

ADJUSTMENT STRATEGIES REVISITED:
AGRICULTURAL CHANGE IN THE WELSH MARCHES

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Abstract

In the late 1980s and early 1990s, much attention was paid by British agricultural geographers to the restructuring of the farm sector under pressures of national, European and global change. The need to adopt a perspective capable of looking beyond the farm gate inspired the introduction of modified political economy approaches into agricultural research. One important cornerstone of the empirical application of this thesis was the concept of the 'farm adjustment strategy'. This attempted to map out the responses, especially those of survival, made by farm family businesses to rapidly changing agrarian conditions. Subsequently, the farm adjustment strategy became remarkable for its popularity as a way to organise research into agricultural change in developed market economies. Following a retreat in the 1990s, there has been something of a recent revival in the use of the term 'strategy' relating to agricultural adjustment. Revisiting this concept is therefore timely. Using empirical evidence from studies of farming change in the Welsh Marches, this paper examines two issues. First, it makes a critical re-examination of the concept to resolve differences with interpretation linked to theoretical perspectives so that future misuse can be minimised. Second, an attempt is made to assess the relevance of defined elements of farm adjustment strategies to analyses of farm business change. In so doing, there is an attempt to recover our knowledge of agrarian restructuring and to help situate newly encultured investigations into the likely survival of family labour-based forms of production.

Key Words

Agricultural restructuring, Adjustment strategy, Welsh Marches, Elements of adjustment, Family farms.

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1. Strategies in agriculture: theory and practice

In the late 1980s and early 1990s, much attention was paid by British agricultural geographers to the restructuring of the farm sector. This work was mostly inspired by the introduction of modified political economy approaches into agricultural research (Marsden *et al.*, 1986; for a review, see Marsden *et al.*, 1996). One important cornerstone for the empirical application of this thesis was the concept of the 'farm adjustment strategy'. This attempted to define the responses made predominantly by family labour forms of farming business (family farms) to rapidly changing agrarian conditions. Used in this way, the term farm adjustment strategy could emphasise the importance of the state and economic conditions in constraining the actions of farm businesses, whilst offering scope to acknowledge that the operators of farm businesses usually retained a modicum of choice in their actions under such conditions. Hence, it facilitated the delivery of 'modified' applications of political economy ideas as a reaction to the 'mechanistic genre of political economy analysis against which our whole project was pitted' (Whatmore *et al.*, 1996, p.55; see also Morris and Evans, 2004). The notion of strategy had been evident in earlier agricultural analyses, developing a strong association with the 'survival' of family farms and so again fitted well with the central question to which political economy analyses of agricultural change were directed. However, Gasson (1986, p.364) had already drawn attention to its lack of specificity, noting that a 'survival strategy could be interpreted as a desperate clinging on to the means of existence or an accommodation to gradually changing circumstances'. Redclift (1986) further indicated that farm businesses can employ strategies

which aim to accumulate land and capital. Doubts began to surface about the uncritical use of the term 'strategy' (Crow, 1989). In the rush to engage with farm adjustment strategies, retrospect shows that some fundamental questions about the issues that qualify as 'strategic', their time-scale, cohesiveness, scope and deliberateness were all glossed over or not broached.

Instead, during the late 1980s and early 1990s, the employment of the concept of a farm adjustment strategy became remarkable for its popularity in a range of papers describing different aspects of agricultural change (Marsden *et al.*, 1989; Munton, 1990; Ilbery, 1991; Shucksmith and Smith, 1991; Bowler, 1992; Evans and Ilbery, 1992a). In the years subsequent to this peak of interest, there was a gradual retreat from the theoretical position established due to misinterpretation of the *modified* nature of the application of political economy (Whatmore *et al.*, 1996), dissatisfaction with the difficulty of verifying a 'higher-order' theoretical idea through empirical evidence (Moran *et al.*, 1993) and the gradual percolation of ideas into agricultural geography from the 'cultural turn' in human geographical thinking (Morris and Evans, 1999 and 2004). A decline in the use of farm adjustment strategies as a concept accompanied this shift in the theoretical orientation of research. At a more empirical level too, there were clearly difficulties in reconciling an idea that tends to predicate some form of long-term perspective in planning business adjustment with a sector popularised as undergoing extensive, rapid and unpredictable change.

Just recently, as a range of articles in the *Journal of Rural Studies* would attest, there seems to be something of a revival in the general use of the term strategy to describe farm adjustment and particularly the 'survival' of family labour forms of farm business (Kinsella *et*

al., 2000; Daskalopoulou and Petrou, 2002; Chaplin *et al.*, 2004; Johnsen, 2004; Lobley and Potter, 2004; Meert *et al.*, 2005). This seems to constitute a universal trend for describing agrarian change amongst farm businesses in developed market economies despite significant variations in the speed and extent of the political and economic drivers of that change, ranging from de-regulation in New Zealand through to (until 2003) conservative incrementalism in the European Union (EU). However, any recycling of the concept of farm adjustment strategy presents four major immediate dangers. First, there may be a temptation to assume that the notion is generally understood and need not be defined in itself (see Johnsen, 2004). Second, the concept becomes rather abstract when removed from its theoretical locus of origin in modified agrarian political economy, or weakened if simply used as a metaphor for a contested post-productive transition (Evans *et al.*, 2002; Potter and Tilzey, 2005). Third, there are the unresolved issues remaining from its original application. These relate particularly to:

- over-generality to family farming situations where decision-making may be a complex negotiation between family members;
- the extent to which the planning process implied in the concept is formulated and delivered in reality by those managing farm businesses;
- a lack of clarity over whether decisions are business driven plans or cultural enactments in which ingrained traditions or ritual practises associated with the family are re-affirmed.

Fourth, and following on from the last point above, there are questions relating to the ability of research employing the concept to engage fully with much-needed cultural perspectives in agricultural geography (Morris and Evans, 2004).

The purpose of this paper is to reappraise the notion of the farm adjustment strategy in terms of its ability to illuminate contemporary agricultural change. Recent research in agricultural geography has begun to uncover much-needed insights into the relationships between farming, policy, food and nature (Morris and Evans, 2004; Winter 2005). Such detailed research into these appealing topics provides in-depth exposures of trends and issues, but it is becoming increasingly noticeable that knowledge of the canvas of agricultural change against which this is occurring is becoming outdated and sketchy. This deficiency was exposed by Lobley and Potter (2004, p.500) who observed that ‘renewed thinking in what Marsden and colleagues call ‘macrothinking’ about the future of land use and agricultural structures has not been matched by systematic updating of micro-empirical knowledge in this field’. They argue that much of our understanding of farm household adjustment to agricultural change does not go beyond the mid-1990s. This leaves unanswered ‘intriguing questions about the pattern of farm household adjustment in recent times, the extent to which varies between different locations and the relationship between past trends and future trajectories’ (Lobley and Potter, 2004, p.501). The next section reviews how the farm adjustment strategy concept has been composed and how the building blocks of such strategies were derived in the early 1990s. The paper then draws upon data sets that pick up change in one case study region of the UK, the Welsh Marches, from the mid-1990s purposely to deliver two benefits: one empirical, helping to fill the gap in our post-1995 knowledge of UK agricultural change identified above and the other theoretical, to examine the utility of the (re)application of adjustment strategies to an analysis of the prospects for family farm survival.

2. Types of Farm Adjustment Strategies

Despite the previous wealth of research and a resurgence in the use of the concept, no consensus has ever been reached on the form that farm adjustment strategies might take. Upon reflection, it is apparent that strategies have been conveyed in a hierarchical way, comprising *broad*, *intermediate* and *small* scales of application. At the broadest scale, there is the classification of farm households according to their general approach to the income-generating importance of agricultural activity, or '*economic centrality*', within total business activity (Marsden *et al.*, 1986). This immediately defined three strategic categories of farm business; hobby farms, farms engaged in survival and farms accumulating wealth. Components of the survival strategy category were subsequently examined in greater detail (Marsden *et al.*, 1989), leading to the identification of three common changes in:

- farm occupancy (size and tenure) and thus level of indebtedness;
- business organisation, especially a shift towards partnership arrangements;
- the employment of family rather than hired labour, emphasising the importance of retaining family continuity on the land.

These informed the construction and description of 'ideal types' of farm business, ranging from commercially marginal low-input/low output producers to high-input/high-output producers subsumed by corporate capitals (Whatmore *et al.*, 1987). The typologies generated by this approach were very much a product of the macro-level application of a modified political economy approach. The categories defined and supporting examples were illustrative of certain farm business situations, particularly those engaged in survival as already indicated, but provided only glimpses of the way in which specific characteristics of adjustment interacted to reconfigure economic centrality.

At an intermediate scale, the idea of farm business development *paths* emerged (Bowler, 1992). This can be interpreted as an early reaction against the difficulties of undertaking macro-level analysis, soon to be summarized by Moran *et al.* (1993, p.38) as ‘... a need for a middle-order theorizing that builds on existing work but establishes concepts that are more readily investigated empirically’. Development paths provided structured specific detail about the types of action that farm businesses were taking in response to change. Six dominant paths were identified:

1. extend the agro-industrial model of farming through further development of conventional products;
2. redeploy resources into the development on-farm of ‘new agricultural products or services’;
3. redeploy resources into non-food/fibre products on-farm;
4. redeploy human resources into off-farm employment;
5. continue with conventional production and accept lower business income;
6. move to hobby farming or semi-retire.

A seventh path of ‘retirement’ was subsequently added (Ilbery *et al.*, 1998). Farm businesses were identified as able to follow more than one path at any given time, with a general directional tendency for businesses to move down through the paths (from path 1 towards path 6) over time and with variance across space (Ilbery *et al.*, 1998). State farm policies were viewed as the major determinant of the path(s) that any one farm business would follow (Bowler, 1992), in keeping with the modified political economy perspective that was informing geographical analysis of the agrarian sector at that time. The formulation of paths in particular provided a convenient way to locate and evaluate the role of

pluriactivity on farms within a strategic framework. Pluriactivity, comprising off-farm employment (loosely known as 'part-time farming') and on-farm diversification (see Evans and Ilbery, 1993), was contextualised as a form of 'middle ground' restructuring between farm business trends towards greater commercialisation and increased marginalisation (Bowler, 1992). Hence, researchers most frequently engaged with paths 2, 3 and 4.

That these paths are rather stylised representations of complex business actions is illustrated by a degree of ambiguity that has existed with the 'new agricultural products' of path 2. Initially, there seemed scope for this to include 'conventional' products in the wider agrarian sectoral sense which were 'new' to the farmers concerned, as in a switch from an intensive dairy to a more extensive beef enterprise might suggest, thereby ruling out path 1 (though not necessarily path 5). Path 2 was subsequently clarified as referring to 'non-conventional agricultural products (Bowler *et al.*, 1996) or 'agricultural' diversification (or arguably more correctly, 'productive' diversification) to include food or fibre products such as snails, llamas or evening primrose (Ilbery *et al.*, 1998). Rather reflective of the difficulty of defining farm diversification itself (Evans and Ilbery, 1993), path 2 remains challenged by issues of defining novelty and tradition, by the time-dependency of 'newness' and by 'old' enterprises becoming farmed for new uses (such as oilseeds for biofuel). Curiously, although originally developed in the context of 'sustainable agriculture', the role of a farm business 'path' based on payments from conservation initiatives such as state-sponsored agri-environmental schemes is not satisfactorily accommodated within the typology. This goes some considerable way to explaining why farm business development paths are conspicuous by their absence from the substantial literature on agri-environmental policy produced since 1992, where other typological ideas have been explored. For example,

Morris and Potter (1995) developed an 'adoption spectrum' to summarise farmer behaviour towards agri-environmental schemes. Interestingly, 'spectral' thinking has now been applied by Lobley and Potter (2004) to identify 'dominant trajectories of change' and so achieve greater sensitivity in the exploration of the agricultural restructuring process.

Both the broad and intermediate scales of adjustment just discussed are, in fact, compound descriptors of farm business actions. A third, small, scale can be identified which refines analysis of strategies down to 'elements of farm adjustment' (Munton, 1990; Ilbery, 1991). Based on research amongst farms in west Cumbria and north-east Staffordshire between 1970 and 1988, and drawing upon the work of Marsden *et al.* (1989), Munton (1990) argued that any farm business has seven main inter-related elements that can be adjusted to react to changing agrarian conditions (see Table 1). The emergence of the elements of farm adjustment concept is certainly intriguing with respect to its timing, coming at the height in popularity of political economy analyses in agriculture. Again with the benefit of hindsight, a combination of factors offers some explanation:

- the uplands context of Munton's (1990) work demanded sensitivity to locality and the micro-geography of agriculture to understand processes of change;
- it was a reaction against the problems of rationality and choice implied by the term strategy as noted by Crow (1989), especially in the uplands context where the irrationality of business aims and constraints on change could be anticipated to be more pertinent;
- there was an 'absence of a robust theoretical underpinning to the study of farm strategies' (Munton, 1990, p.5), with existing theoretically driven classifications

having considerable difficulty in capturing the breadth of change that had been observed inductively from research in upland localities.

The elements were identified as labour, business structure, tenure and size, representing the available on-farm resources of the business, together with farm enterprise, economic centrality and diversification elements, referring to avenues of income generation within the business. Although never identified in a hierarchical way at the time, it is the dominance of, and balance between, these elements of change that may, if desired, be used to define the 'path' of development along which businesses are travelling. In turn, combinations of paths can help to determine a hobbyist, survivalist or accumulative nature to adjustment strategies.

Table 1 here

It is evident that engagement with change at the elemental level has the significant advantage of allowing initial empirical analysis of the *building blocks* of change from a structurally-informed theoretical position, yet one that is free from assumptions about the degree of intention behind those changes. Once established, the extent to which the decision-making behind elements of change has been strategic, the time-frame over which intentions have been implemented and the amount of 'choice' associated with any particular change lend themselves to investigation. In theoretical terms, these building blocks provide structural reference points onto which qualitative material derived from agricultural approaches can be mapped (Morris and Evans, 2004). They can therefore allow the enrichment rather than the diminishment of the understanding of human agency (Crow, 1989). Simultaneously, they have the potential to deliver empirical quantitative assessments

of change that are so favoured by rural policy-makers and practitioners (Cloke, 1997). Even within this limited setting, a more coherent picture of agricultural restructuring can be presented by linking together multiple aspects of business change rather than through analysis of an individual element or simple bivariate comparison (for example, looking simplistically at the influence of farm size over on-farm diversification). Indeed, the employment of farm adjustment strategies seems to have encouraged this practice by obscuring the interconnectedness of individual factors that must surely affect any 'strategic' outcome. Thus, reasons for past change can be more fully understood by focusing on the connections between building blocks, especially if socio-cultural factors are integrated. In this way, the current situations of farm businesses can be better appreciated and some predictive value for future change derived. Only then can a judgment be made as to whether the identified 'strands' of change in the farm business have the necessary coherence to be deemed a 'strategy'. It is this potential that makes revisiting elements of farm adjustment strategies worthwhile as a baseline methodological approach for an assessment of contemporary agricultural change. An analysis using elements of adjustment therefore provides a timely, detailed assessment of the condition of farm businesses beyond general observations such as those relating to their disappearance, greater engagement with pluriactivity and continued shedding of labour. Whereas Lobley and Potter (2004) provide a broad sketch across a sample of farming situations in England, the evidence in this paper is drawn from detailed studies of two English counties in the Welsh Marches; Herefordshire and Shropshire. It is anticipated that, in this way, the true magnitude and complexity of change undertaken by family forms of farm business in this part of the UK will be revealed, adding to insights already gained from earlier qualitative work in Australia and New Zealand (Wilson, 1994; Argent, 1995; Smith and Saunders, 1995; Johnsen, 1999).

3. Investigating Agriculture in the Welsh Marches

The area known as the Welsh Marches provides the geographical focus for this investigation of farm business change. The Marches refers to the borderlands of England along the political boundary with Wales and comprises the administrative counties of Cheshire, Shropshire and Herefordshire (Rowley, 1986) – the latter two (central and south) being selected for study. Both counties have a strong tradition in livestock production from grassland systems, the existence of which is even reflected directly in two specific livestock breed names – Hereford cattle and Shropshire sheep. Nevertheless, considerable diversity in agricultural production has evolved over time to the extent that the West Midlands Chapter of the 2000-2006 *England Rural Development Plan* struggled to describe the character of Herefordshire: ‘The county grows every crop capable of production in the UK, with cereals, potatoes and horticulture, and also beef, sheep and poultry being the most important sectors. Traditional crops such as hops and cider apple production remain significant’ (MAFF, 2000, p.84). Similarly, Shropshire is characterised by three contrasting agricultural landscapes (Brogden, 1992); intensive dairying in the north and west (an extension of the Cheshire Plain), cropping in the centre and east, and livestock production in the south.

Both counties contain significant western parts designated under EU Directive 75/268/EEC as Less Favoured Areas (LFA) in recognition of the difficulties associated with farming in upland localities. The counties have consistently been under intense pressure for agricultural change within the region and within England. Favourable price support under

postwar UK agricultural policy, re-emphasised from the 1970s by the Common Agricultural Policy (CAP) of the EU, encouraged farmers to grow more cereals at the expense of grassland. Greater competition within the EU and changing consumer tastes have also led to a decline in apple production and hop farming (Ilbery, 1982), encouraging more specialisation in cereals, livestock and intensive dairying. All these main agricultural sectors experienced dramatic swings in profitability during the 1990s which have continued into the present decade, and the prevalence of all within the study area means that most farm businesses have found it difficult to resist change. Further characteristics are that farm businesses in the Marches are dominated by family labour forms of enterprise with a long history of involvement in on-farm diversification ventures (see for example, Evans and Ilbery, 1992b, p.76). By virtue of the diversity of agricultural practice already noted, the Marches is a region of significant high nature value. For example, Shropshire is notable as the only county in England and Wales to possess two designated Environmentally Sensitive Areas (ESAs) wholly within its boundaries; the Shropshire Hills and Clun.

The inability of aggregated official statistics to capture individual farm business change and the unfashionable nature of empirical work on agricultural land use amongst geographers, such as that executed by Coppock (1964 and 1976), has created an ever-widening gap in knowledge about basic forms of agricultural change. Farm survey work conducted with the assistance of the Herefordshire Partnership and Shropshire County Council presented the opportunity to address this deficiency. A two-stage methodology was devised, comprising a postal survey and detailed qualitative face-to-face interviews. In both counties, problems with devising sampling frameworks for the inclusion of farm businesses in the surveys were avoided by the decision to attempt complete coverage, an approach now exceedingly rare

in British agricultural research. Co-operation from the Department for Environment, Food and Rural Affairs (Defra) meant that all farm businesses in both counties were sent a questionnaire containing sections on farm characteristics, changes to productive systems, pluriactivity and agri-environmental management. For Herefordshire, 4538 questionnaires were posted in August 2000, generating 958 usable responses (21.1%). In Shropshire, 7625 questionnaires were posted in September 2001 and 1231 (16.1%) usable replies obtained before the cut-off date. Even this comprehensive method was not problem-free as Defra's database contained multiple holdings run by single farm businesses, reserve holding numbers, numbers for agriculturally-related businesses (such as abattoirs) and had not been updated in recent times. It was estimated that the scale of this excess coverage amounted to approximately 1000 database entries in Herefordshire and 1800 in Shropshire and was impossible to rectify without inadvertently deleting potentially valid database entries. Comprehensive mailing had to be employed which naturally depressed achievable response rates. Once collected and the 2189 responses were analysed, a total of 90 farm businesses were selected between 2001 and 2003 for in-depth face-to-face interviews with the main decision-makers. These had indicated a willingness to participate further in the research and were selected to capture something of the diversity of responses obtained. Hence, interviews were loosely structured around issues raised on the postal questionnaire. Although no substitute for ethnographic methods of study, these at least provided a glimpse of the cultural context to the trends observed in the complete databases.

In terms of elements of farm adjustment strategies, the county-wide postal questionnaires asked farmers how these had changed over the five years before the survey. This was deemed to represent a reasonable period to capture change whilst simultaneously

permitting individuals to recall adjustments made with reasonable accuracy. At the outset, it was decided that the 'economic centrality' element could not be investigated through the postal questionnaire method as it would involve the direct revelation of sensitive financial data about on-farm activities *and* off-farm employment or business. A reluctance to disclose such sensitive information may have seriously compromised response rates. For Shropshire, all remaining six elements were examined. Unfortunately, limitations of space in the Herefordshire questionnaire permitted only four elements of adjustment to be investigated (farm size, enterprise, labour and diversification changes). Nevertheless, much detailed information for analysis has been generated from the surveys so that a clear picture of agricultural change in the Welsh Marches at this time emerges. The following analysis comprises three sections. First, the nature of adjustment is revealed for each element. Second, effort is made to consider the relationship between elements and conservation practice, itself previously omitted as an element of adjustment. Third, an analysis is made of how elements link together in ways that may represent strategies for family farm survival or accumulation. It uses case study evidence drawn from interviews to begin to illustrate that it is vital to combine material from a more 'agri-cultural' approach to enhance our understanding of agrarian restructuring.

4. An Analysis of Elements of Farm Adjustment in the Marches

4.1 The Nature of Adjustment

The number of elements adjusted within any individual farm business offers a useful glimpse into the effort made to restructure, whether for the purposes of accumulating assets or survival. Many adjustments over the relatively short five-year period investigated would suggest that any such business has experienced much pressure and has undertaken extensive restructuring to meet its survival or accumulation goal.

Turning first to the extent of change amongst Marches farm businesses, complete data on the elements (listed in Table 1) investigated are available for 934 businesses in Shropshire and 937 in Herefordshire. It is clear from Table 2 that less than 30% of farm businesses in the Marches operated in the exactly same way as they did just five years before. Adjusting between one and three elements accounts for approaching two-thirds (62.3%) of businesses in Shropshire. The results for Herefordshire are more compressed into the one and two elements adjusted categories because fewer elements were considered. Just two businesses in Shropshire have adjusted all six elements (Table 2), although substantial change can be considered to have occurred on 81 farms (four or more elements adjusted) in the short five-year time period investigated. That farm business change is a multi-dimensional process is borne out by these results as of the 663 Shropshire farms on which a change took place, 61.1% had adjusted more than one element. Each element of adjustment considered in this study will now be examined in more detail before considering the combinations of use that might potentially define a strategy. All elements are considered, but more attention is devoted to analysis of the most common element of change (labour) and to the on-farm diversification subset of pluriactivity, a topic which has frequently captured the attention of agricultural geographers over the last 20 years. As a general pretext, one observation is that

comparison between Herefordshire and Shropshire, where possible, reveals remarkably consistent results and thus patterns of agricultural restructuring across the Welsh Marches.

Table 2 here

4.2 Labour

Examining change amongst Shropshire's farmers, it is evident that a labour change has proved by far the most common element of adjustment made (54.8% of businesses) in the five years prior to survey (Table 3). As in Shropshire, a labour change is similarly the most common element of agricultural adjustment amongst farm businesses in Herefordshire (57.1%). A striking feature of the data in Table 3 is the extent of their departure from Munton's findings. Labour adjustment was not a favoured option for family farm businesses in Munton's study. Clearly, it had become the most common way to adjust the business by the late 1990s.

Table 3 here

A glance at postwar data from the annual Agricultural Census in the UK shows that downward labour adjustment has been a continual process. This continued apace in the Marches over the time period investigated:

'In 1960 we had 15 men on 500 acres [approx. 200 ha.] which was fairly average for the area. Before our first combine, everything was threshed and harvested by hand. Now we have two full-time workers and contractors for hedge-laying, hedge cutting and shearing.' (Farm 1730).

References to labour adjustment were made frequently during the course of the interviews, but it is the emergence of labour change as the most common adjustment element that is new at this time. Some reluctance to embark on this course of action may have been possible for a time, as reflected in Munton's (1990) findings, especially as it may have involved potentially difficult alterations to human relations rather than to less personal business structures. That emotions rather than economics are involved in reconfiguring farm labour came through in the face-to-face surveys, where 'natural wastage' of labour emerged as the most desirable way to reconfigure the workforce:

'We used to have two full-time workers but one took early redundancy three years ago.

The other one is due to retire and won't be replaced by a full-time man.' (Farm 1312).

Even so, some farm businesses were unable to resist making direct changes to their full-time hired labour force:

'We had a full-time worker three years ago. He went for financial reasons.' (Farm 1424).

In both cases, negative socio-personal ramifications for principal decision-making farmers are apparent. This can range from a lack of moral support from dependable workers who are treated as honorary collective members of the family through to a denial of opportunity to express power relations over a workforce.

An overall reduction in labour and replacement with family, often female, labour (see Price and Evans, 2005) were the main trends, but what the discussion of the labour element does not reveal is the direction of change. One farmer in Herefordshire had expanded the business, changed enterprises and diversified, all of which had created a need for specialist

labour. This opened up new sets of problems which threatened the short-term stability of the restructured business.

Farmer 190 farms over 50 ha in the east of Herefordshire, where hops (22 ha) and cider apples (30 ha) are the main agricultural enterprises. Diversification has also taken place on the holding in a minor way. In the last couple of years, arable and beef production have ceased on the holding. Apart from the farmer himself, two part-time workers are employed on the holding along with three casual labourers (non-agricultural enterprise) and extra hands hired during hop picking. The composition of labour on the farm has changed in the last five years as part-time workers are employed rather than full-time labourers, but this is not due to streamlining of the farm business. One of the biggest difficulties facing the farm business is retaining trained labour. The farmer explained that for the last four months, despite employing part-time labourers, he has effectively been working on his own. Consequently, there is a heavy workload on the farm creating a need for extra labour. The farmer says “I have found it hard to get skilled farm labour. I am willing to pay for good labour ... affordable housing for labourers is a problem in the local area”. (Farm 190).

It is apparent from the results presented for Shropshire in Figure 1 that there is no simple casualisation of labour. A move towards more specialised and technical farming in the Marches has compounded the difficulties of recruiting and retaining labour. Immigrant labour from the Middle East and Eastern Europe has gone some way to meeting workforce requirements of Marches farm businesses, but constant change to the labour mix is apparent, compounded by wider processes of countryside change:

“We employ 136 people and 30 to 40 staff through agencies. They are often Kurds or Iraqi... Local housing is an issue. No-one can afford to live in the villages as the houses have been bought by professional people. All staff used to live in tied cottages but they have been sold off by the estate.” (Farm 1712).

Figure 1 here

Recent anecdotal evidence continues to suggest that labour rationalisation on Marches farms may have gone too far. As farmers respond to the opportunities presented by the release from price support mechanisms of the CAP and introduction of a decoupled Single Payment Scheme (SPS) in the UK from 2005, crops such as strawberries grown large-scale under plastic (known as Spanish polytunnels) have become potentially lucrative. An emerging difficulty is acquiring the labour to pick the crop (Daily Telegraph, 2007) and there are uncertainties over the legality of the infrastructure to support the workforce under current planning regulations. Overall, then, the identification of farm adjustment elements reveals labour change as a common yet complex process, but crucially one that is situated within a context of other changes.

4.3 Farm Size

A change in farm size ranks as second in the frequency of elements adjusted by farms in the Marches (30.4%). This concurs with Munton’s findings (Table 3), demonstrating that size adjustment has for many years been a common way to develop a farm business. In accordance with well-established trends, resulting in the UK having the largest mean farm size of any EU member state (56.7 ha in 2006), most size adjusters (71.5% of those

adjusting) had acquired more land. Despite the high level of expense associated with land acquisition and the problem of plots of land contiguous with current landholdings rarely becoming available for rent or purchase, greater land area had provided businesses with enhanced flexibility over their land use decisions and potential access to a larger claim on state price support and grant aid.

“The farmer next door is retiring so we’ll get another 20-30 acres [8-12 ha] closer to the farm. The bit we’ve got at the moment is five miles away ... I’ve expanded because I am young, foolish and ambitious! I’m planning to take over the farm. We’ll be expanding the dairying for economy of scale. We’re not covering costs at the moment. I don’t know how far this economy of scale thing goes before it doesn’t work any more.” (Farm 394).

With land in fixed supply and expansion the dominant trend, it is axiomatic that the remaining size adjusters (28.5%) had seized the opportunity to reduce their holding size. For example:

Mr and Mrs P. (Farm 1970) had 50 cows but stopped milking in October 2000. The farm was rented from Shropshire County Council. They bought it, sold 12 ha and retained 7 ha, on which grass is grown for sale to a local farmer as hay or silage. “The selling policy [of land] had a lot to do with the decision to pack it [dairying] in. We knew we could get a good price for the land. We wouldn't go back to milking here. We packed it in because we wanted to and circumstances dictated that we weren't going to get anywhere. We didn't want to be milking 14 days a week. We were both working full-time and couldn't justify getting anyone else in for it. We didn't really know what farming was going to do.”

There was a marked difference in the number of elements adjusted according to farm size, with Marches farms under 20 ha making relatively few adjustments compared with farms over 100 ha which had typically adjusted two to three elements. Smaller farm size was strongly linked to operators who ran their business as a hobby with less imperative to implement changes to increase profitability.

4.4 Tenure

Data from Shropshire show that a change to the tenure of land managed by the business was the third most common (28.9%) type of adjustment behind labour and size. Interestingly, this was the change encountered least frequently by Munton (1990) in his study areas. Although a tenure change can occur without an overall change in the size of the farm business, renting land is clearly a quick and convenient way of increasing the size of the farm business and responding to market and/or policy signals. For example, during the time period covered by the survey, potato-growing had become a relatively lucrative activity in the Marches. Oversupply meant that this had, however, come to an abrupt end:

“We have decreased the potatoes this year and used to rent 130 acres [53 ha] which has been given up this year.” (Farm 33).

“We could grow potatoes but we are too small. You need at least 100 acres [40 ha]. I have thought about renting land but I am not that desperate. It’s fine if it works but this autumn the potatoes have just been left and have ruined the soil. I don’t want to have to do that.” (Farm 746).

It appears that tenure changes are no longer the ‘opportunistic process’ observed by Munton which acted to limit the implementation of it amongst farms businesses in west Cumbria and north-east Staffordshire. The demise of farm businesses, the separation of

diversification inspired activities from a need for land and the advent of new forms of short-term tenancy arrangements for leasing land have together moved a tenure adjustment firmly into the range of options for change which can be actively pursued. One observable aspect of continuity is that a tenure change remains closely associated to the ethic of achieving agrarian accumulation through the 'conventional' post-war productivist mechanisms of efficiency and economies of scale. With constraints lifted, it is unsurprising that tenure change has become more common than was evident in the 1970s and 1980s.

4.5 Farm Enterprises

Arguably, the only notable difference between the two Marches counties studied occurs with the figures for the percentage of businesses changing enterprises. These are higher in Herefordshire at 24.2% than in Shropshire (16.8%) because of greater traditional land use diversity. In general, a popular shift was one out of dairying and into sheep production. This move is almost always an irreversible one due to the cost of technological (milking parlour), stock and regulatory requirements (purchase of milk quota production entitlement):

“We used to milk 100 cows and were in the top 10% of the country’s producers. Now I don’t know where I’d go to see a cow.” (Farm 1733).

“In the [19]50s and 60s, everyone was selling milk. Now there are only one or two.” (Farm 2058).

“Dairy herds have been disappearing here for over five years. In 1971, there were 17 milk producers around here. Now there is one. There’s more arable, ewes, lambs and free-range chicken.” (Farm 1372).

“Generally there has been a decline in [dairy] stock numbers although this has accelerated in the last five years. It’s been happening for 25 years at least. This used to be an area of big dairy herds.” (Farm 2122).

Although changing the enterprise mix is middle-ranking in frequency of adjustment (Table 3), one subtlety uncovered is that farmers had brief spells experimenting with various enterprises hoping, seemingly more by luck than judgement, to hit upon a profitable formula. Hence, simple recording of ‘enterprise change’ disguises the extent of multiple enterprise adjustment amongst those altering this element:

“We went out of beef completely in 1994. The suckler herd was not making any money, so we tried barley bulls and then bacon pig rearing. There was not enough money in bacon pigs so I went milking on the neighbour’s farm at the weekend and started a contract pigs enterprise when my son took over the milking.” (Farm 1424).

Munton (1990) reports in his study that changing the farm enterprise mix (option 1 in Table 3) was the most common response in both upland localities examined. It represented a ‘first line of defence’, followed by a change to the size of the business. The increasingly specialised nature of agricultural production, tied in with capital requirements and eligibility for state entitlements, means that enterprise changes have become progressively more difficult to undertake compared with the 1970-87 period investigated by Munton. This is particularly true of those farms in the western Marches which are predominantly concerned with beef and sheep enterprises, reflecting the upland character of farms along the English-

Welsh border. Not only is there far less remaining scope for enterprise change in this upland zone, beef and sheep farms had adjusted fewer elements overall than arable and dairy farms. Upland farms appear to have already made most of the adjustments possible and opportunities to diversify the farm business remain limited by their location distant from centres of population.

4.6 Business Structure

Altering the legal business structure proved to be the least common course of action amongst Shropshire's farmers (9%), where data are available. Evidence of change is limited yet tantalising because moves are indicated away from partnerships towards sole proprietorships and away from family limited companies towards partnerships. The very small number (4) of non-family business remained constant over the five year time span investigated, but nonetheless it is interesting that the observed growth of forms of ownership based more on individuals, amongst farm families at least, confounds predictions of a progressive growth in the corporate nature of agricultural businesses based on the notion of subsumption (Whatmore *et al.*, 1987). An expansion of hobby farming, where small farms are bought and operated by one or two owners, together with the inability of farm businesses to sustain extended families (be it in work, income or satisfaction from farming) no doubt play some part in the explanation of this trend.

4.7 The Diversification Element

On-farm diversification as a subset of pluriactivity attracted much attention from the media, state (and advisors), farmers and researchers alike in the late 1980s. Evidence from the

Marches surveys, in terms of timing of the initiation of farm diversification enterprises, confirms the impression that it generally lost momentum across the UK agricultural sector in the mid-1990s as the fortunes of farming improved, even if the total number of farms diversifying did increase during this period (for a detailed analysis, see University of Exeter, 2003). However, during the downturn in fortunes experienced by the farm sector at the end of the 20th century, income generation from on-farm diversification ventures again became an important focus, albeit less vigorous than in the 1980s. Indeed, it featured prominently in plans for the rural development of the UK from 2000 with state support offered through the Rural Enterprise Scheme which recast many of the elements of the earlier (1988-1993) Farm Diversification Grant Scheme. Although the importance of on-farm diversification has been reaffirmed in the consciousness of policy-makers, research attention from agricultural geographers has yet to re-engage at its former level of interest perhaps because it now has greater acceptance as a 'normal' part of the agricultural landscape than was the case in the 1980s. Evidence of adjustment through diversification from Marches farm businesses not only assists in re-engagement with the phenomenon, but does so in a way that contextualises it within multi-faceted farm business change.

Writing at the height of its popularity, Munton (1990, p.6) is rather dismissive of the importance of farm diversification citing it as the 'least common change ... in spite of the recent attention given to this issue', even though farm tenure is shown from his table of results to be a less frequently adjusted element. In broad agreement, diversification in the Marches remains a relatively uncommon element of change, adding to the view that the initial 'bandwagon' surrounding diversification may have been more imagined (by the media in particular) than real and not matched by action 'on the ground' (for example, Evans and

Ilbery, 1992a, report relatively modest figures for the existence of farm-based accommodation). Its initiation is clearly not straightforward, largely because there has been little overall erosion of the 'resistances' to farm diversification identified in the early 1990s (Ilbery, 1991). The situation appears not to have changed fundamentally despite more recent re-emphasis. In fact, a lower level of change towards farm diversification is recorded in the Marches (Shropshire 9.9%; Herefordshire 9.3%) than in Munton's (1990) study areas, even though bi-directional change (ie. changes away from income generation through diversification as well as towards engagement with it) is recorded here rather than the more restrictive interpretation of 'increasing income' adopted by Munton. Again, methodological problems may contribute to the low figure observed. Defining diversification change is exceedingly difficult, particularly with existing enterprises. Detailed financial data are necessary to capture adequately changes in scale, balance between, and approach to, diversified enterprises, and even then offsetting capital outlay against income generated over the short-term might lead to misleading results. Consequently, a narrow interpretation has been made of the diversification element here in terms of its initiation and closure, one that could be easily interpreted by respondents, even though this has the tendency to reduce percentage change of the element. More detailed research is necessary to reveal major changes between on-farm diversification ventures themselves, such as a shift from ice-cream making to paintballing, as relatively little is known these interactions.

Beyond the limited descriptive level above, one valuable aspect of the elements of farm adjustment strategies concept that remains to be exploited is its usefulness in helping to situate specific types of change within the context of overall business development. Continuing with the farm diversification theme, reasons for its initiation can be compared

against the number of structural elements of the business that have been adjusted. This can illuminate the extent to which farm diversification is associated with a changing business. This broader picture of adjustment is something which a focus on farm diversification alone typically omits. Table 4 gives an illustration of the results of such comparison for Shropshire where data are more complete.

Table 4 here

In Table 4, attention is confined to those businesses that have made the decision to diversify for the first time within the last five years rather than to consider all diversifiers where an explanation of the decision to diversify is contingent upon the historical context of previous rounds of adjustment to elements. It shows that income is the dominant motive for diversification, which has long been established (DART, 1974; Evans, 1990; Ilbery, 1991; Evans and Ilbery, 1992a). Most importantly, the Table reveals that the adjustment of many elements fails to reduce the strength of this motive. For example, just over 80% of businesses adjusting one or two elements expressed financial reasons behind their diversification. This rose to a very high 91.7% for those adjusting three, falling back to 73.9% for four elements adjusted. All 16 businesses adjusting five or six elements had diversified to raise income, which can be interpreted as lying anywhere on a spectrum from 'opportunity whilst restructuring' to 'desperation'. Indeed, a truly remarkable feature of Table 4 is that many businesses (258) are adjusting one element, but in only 17 cases (6.6%) is this diversification with no other change. There are four main implications of these findings.

(i) Diversification on its own is insufficient to solve income problems, often because income from it is low. This may be due to the nature of the activity, a lack of business acumen, or the interpretation of the activity as an informal arrangement (one that often goes so far back in time that it becomes an unconscious 'tradition'). One farm business in the survey exhibited all of these characteristics:

"The parachuting has been going for 25 years but initially we never charged. The Parachute Club were already there and we commercialised it [recently]. It is almost a franchise as that it is run by someone else. We get a small rent and a portion of the turnover. On Saturdays we can get up to 100 parachutists." (Farm 1541).

There may also be restrictions on the potential to develop activities, limiting income and doing little to reduce the need for changes to farming activities:

"Some of the shooting is commercial. About 50 people per year on three, four or five days. It brings money into the countryside. The proceeds go to the landlord who owns the estate." (Farm 572).

(ii) Diversification causes major adjustments to other elements of the farming business. Any 'cultural' resistances to diversify are therefore enhanced by a necessity also to change significantly the structure of farming operations. Most change is demanded typically where a diversification activity consumes land or buildings:

Farmer C has a pheasant shoot on his land and modifies his farming activities because "if there is a cover crop on the farm, then the money goes to the farm. The shooting rent goes to the estate..." (Farm 1246).

(iii) Diversification presents itself as an opportunity because it fits within a business restructuring package. It can add an element of economic stability, but is not necessarily a solution in itself. One farm business in Herefordshire had previously reorganised to become specialised entirely in dairying. This move presented the opportunity to set up an ice-cream making enterprise on the farm, from which point the farmer picks up the story:

“When we started on the farm, the agricultural side of the business was financing the ice-cream making enterprise. From 1996/7, the ice-cream business carried the farm for three years. Now the farm is doing marginally better than the ice-cream-making.”
(Farm 610).

(iv) Diversification is a last resort as there may be limited scope for further adjustment to agricultural activities. Table 4 provides evidence of this effect as respondents identifying the reason for diversifying as a ‘lack of agricultural alternatives’ are most strongly represented by the sets of farm businesses adjusting through diversification only (41.2%) and through diversification plus one other change (45.8%). In such cases, attention may be turned to the commodification of domestic space and enhanced exploitation of family, often female, labour (see also Evans and Ilbery, 1993; Price and Evans, 2005). Some adopting this course of action quite quickly began to regret it:

“The rent for the holiday cottage is not that good for all the work involved. It is let through an agency and privately but we have to clean it ourselves. Things get broken and have to be replaced.” (Farm 466).

The analysis of farm diversification in the Marches within the context of elements of farm adjustment therefore begins to delve into the complexity and interdependency between on-farm diversification and agricultural operations. This relationship has been identified previously in the literature (for example, see Bowler, 1999), but whilst the agricultural characteristics of farms diversifying have been established in many studies (Ilbery, 1991; Bateman and Ray, 1994; Edmond and Crabtree, 1994; University of Exeter, 2003), the context of individual business change has suffered from a lack of emphasis. One important observation from the analysis presented here is that the sheer volume of elements adjusted indicates that there are farmers in the Marches who were still attempting to follow the agro-industrial model of farm business development whilst simultaneously diversifying. Clearly, farmers were employing 'productivist' strategies of adjustment that fell comfortably within the boundaries of their existing knowledge, ones that are difficult to represent as 'post-productivist' adjustment strategies (for a full exposition, see Evans *et al.*, 2002). Marches farmers fit well the operators 'for whom post-productivism seems a very remote concept' (Lobley and Potter, 2004, p.508). At best, farmers on occasion used actions approximating productivism and post-productivism simultaneously, reducing the need for researchers to make a distinction between such hypothesised trajectories. Indeed, detailed examination of the Shropshire survey database reveals little difference between those farmers expressing an intention to farm with greater intensity in the five years following the survey and whether they had diversified (12.2%) or not diversified (10.8%) the business. It is unsurprising that, after 40 years of post-war policy unequivocally encouraging greater food production, farmers' actions should continue to reflect this cultural engraining whilst only slowly assimilating less traditional options for change.

5. Understanding Conservation Within Farm Adjustment

Realigning the agricultural business to be more sympathetic to the goals of environmental management is not considered by Munton (1990) as an element of farm adjustment in its own right. This is understandable as the idea of paying farmers to conserve the landscape and wildlife on their holdings was nascent at this time (Potter, 1988; Baldock *et al.*, 1990). Agri-environmental schemes were restricted in their areal extent and even more limited as a business proposition by the small level of payments on offer compared with income to be gained through CAP price support mechanisms on standard food products (Potter, 1998). Despite continued criticism over the inadequacy of payments, deliberate entry into agri-environmental schemes to generate business income has become increasingly feasible over the last decade. This has been reinforced by the introduction of 'Environmental Stewardship' in England from 2005 which not only offers low-level payments to encourage farmer participation (Entry Level Scheme - ELS) but also significant rates of payment for farmers who are committed environmental managers (Higher Level Scheme – HLS and Organic Entry-Level Scheme - OELS). In cultural terms, over the last twenty years farmers have become gradually exposed to the notion of conservation practices as a normal part of farming activities. Indeed, the decoupled SPS is paid to farm businesses only if there is cross-compliance with Good Agricultural and Environmental Condition (GAEC) standards (for environmental features) and Statutory Management Requirements (SMRs) which safeguard human, plant and animal health and welfare. Of course, the adoption of such practices remains open to questions about engagement, commitment and intent from farmers (Morris and Potter, 1995). Nevertheless, agri-environmental management is worthy of brief

consideration in the context of farm business change examined here, adding a new dimension to a popular and well-researched topic.

Survey work in the Welsh Marches allowed the possibility of comparing the amount of business adjustment already made through elements with the type of conservation delivered on the farm. Table 5 shows that the dominant trend in Herefordshire was one where engagement in conservation practice increased up to the point where businesses had adjusted two elements. The trend was evident for the majority of the top ten most common conservation measures undertaken, encompassing practices of existing management and (re-)creation of environmentally valuable features. This is important because it shows that as farmers increase the size of their holding, hire less full-time labour, switch agricultural enterprises, and /or diversify, they continue to pay attention to conservation. As payment rates for environmental activities were almost always assessed by farmers as 'modest' in comparison to price support available for conventional activities through CAP, such changes were seldom caused by a direct move to undertake a greater amount of conservation (see below). Hence, conservation practices seem able to survive business change and become incorporated within a new business situation. Indeed, in a remarkably consistent pattern across all cases examined in Table 5, those businesses where no adjustment had been made were less likely to be involved in conservation than those adjusting one and, in turn, two elements. Only management of existing hedgerows seemed to be relatively common where no adjustment had been made to the farm business, this being the least involved form of engagement with conservation. The planting of woodland and creation of field margins were two practices that increased proportionately with the number of elements adjusted. Again, this is logical where farms are conserving yet attempting expansion along agro-

industrial lines because losses of land to woodland and field margins can be offset through the acquisition of land or adjustment of the farming system to at least maintain the area farmed within the business. Potter (1986) calls this style of re-planning for conservation 'programmatically investment'.

One farmer remarked:

"I'll apply for the woodland scheme next year as it will fit in with the poultry expansion quite well" (Farm 810).

Table 5 here

As reported by studies in other localities (for example, Morris and Potter, 1995), there is firm evidence of passive adoption of agri-environmental schemes in the Welsh Marches. This is apparent in the management of conservation features in Herefordshire discussed above and in agri-environmental scheme participation in Shropshire (where more schemes existed at the time of survey). Shropshire farmers were interested in schemes first and foremost for financial reasons, stated by 40.1% of respondents.

"The grants for planting trees are small but they help." (Farm 147).

"The ESA provides extra income ... We are not in any other scheme and would not employ people to lay hedges or anything." (Farm 2162)

Even then:

"The money from the schemes is capital but you can't pay for groceries with it. It would have been nice to have done Countryside Stewardship and make tracks for people to walk on but you can't eat hedges and we have enough of them anyway." (Farm 1424).

More positively, 38.1% of Shropshire farmers were interested because participation enabled conservation that otherwise would not take place. An important question arises concerning whether participation in schemes was more common amongst those businesses that had made few or many adjustments to their structural elements. The top three schemes for participation at the time, together with the former Organic Farming Scheme (OFS – fifth) are examined here. The general trend revealed by Table 6 is that the probability of involvement in one of the main conservation schemes increased with greater change to the farm business, but with a peak at around four elements adjusted. This makes sense, as the generally restrictive management prescriptions of schemes will be easier to accommodate within a business that is changing than attempting to fit it into a fixed existing business structure (again, as reported for programmatic investors by Potter, 1986). Those farmers making little or no change to the business structure appeared resistant to the adoption of schemes, again almost certainly due to incompatibility with day-to-day agricultural operations:

“We aren’t in any schemes at all. We applied two years ago to join the Countryside Stewardship Scheme but ... [Defra] ... came along telling us what we could and couldn’t do.” (Farm 1730).

“The agri-environmental schemes all sound as if they are designed for proper people on a bigger scale. With the limited space we’ve got and the time we’d like to spend, there’s not an awful lot you can do.” (Farm 1667).

Table 6 here

Considering individual schemes, from Table 6, ESAs emerge as the only measure contrary to the trend just described as it was readily adopted by businesses undertaking little adjustment within the last five years. Active promotion of scheme adoption by ESA project officers from Defra may have been influential, but this evidence adds empirical weight to the view of ESAs reached before their closure to new entrants in 2004 that they encouraged farmers to do little extra conservation for the payment offered. Indeed, one farmer freely commented that:

“The criteria for the ESA has been so watered down that it’s almost ineffective.” (Farm 960).

This contrasts with Countryside Stewardship where clearly it was more difficult to participate without making some business adjustment (as just indicated with Farms 1730 and 1535). So, whilst ‘fitting in’ with the farm business may not be a strong motive in itself for adoption of ESAs, this aspect of the scheme appeared to play a major role in the decision to adopt. This same phenomenon will likely explain the adoption success of the ELS over the coming years.

A cause for concern raised by Table 6 is the relationship between the uptake of OFS and the extent of adjustment. It is here that the most consistent trend is recorded, with engagement in organic farming more likely as adjustment increases. The implication is that these farm businesses have already tried to maintain viability through substantial adjustment, and could be using entry into organic farming as a last resort to survive. An alternative view is that organic farming has caused extensive business change, but this is a less persuasive

argument as organic conversion does not necessitate a multiple and simultaneous (within five years) change of main enterprise, legal structure of the business or tenure.

6. Linking elemental changes as strategies

Having analysed the elements of change themselves that occur in Marches agriculture, it is now necessary to review the nature of their relationships with one another and to tease out the implications that such links might have for the identification of *strategic* adjustment. As Table 2 has demonstrated, single element change accounts for fewer farms than is represented by those adjusting combinations of between two and five elements. Table 7 identifies the commonality of changes occurring as combinations where two or more elements have been adjusted. The interesting observation is that a limited number of combinations emerge as recurrent. It is these that can be interpreted as summaries of key patterns of strategic action, though not as strategies in themselves. As argued earlier, such identifiable connections indicate reference points of structural change in agriculture upon which to map socio-cultural dimensions of the family farm business. Rather than tend to perpetuate structural-cultural theoretical isolation, a rationale is provided for focusing upon individual farm businesses to understand adjustment of elements as ‘strategies’ where they are an amalgam of reaction to external (structural) forces and moments of cultural evolution within the family farm. The paper now develops three case studies of key patterns emerging within two, three and four element combinations respectively to demonstrate the value of this approach.

Table 7 here

For farm businesses adjusting two elements, there are 15 possible combinations. In the Marches, 13 of these were observed amongst 170 farms. Nowhere was a structural change to the business implemented as well as either a labour change or diversification change, unless additional elements were also changed. Two combinations accounted for exactly 50% of two-element change observed (Table 7): enterprise and labour change; size and labour change. It is here that we can begin to consider logical strategies of adjustment from elements. A decision to change enterprise, such as moving from livestock to arable activities, will typically necessitate a change in labour or vice versa:

Until 1985, we had a suckler herd on 60 ha. At that time, the buildings needed massively updating and there was not enough money in beef. So we increased the arable and the sheep. Until 1993/4, there were 3000 ewes and two shepherds. The shepherds got too expensive so the sheep had to go.” (Farm 1730).

Similarly, size and tenure are commonly adjusted together (and indeed are sometimes known as ‘land occupancy’, see Ward *et al.* 1990), as an increase or decrease in the area farmed is achieved by land acquisition through purchase or tenancy, or from land disposal through sale or letting.

“Before 2000, the farm was 65 ha. Now we have given up the rented ground and have 40 ha. Before 2000 we had beef, dairy, poultry and sheep. Now we just have the poultry.” (Farm 810).

“We have decreased the potatoes this year and used to rent 130 acres [53 ha] which has been given up this year.” (Farm 33).

This identification of patterns of structural adjustment provides a framework within which to situate encultured knowledge about individual farm businesses, especially expositions of

the circumstances precipitating adjustment, the journey taken to reach the adjustment outcome and assessments of prospects for survival. For example, size and tenure had been adjusted by Mr. J. in the five years prior to interview. However, this action was discovered to be simply the latest in a series of modifications to his business reflecting the changing circumstances of the family and Mr. J. as principal decision-maker. Previously, a labour change had been made with the release of a full-time employee because the farmer's son had 'come home'. Mr. J. says "I don't know why he came back", but an important family life event is anticipated in four to five years when the farm is handed on to the son. In discussing fertilizer usage, it also emerged that farm size had increased since 1958 by the purchase of 34ha of land and more recently by the leasing of another 40ha. Alternative actions had been considered, such as securing off-farm employment, but not acted upon and were now 'off the agenda' as Mr. J.'s retirement loomed. Instead, a contract bale-wrapping business had been initiated ten years previously although, and central to the theoretical argument of this paper, it was not considered by the farmer himself to have constituted a move into farm diversification. It was evaluated as a worthwhile activity, but only because he was the first to innovate this activity in the locality. Rather, Mr. J. revealed himself to be comprehensive in his scepticism of diversification as an option for farm business change.

"The organic lark is coming to an end. Everything has fads: ostriches and buffalo. As soon as Iceland [a frozen food retailer] announced that they would sell it at the same price as normal, people started losing interest. We half thought about it and that was as far as we got. By the time we'd converted, it wouldn't have been worth it. The bottom is falling out of it. The first ones in will be alright ... I don't know of anyone near who has diversification ... I don't think the Government advisors know very much."

Uptake of the former Countryside Stewardship conservation scheme had been considered and dismissed as uneconomical. Yet, in his concluding remarks, Mr. J. gives the impression that little has happened to the business and family over 45 years.

“We manage the farm as we have always done. There is not much you can do to change it ... This is our way of living. We can't sell it or do anything else. It is sentimentality to an extent ...”.

Thus, it emerges in this case that what appears to be a 'strategy' plausibly implemented under prevailing conditions is predominantly one of a set of steps taken to maintain a (culturally ingrained) fixed vision of the farm business at a now historical point in time, action that would not be recognised by Mr. J. himself as strategic. Instead, it represents family farm survival as one of 'form' and not just 'existence'.

Moving to a case where three elements had been adjusted, a more structurally strategic package of adjustment might be anticipated than just outlined for Mr. J.'s farm. Over the previous five years, Mr. P. had rented more land (tenure) increased the holding size and replaced full-time labour with contractors. He was amongst the 61.3% of three-element adjusters who had altered this combination of elements (Table 7). Enterprise change did not feature because the farmer had deliberately maintained a flexible, mixed farming system approach despite external pressures to increase the level of enterprise specialisation. In view of the major recent changes made to the farm business, it is surprising that again Mr. P. prefers to place little emphasis on change. Off-farm contracting seems to have provided some insulation against the economic need for adjustment, so that the discussion with him becomes focused primarily upon his conservation activities.

“We are doing more conservation as that is the way it is going ... We are on the Arable Stewardship Scheme [ASS] with grass margins, wild bird seeds and beetle banks. We get paid to do it and you’ve got to follow the money. I am keen on conservation ... There is lots more wildlife since the beetle banks and the margins have been left. Hares have increased, also because of the set-aside. Because ASS is in the corners and headlands of fields, it is no problem to farmers as they tend to be on poorer or wet land anyway. Having the margins makes little difference to the weeds – a lot come out of the hedges anyway. At least you can control up to the margins in a straight line.”

Clearly, the message here is that conservation is a driver of adjustment and is offering this family farm business an alternative survival route, reasserting the need to incorporate it into analyses as an element in its own right. It can be considered to be structural in the sense that conservation has become an economically viable option, yet only alive strategically due to its ‘easy’ fit with the production system and farmer’s positive orientation towards conservation (Gasson and Potter, 1988). Even so, the farmer himself again exhibits little overt connection with the concept of strategy.

Considering next a case where four elements of a Marches farm business have been adjusted in five years, a logical assertion is that a strategic approach to change is likely to be encountered. Continuing on from the frequently observed three-element size/tenure/labour combination of change, an enterprise change or diversification change is commonly added. Indeed, Table 7 shows that three out of 15 combinations account for 78.5% of four-element adjustment, all with size/tenure/labour at their core. Hence, four-element change is effectively an extension of previous patterns and does not represent a move to radically different packages of adjustment. Importantly, it demonstrates that

Marches farm businesses are tending to navigate similar routes through the adjustment process, a phenomenon that appears to contribute to the identification of strategic action. With this established, more attention can be given to the structural-cultural interface, as previously argued. For example, Mr. G. operates one of the 23 farms observed in the Marches to have changed size/tenure/labour/enterprise, although without further work no claim is made that he is typical of this group. It is noticeable that he has a strong, rational business approach to the farm. Crucially, he attributes this to the absence of a long historical family legacy on the holding.

“I get a different perspective as dad is a first generation farmer. We are no longer just a farm but are driven by economic factors. If you want to be in business you have to produce at the lowest prices ... Everything we have done has been on borrowed money. It makes you stronger as you have to justify the decisions before you start... We just want access and use of the farm for business and so are not interested in owning land.”

The latter remark is a clear indication that this is a farm business following a corporate accumulation trajectory. As Marsden *et al.* (1986) argued in the 1980s, a prime reason for the continued existence of family farms in the UK is the high cost of land, the purchase of which is avoided by corporate capitals as it reduces accumulative ‘capital time’ potential. A range of comments during the interview with Mr. G. reveal his desire to follow closely market trends and to do so he will fundamentally change the farm’s production system without sentiment.

“We’ll have to double potato production to £20,000 or get out ... We are looking at organic but I don’t truly believe that it is sustainable... We looked at non-intensive outdoor pigs ... We used to manage five intensive pig units. We went out of pigs 18 months ago and wouldn’t go back to them. We’ve gone from 2300 ewes to 50.”

Mr. G. clearly admires a corporate approach to business activities:

“You can’t live with supermarkets and you can’t live without them. I hold my hat out to them really as they are the most profitable organisations.”

He continues to manoeuvre to take advantage of the dominance of supermarkets in the retail link of the food chain:

“... after BSE [we] told the multiples that we could supply the whole of the UK’s requirements for free range eggs. But they [supermarkets] were scared as they didn’t want to be tied to one supplier... You can’t tell them to pay more than the price of the product but if you are in the top 10% of producers then you expect some sort of standard.”

In contrast, he is dismissive of diversification when he says

“I don’t think that diversification is the way forward. It is another small contribution but won’t solve all ills... But you need money to do it. It is not suitable for a struggling farm.”

7. Conclusions

The detailed analysis presented shows that farmers in the Welsh Marches of the UK are not strangers to fundamental change. Only a modest proportion (less than 30%) of businesses experienced no change in the five year period prior to the surveys being conducted. Multiple adjustment of elements (two or more) was common despite the short five-year time period investigated and, in Herefordshire, the limited number of elements considered. Compared with earlier work (Munton, 1990), the nature of change has shifted from adjustments of farm enterprises towards a restructuring of labour. It has been

demonstrated that on-farm diversification is not a simple, independent course of action that can be bolted onto a farm business either with minimal change, or to prevent change, to its structure. Evidence is provided, if further were needed, that on-farm diversification is inadequate as a sole panacea for falling business incomes. Some weaknesses of agri-environmental participation are also confirmed. A common scenario amongst farm businesses in the Marches was adjustment to finance development that makes the farm agriculturally more productive whilst incorporating non-productive activities. For example, there were cases where money from agri-environmental initiatives was earmarked to finance an intensification of farm production on other farms or land operated by the family business. Unfortunately, how this influences economic centrality is not known from the survey due to methodological limitations, problems that possibly could be overcome with more extensive use of qualitative techniques. The work presented also stays within the limits of Munton's (1990) work as a first step in revisiting elements of adjustment strategies. Apart from adding economic centrality back in, the need for the inclusion of a conservation element is clear. There further appears scope to include some elements of family structure and culture within the mix to provide an improved balance between business and household, such as changes to household consumption, inheritance arrangements and principal decision-maker(s).

Beyond specific findings, this paper has attempted theoretical and empirical re-engagement with the notion of farm adjustment through an examination of strategies, paths and elements. Strategies and paths remain subject to criticisms of over-generality and deliberateness. The evidence presented here has demonstrated that a focus on the building blocks or elements of adjustment can be of value in three main ways. First, it captures

something of the complexity and inter-relatedness of farm business change. In so doing, it also goes some way to relieving Lobley and Potter's (2004) worry about deficiencies in our basic knowledge of agrarian structures and land use since the early 1990s. Second, re-engaging with the context of agricultural change reveals much about the ways in which farm businesses are (re)configured and their involvement in activities such as farm diversification and agri-environmental management which have been popular research topics in the geography of agriculture over recent times. Consideration of adjustment elements puts farm business change first and then situates investigation and knowledge of certain activities (on-farm diversification and environmental management, for example) rather than the other way around. A deeper understanding of the decisions to engage with these activities can thus be gathered and it adds a fundamental level of detail not established by research which is more topic focused. Third, elements of adjustment prove suitable structural starting points for the accommodation of more culturally-informed versions of agricultural change which together may define 'strategy'. This is especially important in the light of Johnsen's (2004) argument based on her research in New Zealand that cultural norms are restructured by farm adjustments as opposed to driving them. Evidence from the Welsh Marches moves us to a theoretical position where structural adjustments and cultural norms can be demonstrated simultaneously to restructure *one another*. Only then can predictive assessments of family farm survival (or accumulation potential) be ventured, for the case study evidence presented shows that reference to the number of elements adjusted cannot alone deliver a consistent conclusion. Herein lies one possibility to why as yet inaccurate predictions have been made about the imminent demise of the family farm – studies have paid insufficient attention to the intricacies of the structural-cultural interface of adjustment. For example, in the Marches survey of Shropshire, the number of elements

adjusted could be further mapped against both quantitative data and qualitative information on the financial health of the business. It would be tempting to assume that a greater depth of adjustment (change to many elements) was a strategy that made family farm businesses fitter for survival, particularly as the remaining ability to change could be compromised by doing so. However, a definite trend emerged from discussions with respondents that the more elements they had adjusted, the greater were their financial problems. Elements had been adjusted to the extent that 'keeping the family name on the land' in deference to previous generations became a main added ingredient to explain the present form, and thus survival, of the farm business. Clearly, more structurally-guided ethnographic research is needed to unpick the ways farm families rationalise their existence when extensive adjustment can do so little to alleviate operational difficulties.

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Table 1: Elements of farm adjustment strategies.

Element of change	Description
1. Farm enterprise	changing the emphasis of the farm enterprises (eg. expanding sheep whilst contracting [reducing] dairy)
2. Labour	usually by substituting family for hired labour in order to reduce costs, but could be an increase in hired labour
3. Business structure	usually by changing from sole operator to a partnership to reduce tax
4. Tenure	either by buying land that was previously rented or by selling owner-occupied land and leasing it back
5. Size	buy or sell land either to expand the farm business or finance restructuring
6. Economic centrality	increase (or decrease) income from off-farm sources, thus changing the economic centrality of the farm business to the farm family household
7. Diversification	increasing income from non-farming enterprises based on the farm (eg. bed and breakfast or farm shop)

Source: Munton (1990, pp.5-6).

Table 2: The extent of farm business adjustment in the Marches (Shropshire and Herefordshire) within the five years prior to survey.

No. of elements adjusted	Shropshire - No. of businesses	Shropshire %	Herefordshire - No. of businesses	Herefordshire %
0	271	29.0	279	29.8
1	258	27.6	316	33.7
2	170	18.2	243	25.9
3	154	16.5	89	9.5
4	65	7.0	10	1.1
5	14	1.5	--	--
6	2	0.2	--	--
Total	934	100	937	100

Source: Author's Survey.

Table 3: Changes made as elements of farm adjustment strategies in the Marches.

Element of change	% Shropshire farm businesses	Shrop rank	% Herefordshire farm businesses	Herefs rank	Rank in Munton's research
1. Farm enterprise	16.8	4	24.2	3	1
2. Labour	54.8	1	57.1	1	5
3. Business structure	9.0	6	--	--	4
4. Tenure	28.9	3	--	--	7
5. Size	30.4	2	27.4	2	2
6. Economic centrality	ND	--	--	--	3
7. Diversification	10.2	5	9.3	4	6
Total (n)	934	--	937		

Source: Author's Survey and Munton (1990).

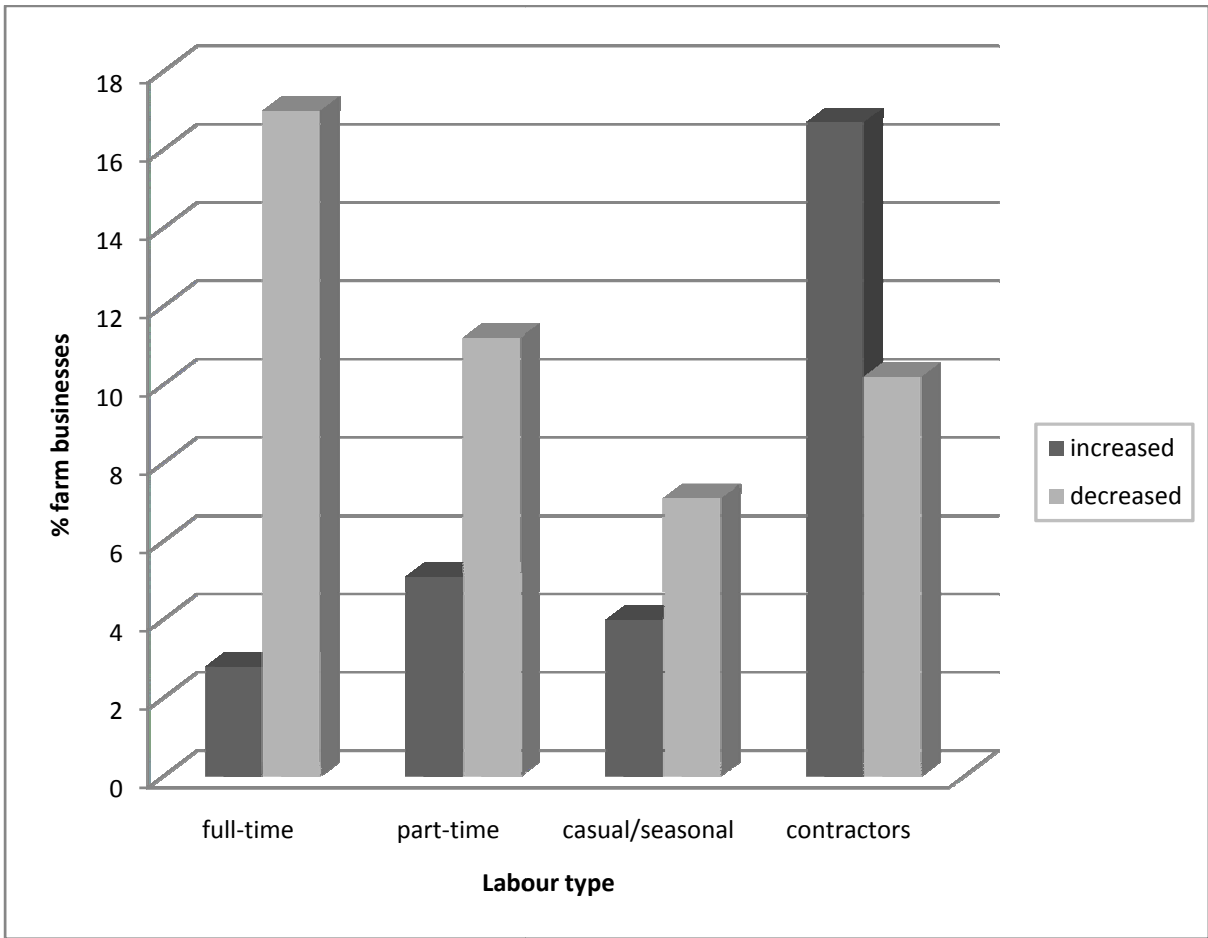


Figure 1: Changes in types of labour employed on Shropshire farms over the five years prior to survey.

Table 4: A selection of Shropshire farmers' reasons for diversifying according to the extent of business adjustment over the last five years.

reasons for diversifying	Number of elements adjusted*					
	1	2	3	4 [#]	5 [#]	6 [#]
	% of businesses adjusting element					
Extra income	82.4	83.3	91.7	73.9	100	100
Good location	41.2	25.0	41.7	21.7	40.0	0
For personal interest/use	47.1	33.3	16.7	17.4	40.0	0
Identification of market	41.2	25.0	16.7	30.4	20.0	50.0
Lack of agricultural alternatives	41.2	45.8	20.8	34.8	0	0
Farms adjusting through diversification from 1995 (n=95)	17	24	24	23	5	2
Farms adjusting elements (n=934)	258	170	154	65	14	2
% of adjusters using diversification	6.6	14.1	15.6	35.4	35.7	100

* 1 of which is farm diversification.

[#] some caution should be exercised with the interpretation of percentages from low base numbers.

Source: Author's Survey.

Table 5: Conservation type and amount of farm business adjustment in Herefordshire.

Conservation measure	No. of elements adjusted* (%)				
	none	1	2	3 [#]	4 [#]
Management of existing hedgerows	50.9	66.5	69.5	58.4	50.0
Planting of new hedgerows	20.8	28.5	33.3	30.3	20.0
Management of existing ponds/lakes	22.2	24.7	33.7	32.6	40.0
Management of traditional/unimproved grasslands	21.9	27.5	30.9	27.0	30.0
Management of existing woodland	17.2	24.1	35.0	31.5	30.0
Planting of woodlands	20.1	25.0	27.2	38.2	40.0
Creation of new ponds/lakes	18.3	23.4	31.3	30.3	20.0
Management of existing field margins	12.9	24.7	29.6	25.8	10.0
Creation of new field margins	7.9	10.1	17.7	13.5	20.0
Creation of new traditional grasslands from arable	2.9	5.7	5.8	7.9	20.0
Total No. farm businesses (n=937)	279	316	243	89	10

* elements include farm size, main enterprise, labour and diversification changes.

[#] some caution should be exercised with the interpretation of percentages from low base numbers.

Source: Author's Survey.

Table 6: Participation in a selection of agri-environmental schemes according to the number of elements adjusted by Shropshire farm businesses in the five years prior to survey.

Agri-environmental scheme ⁺	No. of elements adjusted* (%)						
	none	1	2	3	4 [#]	5 [#]	6 [#]
ESA (Environmentally Sensitive Area)	14.3	16.5	14.8	17.6	14.9	0	0
WGS (Woodland Grant Scheme)	0	5.2	7.9	14.4	19.4	13.3	0
CSS (Countryside Stewardship Scheme)	0	5.6	7.9	14.8	14.9	6.7	0
OFS (Organic Farming Scheme)	0	1.2	3.6	4.2	4.5	6.7	0
No. farms adjusting (n=934)	21	248	366	216	67	15	1

* elements include farm size, farm tenure, labour, main enterprise, business structure change and farm diversification.

⁺ ESAs, CSS and OFS were all closed to new entrants in 2004 and replaced by Environmental Stewardship as part of a review and rationalisation of English agri-environmental schemes. WGS was closed at the same time and replaced in the Marches by the English Woodland Grant Scheme (EWGS) from 2005.

[#] some caution should be exercised with the interpretation of percentages from low base numbers.

Source: Author's Survey.

Table 7: Combinations of elements of adjustment in Shropshire as strategies of farm adjustment.

Number of Elements Adjusted	Farms (n)	Theoretically Possible Combinations (n)	Most Common Change Combinations	% of Possible Combinations
2	170	15	1. Enterprise + labour 2. Size + tenure	50.0
3	154	20	Size + tenure + labour	61.3
4	65	15	1. Enterprise + size + tenure + labour 2. Size + tenure + labour + diversific'n 3. Structure + size + tenure + labour	78.5
5	14	6	1. No diversification 2. No structure	92.9

Source: Author's Survey.