

REFEREED PAPER

GROSS MARGIN ACCOUNTING AS A SOCIAL PRACTICE*Lisa Jack and Martin Collison*

It is argued that agricultural gross margin accounting (GMA) is a social phenomenon with the characteristics of an institutionalised practice. This proposition is examined using the new institutionalism in sociology theoretical framework (NIS) drawing on evidence from the literature and interviews. Underlying social, political and functional factors (termed 'the antecedents of deinstitutionalisation' by Oliver (1992)) and the fragmentation of business processes at the farm level, suggest that the next few years will test the widespread advocacy of GMA in farm analysis by advisors and consultants.

Key words: gross margin, institutional practice, CAP reform, fixed costs, accounting.

Introduction

Agricultural accounting has a number of characteristics that makes it different to conventional accounting practices¹ but there is very little in the research literature that brings both together. Juchau and Hill (2000) note that the literature relating to agriculture, especially empirical studies, is 'sparse'. In academic accounting literature it has been stated that, "In spite of its relative importance in the economy of many countries and its growing interrelationships with other sectors, agriculture has traditionally not received much attention from accounting researchers, practitioners and standard setters." (Argiles and Slof, 2001: p.361).

It could just as easily be said that 'accounting has traditionally not received much attention from agricultural researchers' in the sense that the substantial amount of accounting academic research that has built up over the last thirty years appears to have had little impact on agricultural accounting². One strand of accounting academic research has been to analyse accounting as social and institutional practice (Hopwood and Miller, 1994), applying various interdisciplinary tools including social theory to examine accounting practices as they are actually used by people.

In this paper, the practice of using gross margins (GM) for planning, comparative analysis and reporting purposes is examined using an accounting and an institutional approach. It is argued that GMs are a socially-constructed

1. Differences in the UK would include a prevalence of single-entry bookkeeping over double entry bookkeeping at farm level; a less-defined divide between financial reporting and management accounting in agriculture than in so-called conventional businesses, with a heavy emphasis on comparative analysis and cash flow budgeting in agriculture; a broader range of accounting techniques and theoretical concepts within similar industries in conventional management accounting (including the development of activity based costing methods and non-financial performance measurement).

2. The lack of research by farm management academics using accounting methodologies may perhaps be related to economics being seen as the 'key discipline' of farm management (Malcolm, 2004) and the predominantly agricultural economics based nature of qualifications. Over the last thirty years or so, accounting as an academic discipline has become independent of the economics departments where it was once based and there is little non-capital market based interdisciplinary research. Conversely, accounting academics have been on the whole more interested in corporate and public sector accounting with only a few forays into food supply chains (e.g. Frances and Garnsey, 1996) or into the International Accounting Standard 41 *Agriculture* relating to the fair valuation of biological assets (e.g. Elad, 2004). Researchers in accounting tend to enter academia after working in the profession and initially, research follows their area of expertise: very few have made the transition from the food industries into accounting academia. Another route is for the researcher to come from other areas into a land-based university or college environment but again, they are relatively few in number.

practice because, although management accounting may be carried out by individuals, they employ this particular practice because books, advisors, teachers and software suggest that this is 'how things are done in farming'. But Dirsmith (1998: p.69) suggests that researchers 'probe substantive domains wherein organizations are breaking-out of their traditional orientations and forms, and within which accounting and accountants may play different roles'. It will be further argued, using both a literature review and documentation generated by agricultural economists from the 1950s onwards and a contemporary investigation based on qualitative interview data collected in 2001-2004, that gross margin accounting (GMA) is an institutionalised practice, and that accounting practices have the potential to be transformed as the industry itself changes or to resist such a change. The analysis examines the conditions under which the practice might become de-institutionalised using the new institutionalism in sociology theoretical framework (NIS).

GMA is a phenomenon. It is a comprehensive, consistent accounting method applied voluntarily across a widespread industry made up of a number of different groups of actors (farmers, advisors, market representatives, civil servants and others). It 'burst on to the farm management scene' in the early 1960s (Giles, 1986: p.136) and was established within a very few years. Despite recognition of flaws (Giles, 1986: p.152; Warren 1998: p.78), GM exist in much the same format now as forty years ago but not necessarily in the format envisaged by their innovators. Bright (2003: p.599) observes that 'over the years the GM format has become deeply entrenched within farming parlance, data presentation and farm business appraisal ..., despite occasional dissenting strains, the recent take-off of benchmarking and the banks' interest in unit costs of production, the GM continues to hold sway'. In other words, the use of GM is an institution. Therefore, this study seeks to apply theories of institutions to unpack the institutional structures that have developed around this apparently straightforward and benign accounting practice.

This paper is structured as follows. The next section presents an historic account of GMA. This is followed by a presentation of contemporary evidence for the extent to which GMA is used in the industry. The next section examines why this can be interpreted as evidence of institutional practice and examines what have been termed the antecedents of deinstitutionalisation – the pressures that result in its reduced use. The conclusion considers the impact on the policy and practices related to the giving of business advice to farmers.

Theoretical framework

The identification and analysis of accounting methods as social and institutional practice is well established in the accounting literature (Miller, 1994). An institution can be defined as a set of rules and routines that are taken-for-granted and that have been 'infused with a value beyond the technical requirements of the task in hand' (Selznick in Scott, 2001: p.24). At its most basic an institution is, as Berger and Luckmann (1967: p.76) state, 'the way these things are done'. For highly institutionalised acts 'it is sufficient for one person to tell another that this is how things are done' for the institution to persist (Zucker, 1977: p.83). However, the term institution is somewhat static, suggestive of an entity that has certain properties, which has led to some

criticism that NIS studies can be descriptive and deterministic, merely 'black box' analyses (Zucker, 1977). At some point in time, the practice will have been initiated or evolved into its current form, and it is possible for a practice to die away, be replaced or terminated. In technical terms, there are processes of institutionalisation, reproduction and deinstitutionalisation. Hence the term 'institutionalised practice' conveys a sense of process as accounting practices are passed on and repeated over time, even where the historical reasons for their existence has been forgotten (Burns and Scapens, 2000: p.11).

There are two key concepts within NIS which make it a suitable theoretical framework for this study. The first concept is that of the organizational field and the second is the concept of the decoupling of the technical and the institutional aspects of institutionalised practices. Organizational fields are explained by DiMaggio and Powell as being 'organizations that, in the aggregate, constitute a recognized area of institutional life the totality of relevant actors' (1991: p.64-5). In this case, the organizational field is the agricultural industry in the UK. Resistance to change is a feature of institutions and new institutionalists are concerned with the question of why institutions persist, largely unchanged, over time (Powell and DiMaggio, 1991: p.13). What is interesting in the case of agricultural accounting is that resistance to change in agriculture is not observed in the uptake of technological advances (which are on the most part rapidly taken-up by farmers) but is manifest in the field of accounting.

Decoupling refers to the discrepancy between formal structures and organizational practice, and to the assignment of 'the spread of rationalized procedures and rules to cultural rather than technical processes' (Carruthers, 1995: p.315-6). Yet the difference between technical and institutional features is not easily drawn, as 'those who formulate institutional rules strive to make them institutional in nature' (Scott and Meyer, 1991: p.124). One of the aims of this study is to uncover the institutional features of gross margin accounting. These institutional factors - 'cultural-cognitive' aspects (Scott, 2001, p.48) – cover the consideration of legitimacy, power, the transmission of stocks of knowledge, including the effects of unintended consequences and simplification over time and space (Jack, 2005), and other cultural considerations. Most importantly, although the institution may be manifest in various artefacts and verbal designations, the institution only exists in the actions of humans in producing and reproducing the institution over time (Scott, 2001: p.48).

This study also adds to the literature concerning the diffusion of institutionalised practices: Fligstein (1991: p.335) comments that the functioning of organizational fields is not well understood and that 'one main issue concerns the way diffusion processes work and the role of networks as a source of diffusion'. At the other extreme, as Zucker points out (1977: p.105), 'there has been very little work on the processes by which institutions disappear'. Oliver (1992) suggested a framework for the study of the process of deinstitutionalisation that examines the functional, political and social pressures on institutions that might lead to their erosion or disappearance. This paper suggests that these so-called 'antecedents of deinstitutionalisation' can be observed in the agricultural industry. However, on their own they do not account for all the changes being seen. Indeed it could be argued that much of the change in agriculture which is leading to deinstitutionalisation is internal and

being driven by farmers themselves.

The method adopted for this study is one of investigation into episodes in the life of the institution, suggested by Giddens's theory of structuration (Stones, 2005: p.135). By examining the point at which the practice was institutionalised and a later point at which it is still practised, the aspects of the practice that have been chronically reproduced over time and space can be identified. The historic episode has been investigated through extant documents, including published research, technical publications and artefacts such as computer reports, and through discussions with some of those who remember the period (including John Nix). The contemporary episode has been investigated through publications and through a number of semi-structured interviews with actors in the field. The number of interviewees chosen was not designed to be representative but rather to give some insight into how the practice is used and viewed by the industry. Farmers were sought who had diversified their businesses in the period c.2000-2002 and who had some level of further or higher education, as previous research had found that such farmers were most likely to use more advanced accounting practices (Norman, 1986; Read, 1986; Schnitkey et al. 1991). Such farmers were also likely to have had a need to review their accounting practices. Other interviewees included an agricultural partner from a major accounting practice, a management consultant from a major firm of consultants, advisors from a scheme sponsored by the East of England Development Agency, civil servants, bank managers, academics and a representative from one of the units running the Farm Business Survey. By 'floating' over the institution in this way, as Stones (1996: p.77) describes this method of research, patterns of chronically reproduced practices could be observed and analysed.

Gross margins as institutionalised practice

GM figures are used widely in the agricultural industry in the form of forecast figures for use as an aid in budgeting (Nix's Farm Management Handbook being the most well-known but there are many others), as benchmarks in consultant's reports, in most reputable farm computer packages, as indicators in the farming press, in teaching materials, in conferences and presentations and in government publications, such as the recently issued government document on farm management accounting (DEFRA, 2004).

And as 'agricultural accounting' they take on a 'value beyond the technical requirements of the task at hand' as Selznick characterised institutions (Scott, 2001: p.24). They appear to be 'taken-for-granted' as the way in which agricultural accounting is done (Markham, 1999). There are rules for their calculation and the use of the GM in account formats is routine. What is also routinised is the classification of costs into variable and fixed, using the agricultural rather than the conventional definitions of those terms, and the difficulty in introducing other terms (Warren, 1998): this is in contrast to conventional management accounting where different sets of terms are available in the toolkit.

Net margins and cost per unit calculations have at various times been championed but although in use, they have not dislodged the GM as the basic element of agricultural accounting (Bright, 2003, p.599). The original use of

'GM planning and analysis' as advocated by Wallace – as an accounting technique for maximising marginal gains from the mix of productive enterprises undertaken – appears to have been lost in practice. Although still advocated in textbooks, the authors were told 'no one does a Barnard and Nix' (i.e. few follow the textbook rules). The technique in its original form is applied to the assessment of potential marginal gains but only for 'difficult cases' where all other means of improving profit had been attempted, as one bank manager explained. The most common use of GMs is as formal or informal benchmarks, which Giles (1986) declared to be 'their least safe use'. The simplification of GM analysis into formulae and formats follows a characteristic of institutions (Berger and Luckmann, 1967, p.87). In the course of our interviews, mixed views were expressed on the usefulness of GM accounts but in general interviewees thought that they ought to be used or used them because they were thought to be expected. Documentation suggested that GMs were the basis of the layout of agricultural enterprise calculations, even where consultants and others admitted to using other techniques and to assessing situations differently in their minds, an element of decoupling. The most popular use of GMs is for comparative analysis, and it is this conflation of ideas and the development of legitimacy associated with it that will be followed in the reporting of findings below.

GMA is a human invention or construction, a means of creating a reality (Armstrong 2002, p.281). It has an identifiable historical starting point, a period of diffusion and institutionalisation, a long period of reproduction and the possibility of deinstitutionalisation. There are associated discourses relating to the accounting practice found in agronomy reports and the farming press which promote 'maximising gross margins' as a strategy for successful farming, which is, of course, on its own a misleading approach. GMA is more than an institutionalised discourse about how farming success should be measured or how agricultural accounting ought to be done. The method is practised, and there is physical evidence of its use. There is also evidence that has persisted over a period of forty years (or fifty years if the institutionalisation of comparative analysis is included) and continues to persist, despite changes in the industry and the pressures upon it. The researcher was asked a number of times during the course of the interviews and in presentations 'so, what is the problem, if it works?' There may be a functional problem with GMA but that analysis is outside the scope of this project. What is known is that changing environments elsewhere have stimulated change in accounting practice, often associated with the analysis of overhead costs. These debates of 'relevance lost' (Johnson and Kaplan, 1987), of the Cambridge Controversies³ and the impact on accounting measures (Tinker, 1980) and the more recent 'Beyond Budgeting' (Hope and Fraser, 2003) debates, which argue that traditional annual budgeting processes should be replaced by simpler, adaptive, low cost, relevant models based on key success factors, may well have resonances in agriculture, where budgeting models particularly have been applied with uneven results (usually attributed to the largely unpredictable occurrences of weather and disease).

3. The Cambridge Controversies were so named after disputes between the Universities in Cambridge, Massachusetts and Cambridge, England over the theoretical links between the production function and the processes of capital accumulation and growth in Economics. For a good introduction, see Cohen and Harcourt, (2003).

The history of gross margins as an institution

The story of the introduction of the GM into popular use in the UK has been amply covered by Giles (1986), who in turn drew heavily on Lloyd (1970). The main champion of GM analysis was David Wallace, who at the time (c. 1960) was the Farm Management Liaison Officer (FMLO) based at Cambridge University. FMLOs were put in place to liaise between the National Agricultural Advisory Service (NAAS) farm advisors created following the 1947 Agriculture Act and university based economists who were providing interpretations of the data collected by the NAAS workers in the field. David Wallace was not the originator of the method: he drew on the work of Liversage (1956) who had in turn resurrected an idea first brought to the attention of agricultural economists by King in 1928 (Lloyd, 1970: p.7). As Rogers (1996: p.259) says, though, innovations belong to those that popularise them and see a need for them. For an accounting method, the GM had quite an exciting beginning. Wallace championed the method through meetings, through the BBC and through his associates (including John Nix) and published his initial findings in 1959. By 1962 John Nix, now at Wye College, was teaching the method to students and by 1964 the *Journal of Agricultural Economics* had published an article by Upton (1964) whose style implies that the use of GMs is now taken-for-granted by academics and advisors. Nix's handbook was first published in 1966 and by the early 1970's, the GM was in 'almost universal use' (Nix, 1979: p.284). The theoretical underpinning of the method was consolidated by Barnard and Nix (1979).

Wallace developed GM in response to the difficulties resulting in using whole farm comparative economic analysis. It was the first innovation to be brought in by the FMLO in response to their remit to provide economic tools for use in the field by NAAS. In the booklet to accompany the BBC broadcasts, they stated that, "We believe that the whole business of farm costing and accountancy has been made far too complicated and that the complexity of the various systems that have been erected has, if anything, tended to widen the gap between the man on the farm and those who are trying to help him." (Selly and Wallace, 1961: Introduction).

Comparative analysis, which compares on-farm data to 'yardsticks' derived from economic surveys, had itself been something of an innovation in the early 1950s. Yet because the number of comparators increased, completing complex data sheets slowed farm operations, university economists were needed to help interpret the data, and although attempts were made to computerize the process, the whole approach was becoming unwieldy. Moreover, "When management accounts were introduced around 1950, food was still scarce and high output was obviously in the national interest ... (now) high output under these conditions is no longer profitable. The GM (which allows for these costs) is thus a better measure than output of the real contribution of crops and livestock to the farmer as an individual and to the nation as a whole." (Sturrock, preface to Wallace and Burr, 1963).

Wallace's touch of genius was to link the calculation of GM to forward budgeting and planning, and to emphasize the need for farmers to maximize marginal income and to control costs in order to increase their net incomes. This appealed to current government thinking as well, which was turning away from

the need for high productivity and price support mechanisms (Tracy, 1964). GM analysis and planning was emphatically not an alternative form of whole farm comparative analysis: each farm was looked at on an individual basis, enterprise by enterprise, and the mix of crops (the method was originally aimed at arable farmers) adjusted to create optimum returns. Linear programming was promoted as a suitable method for calculating these optimal mix figures.

However, this version of the GM is not the one that has survived and implemented. Sometime during the 1960s, GM analysis became a popular basis of comparative analysis. As Giles explains (1986: p.147), “Experience suggests that despite the twenty or so years that have elapsed [i.e. ~1960-1980] since David Wallace put the spotlight on the GM – and despite its general acceptance – this measure can still sometimes be misunderstood and misused.”

The use of GM in comparative analysis led to the production of standard GM . Wallace found that in the field, the NAAS advisors trained to use GM planning and analysis found that they needed standardised reference data against which to make their assessments of the farm data they were analyzing. Further, teachers and students required data reflecting actual practice, which led Nix to produce his handbook (Nix and Hill, 2002) very much as an aid to budgeting and not as a set of benchmarks (and it is still seen by Nix as such, Pers. Comm.). Yet the transmission of the agricultural GM since the 1960s has been as a format and as a tool for comparative analysis, and thus standardized has endured to the present day, despite the inherent weaknesses associated with the time lags in producing data and the need to modify farm accounts to provide like-for-like comparisons.

Gross margin accounting in current times

The following briefly summarises the different practices of farmers, advisors, consultants (private and governmental) and academics discovered through interviews and a review of current documents and other literature.

Farmers, on the whole, do not calculate GMs, although anecdotal evidence from advisors suggested that a very small number did use quite sophisticated planning methods. Only one farmer in this study (a former farm secretary) used the GM budgeting facilities in their farm software package. She commented “Before we started all of this [a dairy diversification] I was always using the budgets for the farm but ...to be honest with you, now we’ve only got cows and a bit of wheat, there’s not a lot of budgeting to do”.

A practicing farm secretary seemed to sum up the generality of practice in describing the use of the top of the range computerized package used by one of her clients, “I use it for inputting all the sort of accounts information. And then he uses it for doing cash flows and tying up with the bank throughout the year. So, he, out of anyone, he’s the only one I know that actually uses the accounts to any sort of purpose rather than me just doing it and it being presented to the accountants at the end of the year.”

The most successful farm in the survey employed a full-time management accountant and support staff. They used a well-known farm software package, but did not use the GM facilities, “We’re looking at the costings (i.e. overheads). If we’re investing X hundred thousand in a year in different assets, then you’ve got to take various costs out. At the end of the day, the thing we

worry about most is cash... It's, where is the bank balance? Father gets that figure every day."

Furthermore, when asked if they used GMs the reply was fairly robust, "GMs... we don't, no...I think we're shooting ourselves in the foot with it as a selling tool because too many people can work out the GM fairly easily."

Concerning inter-farm comparative data, three of the farms declared that they had only a very passing interest. Of the others, one farmer was an enthusiastic participant in the farm business survey seeing it as a reassurance that his farm was doing no worse than any other. Another expressed concern that the figures given to those that collected the data were too good to be true, given the evidence of going around such farms on official 'farm walks'. She also made the telling throw away remark that since they had diversified into making dairy products they were 'not like any other farm now'. The successful farm quoted above was also skeptical about benchmarking or other comparative scheme: they did take part in the Meat Livestock Commission's pig scheme but 'it's just an interesting benchmark' and not used for planning purposes.

Yet, farming is, as Newby (1984: p.99) stated, 'a highly visible activity, especially to other farmers'. Farmers are insatiably curious about the success or otherwise of their neighbours, but they cannot see their financial results: it is commonplace for a farmer not to disclose the results of the business even to their spouse or children. Therein lies the attractiveness of comparative analysis to farmers: it allows the farmer to see what other farmers are doing, and to gain reassurance that they are doing well enough themselves. There was no evidence here that the results gave them a kick to change their own performance, although the possibility of such a kick is made elsewhere (FCC, 2003).

Between times, there have been attempts to supplant the use of GM, Giles's (1986) advocacy of net margins is a case in point, but although there is evidence that these are used by advisors, the public documents are still cast in GM formats. Similarly, neither cost per unit calculations or full-costing have supplanted GM as the basis of performance measurement or agricultural accounting (Warren, 1998; Bright, 2003). Highly institutionalised practices usually see off their competitors. Besides, as Nix commented, there appears to be a view that 'the farm management job is done', meaning that many academics or practitioners believe that all the required tools for financial planning and analysis have been found and no further change is needed (1979: p.289). There is an attractiveness about GM accounting and comparative analysis, as commodities, that make them digestible and, as one advisor said, sufficient for most of the problems found on assignments.

The Antecedents of Deinstitutionalisation

Logically, if an accounting practice can become institutionalised, it can also become deinstitutionalised: the practice can diminish or disappear from use over time. The process of deinstitutionalisation may be accelerated by pressures that promote the entropy of the practice whilst other pressures (termed 'inertial' in the literature) may protect the practice and resist (Oliver, 1992: p.567) its dissipation or rejection by actors in the field. Oliver (1992: p. 566-7) groups the so-called antecedents into three categories; functional pressures, political pressures and social pressures. In this section, three potential antecedents

relative to GMs are considered: an emphasis among farm advisors on the control of fixed costs; the decoupling of subsidies from production and social changes in rural communities.

It was evident from interviews with consultants and advisors that the key focus of advice at present is on the overhead costs associated with machinery, labour and farm occupancy. Different interviewees referred to a phenomenon they called variously the ‘variabilisation’ or the ‘fuzziness’ of fixed costs. Jones (2005: p.240) explains that greater outsourcing via machinery rings, casual labour and contracting ‘will not just affect the level of costs but also their nature – making them less fixed and more variable or ‘discretionary’’. Others noted that they would like to see costs per unit – e.g. per tonne or per litre developed as an alternative to costs per hectare.

GM accounting and analysis does not ignore fixed costs as Barnard and Nix (1972, p.46) are at pains to point out – for any marginal analysis to be of value, fixed costs have to be covered by the total farm gross margin - but it does tend to focus the farmers attention on the need to control variable costs of production. The original intention of GMA was to maximise marginal income, which has been more or less overshadowed by the use of GM in comparative analysis as a measure of production efficiency. Farm management decisions are becoming more strategic or operational (for example, the removal of enterprises, changing from year round to block calving, diversification) rather than marginal or tactical. This was observed by Giles (1986) when he called for net margins to be used rather than GM – something probably even more relevant today. Hence the functional pressure on the practice could be summarised by saying that non marginal decision making requirements should provide a point of pressure for non-marginal accounting techniques and discourses to be developed.

The most significant political pressure on farm decision making at present is undoubtedly CAP reform and the decoupling of subsidy from production. Jones (2005) explores the potential for farmers to withdraw from production whilst retaining land in order to fully benefit from the Single Payment on offer. The removal of subsidies from GM calculations makes a significant difference (p.247) and may impact on decisions relating to production. More significantly, he finds that farms with a highly flexible overhead structure have a greater incentive to quit production whilst smaller, less flexible farms may decide to farm selectively in order to be cost competitive (p.246). This suggests that a much broader perception of cost management and marginal profits is coming into play. Jones (2005) observes that ‘It has tended to be taken too much for granted that the only means of achieving satisfactory profits has been to achieve economies of scale ignoring the diseconomies’: it is certainly the case that in tables stratifying farm incomes and in certain benchmarking groups, the most profitable farms are sometimes neither the largest nor those with the greatest yields.

Whether a social restructuring is genuinely taking place in the countryside in a post-productivist environment has been widely debated (Evans et al., 2002; Hoggart and Paniagua, 2001; Burton, 2004; Jack, 2006). Clearly, farmers are under significant stress (HSE, 2005) and the number of working farms in the UK has been reduced. Whether this constitutes significant social pressure on accounting practices is still hazy but there was some evidence in the interview

data between farmers who had diversified into on-farm production activities or contracting out, and the increased use of record-keeping and management information. The definition of what constitutes a farming business is changing in some cases away from purely agricultural production to multiple activities (Collison, 2002) and one consequence of this that the farmer comes into contact with a greater array of businesses and customers, which in turn might influence the business practices in the farming business. A greater awareness of prices that could be charged was cited by a number of interviewees in this context. The data in this study, however, was insufficient to predict trends or consequences arising from these observations.

Thus there are functional, political and social pressures, of which only three have been touched on here, which may lead to the diminishing use of GMA and possibly its deinstitutionalisation. There are a number of other contrary pressures that exert a considerable pressure and which prevent or slow down the dissipation or rejection of the practice. Among these are computerisation, teaching practices and published texts.

Computerisation offers opportunities for more complex calculations and the ability to create more flexible decision making systems. Malcolm (1990: s.2.70), in reviewing the work of farm management academics and advisors in Australia in the period 1940-1990, concluded that, "The resilience of the appeal of farm recording and comparative analysis after the production economists' early critique was closely tied in with the development of the capability for computerised collection and analysis of data which occurred in the 1960s, and the potential this was perceived to hold for the standardisation of the accounting process."

However, computers also introduce rigidity into practice. All available farm accounting programmes examined as part of the research into this project had decision making elements based on gross margin accounting. Consultants and advisors have invested in computerised reporting based on GM formats. Benchmarking packages also return results in these formats. Software programmers rarely innovate new techniques but mimic accounting patterns already in use as in the development of spreadsheets from paper based originals.

Similarly textbooks and teaching curricula can follow innovation rather than produce it (one consultant interviewed lamented the lack of innovation in business planning and methods presented in competition entries from those on agricultural courses). DEFRA (2004) perpetuates the use of GMs, although recent special reports have employed net margins. Programmes, books and curricula provide formulae and artefacts which are crucial in the preservation of institutions (Berger and Luckmann, 1967). Conversely, therefore, new innovations may be diffused through these media, and the potential of farm computer software in strategic decision making has not yet been fully exploited.

Conclusions

GMA is not valueless: all businesses need to know and to control their variable costs and evaluate the contribution of individual enterprises. However, it is a weak tool for comparative analysis and for strategic decision making. It should not disappear entirely but the current pressures on the use of GM analysis identified here will probably be sufficient to promote acceptance or at

least trials of new innovations and the promotion of a wider discourse which encompasses all costs and revenues. Accounting innovations drawn from other sectors already being tried and discussed by agriculturists in the UK, Australia and New Zealand involve benchmarking groups, balanced scorecards, non-financial or alternative performance measures, relevant cost-benefit analyses and target costing.

An awareness of the institutional nature of accounting practices and their durability, even when under external pressure, should sensitise policy makers, academics and advisors to the need to question accepted practices and review their effectiveness and relevance. There are those that believe that until farmers have grasped GMs, variable and fixed costs, it is too confusing to introduce another system. Yet as explored above, these terms are becoming blurred and may actually hinder farmers 'knowing their costs'. For those farmers seeking to position themselves strategically in supply chains and global markets, who have used GMs so far, more sophisticated tools will be required in the future: it is likely that farmers themselves will provide the environment in which innovation occurs.

References

- Argiles, J.M. and Slof, E.J. (2001) 'New opportunities for farm accounting', *The European Accounting Review* 2001, 10:2, p361-383.
- Armstrong, P. (2002) 'Management, image and management accounting', *Critical Perspectives in Accounting* Vol. 13 281-295
- Barnard, C.S. and Nix, J. S. (1979) *Farm planning and control* 2nd Ed. Cambridge: Cambridge University Press
- Berger, P. and Luckmann, T. (1967) *The Social Construction of Reality*, London: Penguin
- Bright, G. (2003) 'Gross Margins, Net Margins or Full Costing?', *Journal of Farm Management*, Vol. 11 No. 10 pp. 597-613.
- Burns, J. and Scapens, R.W. (2000) 'Conceptualizing management accounting change: an institutional framework', *Management Accounting Research*, 2000, 11, 3-25.
- Burton, R.J.F. (2004) 'Seeing through the 'Good Farmer's' eyes: towards developing an understanding of the social symbolic value of 'productivist' behaviour', *Sociologia Ruralis* Vol.44, /No.2 April 2004
- Carruthers, B.G. (1995) 'Accounting, Ambiguity and the New Institutionalism', *Accounting, Organizations and Society* Vol. 20, No. 4 pp313-328, 1995
- Cohen, A.J. and Harcourt, G.C. (2003) 'Retrospectives: Whatever Happened to the Cambridge Capital Theory Controversies?', *Journal of Economic Perspectives*, Vol.17, No.1 pp.199-214.
- Collison, M. (2002) Debate on the Future of Agriculture, Lecture to RSA, Norwich, 11th April 2002

DEFRA, 2004. *Figures for a Farming Future – Getting Started in Farm Management Accounting*, London: DEFRA Publications

DiMaggio, P.J. and Powell, W.W. (1983) 'The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields' in Powell, P.J. and DiMaggio, P.J., Editors, 1991, *The New Institutionalism in Organizational Analysis* London: University of Chicago Press

Dirsmith, M.W. (1998) 'Accounting and control as solutions to technical problems, political exchanges and forms of social discourse: the importance of the substantive domain' in *Behavioral Research in Accounting*, Vol. 10 Supplement 1998.

Elad, C. (2004) 'Fair Value accounting in the agricultural sector: some implications for international accounting standards', *European Accounting Review*, Vol.13 No. 4 pp.621-641

Evans N, Morris C and Winter M. Conceptualizing agriculture: a critique of post-productivism as the new orthodoxy. *Progress in Human Geography* 2002;26(3):313–32.

FCC (2003) 'Dairy Chain', *press release from The Food Chain Centre, 31 July 2003*, available online at URL: <http://www.foodchaincentre.com/CIR.asp?cid=37&type=1&subtype=10>. Accessed on 1 September 2004.

Fligstein, N. (1991) 'The structural transformation of American industry: an institutional account of the causes of diversification in the largest firms 1919-1979' in Powell, P.J. and DiMaggio, P.J., (Eds.), (1991), *The New Institutionalism in Organizational Analysis* London: University of Chicago Press

Giles, A. K. (1986) 'Net Margins and all that - an essay in management accounting in agriculture' reprinted in *Windows on agricultural economics and farm management* (1993) Reading: College of Estate Management, University of Reading

Giles, A.K. and Stansfield, M. (1990) *The Farmer as Manager* 2nd Edition Wallingford: CAB International.

Hoggart K. and Paniagua A. What rural restructuring? *Journal of Rural Studies* 2001;17:41–62.

Hope, R. and Fraser, R. (2003) *Beyond Budgeting* Boston: Harvard Business School Press

Jack, L. (2005). Stocks of knowledge, simplification and unintended consequences: the persistence of post-war accounting practices in UK agriculture. *Management Accounting Research* Vol.16, No.1, pp.59-79.

Jack, L. (2006) Accounting, post-productivism and corporate power in UK food and agriculture, *Critical Perspectives on Accounting*, In Press.

Jones, J. (2005) To produce or not to produce? – is that the question?, *Journal of Farm Management*, Vol.12 No.5, pp.235-250.

Johnson, H.T. and Kaplan, R.S. (1987) *Relevance Lost: The Rise and Fall of*

Management Accounting Boston: Harvard Business School Press

Juchau, R. and Hill, P. (2000) *Agricultural Accounting: perspectives and issues* 2nd edition Wye: University of London, Wye College

Liversage, V. (1956) 'Accounting for Farm Planning', *Journal of Agricultural Economics* Vol XI, No4 pp472-476

Lloyd, D.H. (1970) *The Development of Farm Business Analysis and Planning in Britain: a methodological review and appraisal* Reading: University of Reading Dept of Agriculture (Study No. 6)

Malcolm, L.R. (1990). "Fifty years of farm management in Australia: survey and review", *Review of Marketing and Agricultural Economics* 58:1, 24-55 reprinted in Juchau, R. and Hill, P. (2000) *Agricultural Accounting: perspectives and issues* 2nd edition Wye: University of London, Wye College

Markham, G.J. (1999) *Farming: an industry accounting and auditing guide* 2nd Ed. London: Accountancy Books (ICAEW)

Miller, P. (1994) 'Accounting as social and institutional practice: an introduction', Hopwood, A. G. and Miller, P. (Eds.) (1994) *Accounting as social and institutional practice* Cambridge: Cambridge University Press.

Nix, J. (1979) 'Farm management: the state of the art (or science)', *Journal of Agricultural Economics* Vol. 30, No.3, pp.277-291.

Nix, J. with Hill, P. (2002) *Farm Management Pocketbook* 29th Ed. (2003) Kent: Wye College Press.

Norman, L. (1986) *Managing Farms: what farmers and managers actually do!* Hampshire: CMA/Hampshire College of Agriculture

Oliver, C. (1992) 'The antecedents of deinstitutionalization' *Organization Studies* 13: 563-588

Powell, W.W. and DiMaggio, P.J. (Ed) (1991) *The New Institutionalism in Organisational Analysis* London: University of Chicago Press

Read, N.J. (1986) *The Role of Agricultural Consultants and Changes in the Provision of Information* London: The Technical Change Centre

Schnitkey, G.D., Batte, M.T. and Jones, E. (1991) 'Farm Accounting Systems and Information Usage' reprinted in Juchau, R. and Hill, P. (2000) *Agricultural Accounting: Perspectives and Issues* 2nd Edition Kent: Imperial College at Wye

Scott, W.R. and Meyer, (1991) The Organization of societal sectors: propositions and early evidence, in Powell, P.J. and DiMaggio, P.J., Editors, 1991, *The New Institutionalism in Organizational Analysis* London: University of Chicago Press

Scott, W.R. (2001) *Institutions and organizations* 2nd Edition London: Sage Publications

Selly, C. and Wallace D. B. (c.1961) *Planning for Profit: a simple costings system to help farmers meet the challenge of falling prices*, London: BBC

Stones, R. (1996) *Sociological Reasoning: towards a post-modern sociology* London: MacMillan Press

Stones, R. (2005) *Structuration Theory* London: Palgrave

Tinker, A.M. (1980) 'Towards a political economy of accounting: an empirical illustration of the Cambridge controversies', *Accounting, Organizations and Society* Vol.5, No.1, pp.147-160

Tracy, M. (1964) *Agriculture in Western Europe: crisis and adaptation since 1880* London: Jonathon Cape

Upton, M. (1964) 'A Development of Gross Margin analysis' *Journal of Agricultural Economics* Vol. XVI No 1 pp.111-117.

Wallace, D.B. and Burr, H. (1963) *Planning on the Farm* Cambridge: University of Cambridge School of Agriculture (Farm Economics Branch Report No. 60)

Warren, M. F. (1998) 'Banishing 'Fixed' and 'Variable' costs: time to bring farm accounting into the real world?' *Farm Management* Vol. 10 No 2 Summer 1998

Zucker, L.G. (1977) 'The role of institutionalization in cultural persistence', *American Sociological Review* Vol. 42(October) pp.726-743.

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