, including the farmer, to continue their investigations into the procedures for the collection and processing of the primary data.

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<sup>50</sup> Cooke-Yarborough, *op. cit.*, p. 8.

<sup>51</sup> H. A. Crafter (personal communication).

<sup>52</sup> Carrick, *op. cit.*

<sup>53</sup> Queensland Report, *op. cit.*, p. 5.