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Adaptive responses and asset strategies:
the experience of rural micro-firms and Foot and Mouth Disease

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Abstract

The 2001 Foot and Mouth Disease (FMD) epidemic effectively closed large parts of the UK countryside for several months. Local firms found their operations disrupted and suffered losses of trade. The individual and collective experiences of affected firms provide vivid insights into how rural businesses and the local economies they constitute operate and react in times of crisis, with important lessons for small business policy and support. Drawing upon survey and case study research the paper presents a critical incident analysis of the impacts of FMD on rural micro-businesses and a review of the resulting adaptive responses. The paper explores the role of variable endowments in influencing the choice of responses available to micro-businesses and identifies those assets which proved to be crucial in enhancing coping capability. The analysis confirms the importance of households in providing resilience to micro-businesses. Households acted as a buffer to many firms, absorbing revenue and employment effects, through adjustments in the wage taken from the business, restrictions in household spend, the deployment of personal savings and the use of household members as a flexible labour reserve.

Keywords: Rural micro-businesses, Coping responses, Foot and Mouth Disease

1. Introduction

The economic crisis that was precipitated by the 2001 Foot and Mouth Disease (FMD) outbreak in the UK revealed key but previously hidden features of contemporary rural economies and unleashed fierce debate about the future direction of rural and farming policy. The epidemic effectively closed large parts of the countryside for several months. Local firms found their operations disrupted and suffered losses of trade. The individual and collective experiences of affected firms illustrate how small businesses and the local economies they constitute behave and survive in times of crisis, providing an insight into the processes triggered by economic downturn or shock.

The outbreak of FMD was confirmed in February 2001, with its source traced to a pig unit in the north east of England. It was to result in the infection of over 2,000 farm premises throughout Great Britain and the cull of some 4.2 million livestock on over 13,000 farm holdings. There is no doubt that the various measures introduced to control the outbreak - including culling, a ban on meat and live animal exports, livestock movement restrictions, the closure of livestock markets and various biosecurity measures - had a significant impact upon the operation of farm businesses nationwide (Franks et al., 2003). But FMD was far more than a farm crisis. The disease control strategy and the comprehensive discouragement of visits to the countryside triggered a major shock within the wider rural economy. At a national level the cost to the private sector was estimated at £5 billion which far exceeded the economic loss to farming (Report by the Comptroller and Auditor General, 2002).

However, despite major losses in revenue and fears of major economic effects - projections for example of 15,000-20,000 jobs ‘at risk’ in Cumbria, the worst affected county (Cumbria County Council, 2002) - it is perhaps surprising that FMD did not leave a more significant footprint in the formal unemployment and business closure statistics for 2001. The north east of England was the region first and longest affected by the FMD outbreak with the county of Northumberland not being declared disease free until January 2002. However, an estimate by the Employment Service of north east claimant unemployment in 2001 due to FMD put the figure at ‘only’ 371 (personal communication). Furthermore, FMD did not appear to result in high levels of business failure. National statistics identified 141 English business failures where FMD was given as a primary or secondary cause, 20 of which were found in the north east (SBS, 2002).

The possible explanations for this faint statistical footprint are manifold. For one, the broad macro-economic context at the time was largely favourable: the outbreak occurred after a series of relatively profitable years and many firms had been able to build up the buffer of a cash reserve which allowed them to ride out the crisis (Barclays, 2001). An alternative possibility is that the economic consequences of FMD were not yet fully realised, given the economic ‘lag effect’ that has been shown to accompany recession cycles. Thus there is usually a delay in the peak of a recession’s impact on business survival of 2-3 years from the peak of impact on sales (Smallbone et al., 1999).

Macro-level statistics, moreover, can easily mask specifically rural or localised effects. In Cumbria, for example, FMD's aggregate effect on unemployment was very small (*The Economist*, 2002) but there were significant localised increases, such as a 48% rise in the town of Keswick albeit from a relatively low base (Cumbria Economic Intelligence Partnership, 2001). Similarly, though it has been suggested that Scotland as a whole may even have benefited from an increase in visitors displaced from elsewhere, a heavy negative impact was demonstrated in Dumfries and Gallway (Scottish Executive, 2001; McDonald et al., 2003). In other areas some urban and coastal locations (and larger rural service centres) experienced an increase in the number of visitors and customers at the expense of more remote rural locations (Northumbria Tourist Board, 2001).

This is not to say there were no macro-level statistical effects. The Barclays Small Business Survey, for example, describes an overall contraction in business stock in 2001 based on a combination of fewer start-ups and higher numbers of business closures (Barclays, 2001; 2002). FMD is considered to have had a dampening effect on business confidence, albeit sometimes masked at a regional level of analysis:

> "Foot and mouth was clearly a major factor in many of the rural parts of the country. Starts in Wales fell sharply (down 19%) although the influence was less obvious in other regions either because of the lower proportion of livestock farmers or because of the juxtaposition of more prosperous and economically active areas within the region. For example, in the North West, the impact of a heavily depressed start-up market in Cumbria was probably offset, to some degree, by a less depressed and much more active market around Liverpool and Manchester."
>
> (Barclays 2002: pp. 1-2)

Finally, the lack of a marked statistical effect may be because impacts were absorbed by rural firms and households. This final explanation forms the main focus of our analysis. Drawing upon survey and case study research the paper presents the findings of a critical incident analysis to demonstrate the nature of the impacts of FMD on rural micro-businesses in the north east of England. The paper explores the coping responses of micro-firms and, in particular, the supportive role of households. The contribution of variable endowments or assets is discussed in determining the coping choices available to businesses, including identifying those assets which proved to be crucial in enhancing coping capability and resilience.

The paper begins with a discussion of small firm coping, placing this in the context of research exploring livelihood strategies, endowments and recourse to external sources of support. Following consideration of research design the main empirical findings are then presented under three main headings: the impacts of FMD, coping responses of micro-firms and the role of endowments. The paper concludes by considering the implications for small business and rural development policies.

2. Small firm coping

2.1. Coping behaviour, asset strategies and endowments

This paper explores the underlying premise that the adaptive responses of firms to economic downturn are closely interwoven with the behavioural dynamics of supporting households. Oughton and Wheelock (2002), in their analysis of household livelihoods surrounding micro-firms, argue that it is “impossible to understand the microbusiness enterprise as separate from the household within which it is located” (p. 4) and that “business and household social relations overlap to a greater or lesser extent in the partial containment of the business within the household" (p. 7). Coping behaviour of micro-firms can therefore only be fully understood within a household perspective.

Much research attention has been given to the composition and dynamics of rural household livelihoods. Some authors place particular emphasis on the role of household endowments which include assets of human, social, physical and financial capital and whose variability is seen as forming the basis of differential livelihood capabilities (Sen, 1999). The use of these endowments is mediated through the notion of 'entitlements' which include the legal or social rules - and associated norms, cultures, social relations, values, and power and gender relations - that constrain or free individuals to choose to utilise available endowments (i.e. the extent to which they have real 'livelihood capabilities' or opportunities) (Oughton and Wheelock, 2002). As Wallace (2002: p. 298) explains, it is important "to understand the way in which households perceive the resources around which they organize their strategies".

According to Oughton and Wheelock (2002: p. 8) the small business is embedded within the broader 'livelihood jigsaw':

> "business may be just one element of a livelihood jigsaw. … Business attitudes and behaviour are likely to be influenced by other elements of that jigsaw. For example, business households with higher levels of financial, human or social endowments are more able to take risks without ultimately threatening the ability of the household to maintain itself. Thus secure professional employment for one member of the household can underpin dips in business income. At lower levels of household endowments businesses are more vulnerable."

Households and firms are thus closely interdependent. The dynamics, resources or critical incidents in one have a close bearing on the other and ultimately the stability of the overall livelihood jigsaw. Small businesses are able to draw on a wider endowment pool which includes household resources.

Multiple income streams are a prevalent feature of rural household livelihoods. Given that rural areas in the UK display higher levels of self-employment per capita and part-time, casual or seasonal working, this can introduce a particular and quite diverse pattern of income strategies (Countryside Agency, 2003). Households and businesses often rely on a portfolio of incomes including combinations of formal or informal wage work (casual, part-time, full-time), self-employment, occupational pensions, savings and state benefits. In the UK it has been highlighted how the average *household* income of the self-employed is more than double that of the average *personal* income of the self-employed (Countryside Agency, 2003). Furthermore, of the quarter of rural self-employed who are over 55 years' old, 12% are in households containing a pensioner, where pension income may represent a crucial endowment. In fact pension income in Cumbria, the area hardest hit by FMD, amounts to an estimated £1 billion (Lowe, 2002), an amount which greatly overshadows the revenue losses to tourism and agriculture (and related sectors) in the county which totalled £426 million (Cumbria County Council, 2002).

Several authors have considered the central role of household pluriactivity within livelihood strategies (Shucksmith et al., 1989; Eikeland, 1999). Ellis (2000), in exploring the role of livelihood diversification in reducing vulnerability in a developing country context, highlights a range of determinants of such diversification. Of particular relevance to the present paper are what he terms risk strategies, asset strategies and coping behaviour. Risk strategies are considered to involve deliberate or planned attempts to spread risks and reduce 'risk covariance' between different livelihood components. Asset strategies involve investments by households in natural, physical, human, financial or social capital in order to enhance future livelihood robustness or prospects. Coping behaviour refers to the reactions of households and firms to unanticipated livelihood failure or the *ex post* coping with crisis.

Ellis's notion of asset strategies has a close relation to that of endowments as described by Sen (1999) and Oughton and Wheelock (2002)[2]. Several questions emerge around the concept of endowments. One consideration is whether endowments are consciously or unconsciously built-up by small firms with a view to dealing with anticipated risks. As Wallace (2002) explains, in the context of household strategies, rationality or active agency is implied by the word 'strategy'. A planned or tactical approach is also implicit in Ellis's use of risk and asset strategies. Others have described a 'weak' definition of strategy, whereby strategy is inferred by a given household outcome whether or not consciously planned, and that some households have strategies in a strong sense, some in a weak sense (Wallace, 2002). Smallbone et al. (1999: p.116) similarly argue in a small firm context that business strategy is "typically implicit rather than explicit, strategic awareness being more frequently demonstrated than strategic planning". It is also likely that certain endowments may be built up for purposes other than survival response but are effectively re-deployed during crisis for this purpose.

Endowments are closely related to coping behaviour, determining the range of responses available to firms and possibly enhancing their ability to cope. *Ex post* coping behaviour can involve a range of tactics including the drawing down of savings, gifts from relatives, community transfers, sale of assets or the search for alternative income (Ellis, 2000). Ellis describes how responses may follow a sequential patterning as a crisis intensifies, with early phases characterised by protection of future income generating capabilities and later responses involving last resort sale of core assets. He sees the notion of ‘vulnerability’ as entailing not only a high exposure to risk factors, but also a low level of assets to which to turn, or a low level of ‘coping capability’.

It cannot be assumed that the adoption of a coping response will necessarily result in a positive business outcome. Relying upon endowments to support or stabilise a business could conceivably have both negative and positive consequences depending on the particular endowment in question, whether or not it is utilised in a sustainable way and the scale and duration of a crisis.

It is also the case that a business may not only be lacking in positive endowments, but also be specifically negatively endowed, for example suffering high levels of debt or internal strife or facing particular environmental or operational constraints. The balance of, or interplay between, positive and negative endowments is likely to be critical in determining coping outcomes. It also explains why rural micro-businesses, and rural economies in general, are often characterised as harbouring features of both vulnerability and resilience, typically in co-existence. On the one hand, inadequate internal resources (labour, time and capital) are seen as a factor in the vulnerability of micro-firms and an inhibitor to their development, operation and exploitation of opportunities (Raley and Moxey, 2000). It has been noted how limited internal resources can lead to an information deficit that hampers the propensity of small firms to be aware of or respond to opportunities and threats (North et al., 2001). The close relationship between firms and households can also hinder positive business development where there are personal tensions, stifling power relations or major critical incidents. On the other hand, business strength is often associated with the availability of a low cost, casual or family labour reserve and the potential credit raising function of close social relations, all of which can be drawn upon when needed (Baines and Wheelock, 1997; Brüderl and Preisendörfer, 1998).

2.2. The external environment and support networks

To understand the development and survival of small enterprises, researchers have emphasised the importance of considering both internal and external factors and the interaction between them. Smallbone et al. (1999: p. 109) argue that:

> "Since small firms have more limited ability to shape their external environment than larger firms, their survival and growth depends on their ability to identify and respond to the threats and opportunities presented by their external environment; in other words to adapt or adjust to external environmental conditions".

Many factors that affect coping are thus found beyond the firm and household within the wider rural business environment, which hosts a range of opportunities and constraints. The external environment also offers resources. As Oughton and Wheelock (2002) explain, for example, the "capitals with which the individual is endowed may arise from membership of groups outside of the household. Benefits may … flow from wider family and local communities, and in some cases, from the state". It follows that asset strategies can also involve recourse to external factors such as the building up of effective social or business networks, a loyal customer base, or a strengthening of skills or knowledge through external advice and information.

Small business research has often drawn attention to the capacity or willingness of firms to utilise external support. Given that internal resources, knowledge and expertise may be restricted, external expertise is considered to be particularly significant. There is a range of sources of external advice and information to which business owners can turn, including informal, private, collective and public sector sources. Though the use of formal business advice has been linked to enhanced firm survival, many researchers have pointed to its persistently low and variable uptake among small firms, drawing attention to manifold explanations (Cosh and Hughes, 1998; Curran, 2000; Raley and Moxey, 2000; Robson and Bennett, 2000). It has been shown for example how small business owners often prefer to use informal and private sources of support such as friends, family, business contacts, the accountant or bank manager (Bryson and Daniels, 1998; Devins, 1996; Cosh and Hughes, 1998; Robson and Bennett, 2000). Friends and relatives in particular are considered important in providing a low cost source of advice that can be trusted (Bennett and Robson, 1999). This means that small firms involve a "complex interplay between in-house and external expertise and knowledge" and that the "relationship between an SME and outside flows of … expertise is much more complex than just flows of knowledge from private sector consultants and [public sector] organisations" and involves a "web of information, knowledge and advice" (p. 391). For Gibb (1997) the development of stakeholder and network interdependency under conditions of uncertainty is the essence of small business survival and growth:

> "… the small firm attempts to reduce the risks associated with uncertainty by building personal relationships of trust and confidence with its key stakeholders. Its ability to survive

> will be a function of its ability to learn from these stakeholders, to educate these stakeholders, to build trust and interdependency with these stakeholders, to use them to scan the wider business environment …”
>
> (Gibb, 1997: p. 18)

Building such relationships and interdependency comes close to the notion of a firm investing in social capital. Kilkenny et al. (1999) have drawn attention to the importance of ‘social investing’ by small businesses, finding that social capital as measured by their community participation - and reciprocated by loyal patronage, goodwill and promotion - was positively associated with economic performance.

Less research attention has been given to the balance and interplay between informal and formal kinds of external support or to the roles of different support sources. Over reliance on informal ‘personal networks’ has in fact been posited by some as a potential weakness of small businesses. While personal networks offer greater levels of trust they may be lacking in relevant knowledge. This relates to Granovetter’s (1985) ‘weak ties hypothesis’, with ‘weak ties’ bridging more distant parts of the social system and extending beyond close relations to include external contacts. Such ties are considered crucial in providing highly relevant but occasional information that is unavailable from the ‘strong ties’ network of close knit relations with friends and family. It has been suggested that successful entrepreneurs have a large network of weak tie relations which can be instrumental at key points within a business cycle or in weathering critical incidents (Chell and Baines, 2000).

The uptake and balance of external sources of support, together with the role of variable endowments, formed key considerations of our research into the coping behaviour of micro-firms during FMD. The remainder of the paper now turns to a review of this research and its findings, beginning with a brief introduction to issues of research design and methodology.

3. Research design

The purpose of the research was to investigate the impacts of FMD on the rural economy of the north east of England and the implications for rural recovery[3]. More specifically it considered the nature of coping responses of micro-businesses. The study therefore provides a critical incident analysis of a sample of micro-firms and represented a unique, though often harrowing, opportunity to explore small firm dynamics in conditions of crisis (Chell, 1998).

A longitudinal perspective of impacts and coping responses was provided by two telephone surveys of micro-businesses, conducted in April and November 2001[4]. The focus of the research was upon micro-firms (businesses with less than 10 employees) in light of their domination of the business profile of rural economies. The research considered only non-farming businesses given a specific interest in understanding the extent to which FMD was affecting the wider rural economy.

The sampling frame for the investigation was a database of 2000 north east based rural micro-businesses derived from a major postal survey undertaken by the Centre for Rural Economy in 1999-2000 (Raley and Moxey, 2000). Firms were chosen from the 1300 non-farm businesses in the database on a random sample basis, stratified by sector[5]. Telephone surveys were adopted primarily because of the need for rapid results, but also to avoid any difficulties in accessing business premises that face-to-face interviews might have entailed, or the likely poor response rate to a postal survey on the part of unaffected businesses. The telephone interviews collected both quantitative and qualitative data, and were tape recorded. The surveys touched on a range of themes, including economic and social impacts, coping responses and recourse to advisory sources and external aid. It was anticipated (correctly) that it would be difficult to obtain precise financial data over the telephone, either due to business owners not having this to hand, or a general reluctance to divulge this type of information. This challenge was partially taken into account in the second survey by an advanced letter sent to the business owners advising them of the financial information that would be requested.

The first survey, enquiring about the impacts of the FMD outbreak on non-farming micro-businesses in March, was conducted in the first week of April 2001[6], starting just 6 weeks after the notification of the first case of FMD. A total of 180 interviews were achieved. The follow-up telephone survey was conducted in late November 2001 - after the last case of FMD but when widespread access restrictions were still in force - and sought information about the period April to November, with the aim of assessing the level and duration of impact over time. Exhaustive attempts were made to contact all businesses which had been interviewed in April. In the event 27 firms could not be contacted, had ceased trading (reason for cessation unspecified) or refused to participate, reducing the usable sample size to 153. Table 1 gives details of the characteristics of the sample comparing the April and November surveys.

Table 1
Telephone interview sample by sector

Sector	Sampling frame	Interview sample April 2001	Interview sample November 2001
Retail	312 (24%)	30 (17%)	27 (18%)
Hospitality	279 (22%)	30 (17%)	25 (16%)
Business services	202 (16%)	20 (11%)	17 (11%)
Manufacturing	140 (11%)	20 (11%)	18 (12%)

Construction	103 (8%)	15 (8%)	11 (7%)
Land based	62 (5%)	15 (8%)	12 (8%)
Personal services	46 (4%)	10 (6%)	6 (4%)
Transport	43 (3%)	10 (6%)	10 (7%)
Health and social	41 (3%)	10 (6%)	10 (7%)
Recreation and culture	33 (3%)	10 (6%)	10 (7%)
Education and training	31 (2%)	10 (6%)	7 (5%)
Total	1292	180	153

The telephone surveys were supplemented by a set of 13 in-depth interviews with a sample of *high impact* case study businesses as identified by the April survey (Table 2)[7]. These helped to provide a fuller understanding of the impact of FMD and the coping dynamics of businesses. The firms were selected on a random sample basis, stratified by sector. Interviews lasted between 1 and 2 hours and were in the main carried out with the business owner. Each interview was tape recorded and transcribed.

Table 2
Case study businesses

Business type	Rurality[a]	Annual turnover	Est.	March impact: Turnover down
Rural recreation	Very remote	£20,000-50,000	1997	90%
Hotel	Very remote	£100,000-250,000	1972	10-20%
Timber haulier	Very remote	>£250,000	1974	40%
Riding school/B&B	Very remote	£20,000-50,000	1986	50%
Public house	Remote	£100,000-250,000	1988	50%
Bed and Breakfast	Remote	£10,000-20,000	1994	50%
Nursery gardens	Remote	£50,000-100,000	1993	20%
Coach firm	Slightly	£50,000-100,000	1989	10-20%
Butcher	Slightly	>£250,000	1972	20%
Craft manufacturer	Moderately	£50,000-100,000	1989	50%
Livestock haulier	Moderately	£100,000-250,000	1987	30%
Book shop	Moderately	£20,000-50,000	1986	50%
Specialist retailer	Moderately	£100,000-250,000	1994	30%

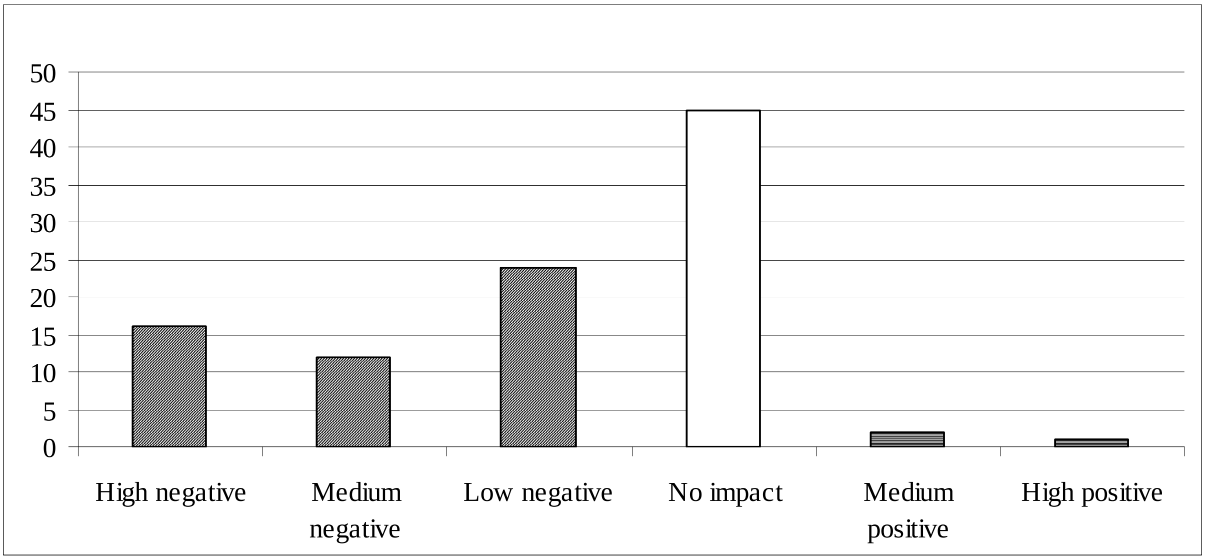
a - Spectrum of rurality = Slightly rural, moderately rural, remote rural, very remote rural (Raley and Moxey 2000)

4. The impact of FMD on rural micro-businesses

4.1. Economic effects

The FMD outbreak of 2001 began and ended in the north east region where over 1200 farm holdings had livestock culled, extensive restrictions on livestock movements were in place and public footpaths were closed (Phillipson et al., 2002). The outbreak lasted eight months, but restrictions continued for several more months in parts of the region with significant effects on the wider rural economy. The impacts of FMD varied between firms and sectors, but the majority of north east based rural micro-businesses were affected in some way. 52% of the surveyed firms had been affected negatively. The severity of impact varied with over half of impacted firms (51%) experiencing high or medium negative impacts (Figure 1).

Fig. 1: Severity of Impact on Individual Firms (%) (November survey)



- High impact firms expected annual revenue in 2001 to change by 20% or more as a result of FMD.
- Medium impact firms expected a change of 1 to 19% in annual revenue as a result of FMD.
- Low impact firms expected little or no change in final annual revenue as a result of FMD, but their business or operations were otherwise disrupted.

Impact spread throughout a range of sectors (Table 3). Little affected sectors (i.e. those in which relatively few firms were affected) included construction, education and training, health and social, and personal services. At the other extreme, sectors in which a large majority of firms were affected - hospitality, land-based and recreation/culture - were those reliant upon farming, tourists and visitors or on access to land. In between was a group of partly affected sectors - retail, transport, business services and manufacturing - in which roughly half of firms were impacted. These included firms affected by the determent of visitors, as well as firms that provided goods or services to the extensively affected sectors, reflecting a knock-on effect within local business chains.

Table 3
Extent of impact by sector (November survey)

	Sector	% firms impacted in sector
Extensively affected sectors	Hospitality	96
	Land-based	92
	Recreation/culture	70
Partly affected sectors	Retail	59
	Transport	50
	Business services	47
	Manufacturing	44
Little affected sectors	Personal services	33
	Construction	18
	Education and training	14
	Health and social	10

The severity of impact at the firm level did not correlate with the extent of impact at the sector level. There were high and low impact firms in most sectors. In little affected sectors there were a few firms that experienced high negative impacts. These firms were either involved in highly specialised markets based on farm demand or access, or suffered badly as part of the general downturn in trade experienced by rural service centres. The converse is also the case - that extensively affected sectors included firms which experienced only a low impact. Although hospitality was the most extensively affected sector, the largest grouping of hospitality businesses fell into the low impact category.

The blanket discouragement of visits to the countryside - including the closure of public footpaths and anchor visitor destinations - as well as farm access and road restrictions, were central to the pervasive impact. The way that FMD impacted on business varied between firms and sectors. For firms beyond the hospitality sector the main impact was from reduced local or passing trade, some of which will have been indirect or induced effects as impacted businesses and their employees began to spend less in the local economy. The main impact for hospitality and recreation and culture firms arose directly from reduced tourism demand. Apart from these trade effects, there was major disruption to business operations from FMD restrictions. In some cases access to the firm's own premises or to those of clients was obstructed. In other cases the restrictions added greatly to running and transport costs.

The employment impacts of FMD were widespread. In July 2001 the impacted firms employed on average 11% fewer full-time, 6% fewer part-time and 36% fewer casual employees as a result of FMD[8]. Many of the employment impacts were in fact low profile ones, such as the non-reengagement of seasonal labour, losses of casual employees and the reduction of staff working hours. Turnover changes were also common. For the year as a whole impacted firms in the north east were predicting an aggregate revenue reduction of 9%. Individual firm losses varied significantly in terms of their scale. On average, individual impacted firms predicted a mean loss of revenue of almost £9,000[9]. FMD also affected the end of year profit status of rural micro-businesses. Three quarters of impacted firms were expecting a negative change in overall profit position due to FMD. Critically one quarter were expecting a shift from a position of profit to loss.

4.2 Temporal effects

The majority of affected firms were impacted by FMD from the outset of the outbreak in February and continued to be so in the following months. There was also a broadening out of impact as additional businesses were drawn into the crisis and as the numbers of infected farm premises rapidly increased. Thus a third of impacted firms had been unaffected in March but subsequently saw their businesses affected, with half of these eventually suffering a high or medium impact. This delay or lag effect arose from a combination of knock-on effects in the business chain and upon customer demand, and continuing difficulties of access restrictions.

For most of the firms the impact started in March or April, and it was not until the late summer or early autumn that it began to subside. Some 60% of the firms reported that the impact had declined or disappeared by November, starting for most firms in September or later. For the remainder of those impacted, however, there was still no sign of relief even by November.

Many impacted firms considered that it would take some years for full recovery. 19% thought it would take between 6 and 12 months to recover, suggesting recovery by the end of 2002. A further 22% thought it would take between 1 and 2 years. 8% thought it would take much longer. Most impacted businesses reported they would not recover their losses and were radically rethinking business plans as a result of FMD. For example, 40% would be looking to cut costs, 38% would be considering new products and markets, 8% a reduction in product range, 27% a change in strategy, 7% layoffs and 5% business closure.

FMD severely disturbed the usual trade cycles of individual firms, introducing fluctuations and unexpected peaks and troughs. For some firms, positive and negative impacts prevailed simultaneously or in sequence. Some firms were able to pick up on other custom, displaced from elsewhere, to offset the loss of established trade. Others benefited from increased trade as tourists and countryside visitors became concentrated in more accessible peri-urban areas or along the coast. Some garden centres and nurseries, for example, benefited as visitors restricted their usual trips to the countryside and concentrated on leisure activities closer to home. As such there were winners as well as losers from the outbreak. Nevertheless just 3% of all the surveyed firms predicted a net gain in their final annual revenue as a result of FMD.

5. Coping responses of north east micro-firms

Having provided an overview of the impacts of FMD on micro-firms, attention now turns to their resulting coping responses. We begin by reviewing coping behaviour and - picking up on Ellis' notion of 'sequencing' (Ellis, 2000) - the patterning of responses over time. More focused consideration is then given to the role within coping responses of business strategy, external sources of support, labour dynamics and households.

5.1. Coping strategy repertoire and sequencing

Micro-firms displayed a wide range of adaptive responses which would seem to demonstrate a considerable level of adaptability (Table 4). The most common responses - each adopted by more than a third of the impacted firms in the November survey - were: household members working longer hours; business owners taking a smaller wage; the cancellation or postponement of investment; and a reduction in staff working hours. As Table 4 reveals, many other responses were adopted too. For some, though, drastic steps had had to be taken so that a fifth had laid off staff and a quarter had drawn on personal savings. A few had gone as far as temporary closure or seeking to sell the business.

This was the position that impacted firms had reached after nine months of the crisis. Breaking down the results to consider their sequencing (through comparison of the April and November surveys), Tables 5 and 6 highlight an escalation of responses over time and with increasing severity of impact. Table 5 shows certain steps that firms took mainly early on in the crisis if they were likely to do so at all. These included the cancellation or postponement of business plans or investment, household members working longer hours, reducing staff working hours and - perhaps surprisingly - making layoffs or redundancies. Such responses were adopted fairly quickly by sizeable proportions of impacted firms. As FMD progressed and the crisis became prolonged, firms broadened and shifted their coping responses. Certain types of response became more prevalent, including the renegotiation or taking-out of loans, and the temporary closure of the business. These were the sorts of responses that increasing proportions of firms adopted as the crisis continued to bite.

Table 4
Negatively impacted firms and their coping responses

Coping responses tried	November survey (% impacted firms) n=72
Household members working longer hours	40
Take smaller wage	39
Cancel or postpone investment	36
Reduce staff working hours	35
Increase marketing/advertising	32
Cut back household spending	30
Spend business reserves	30
Cancel or postpone plans to expand business	29
Decrease marketing/advertising	27
Renegotiate existing loans	27
Spend personal savings	26
Take out new loan	21
Layoffs/redundancies	21
Not taking on seasonal/casual staff	17
Change strategy	16
Household member looking for job	14
Temporary closure	9
Ask staff to take holidays	7
Increase staff working hours	6
Attempt to sell business	3

For most of the affected firms, the longer the crisis lasted the deeper the impact. So it is not surprising to find most of the same prevalent responses displayed, but with even greater salience, by the high impact firms, as shown in Table 6. The Table highlights first of all that some responses were much more pronounced for high impact firms, including taking a smaller wage from the business, cancellation or postponement of investment, reducing staff working hours and renegotiating loans. It also highlights a number of responses that were largely particular to the high impact firms, including cut backs in household spending, spending personal savings, taking out a new loan, household members looking for a job and attempting to sell the business.

Table 5
Negatively impacted firms and coping responses over time

Coping Responses	April survey (% firms) n=56	November survey (% firms) n=72
Early responses		
Household members working longer hours	30	40
Cancel or postpone investment	39	36
Reduce staff working hours	32	35
Cancel or postpone plans to expand business	30	29
Layoffs/redundancies	27	21
Late responses		
Renegotiate existing loans	16	27
Increase marketing/advertising	13	32
Take out new loan	12	21
Temporary closure	3	9
Attempt to sell business	0	3

Table 6
Contrasting coping responses of low/medium impact and high impact firms (November survey)

Coping responses	% of low/medium impact firms (n=36)	% of high impact firms (n=25)
Take smaller wage	28	61
Cancel or postpone investment	28	56
Cut back household spending	6	52
Reduce staff working hours	19	48
Cancel or postpone plans to expand business	25	46

Spend personal savings	11	44
Spend business reserves	22	39
Take out new loan	11	39
Renegotiate existing loan	19	38
Household member looking for job	3	33
Layoffs/redundancies	14	33
Attempt to sell business	0	9

Only responses showing a strong differentiation between the two groups are shown

5.2. Business strategy

An initial response of many firms was to cut costs wherever they could. For many this involved reducing staff hours, laying off staff or not taking on casual or seasonal staff, in an effort to cut their wages bill. Non-urgent expenditure - on upkeep and repair - was postponed or shelved. In this way firms sought to bring their expenditure more into line with their reduced revenues. As this kind of belt-tightening continued into the summer of 2001, there were signs with some firms that it was beginning to alter longer-term attitudes. Some owners explained how they were now adopting a more cautious business outlook:

> "It's made me a lot more wary about pre-ordering stock. I really think about whether I need this product at the time … I've run with the stock that we've got this year when I would normally take a chance on certain things".
>
> Specialist retailer, moderately rural

A primary coping response adopted by firms involved the arresting of ongoing and new investment. FMD therefore not only affected their short-term financial position but also their short and medium term plans and trajectories. Thus 39% of affected micro-businesses in April had cancelled or postponed investment and 30% said that they had shelved plans to expand. In many cases basic maintenance and refurbishment was simply put off indefinitely. One hotel owner explained how she had called a halt in the middle of long planned work to improve and extend her premises:

> "It was March, leading up to Easter, it was just awful. We were in the middle of building work and we just stopped everything because a) we didn't know if it was worth carrying on; and b) we needed to tick over to pay for the building work as we were doing it".
>
> Hotel, very remote rural

Owners were conscious that they were running down their premises, stock and equipment, and storing up expenditure requirements for the future:

> "There has been no capital expenditure this year. We haven't done a thing. We've actually got an overdraft now which we never had. … Not talking huge amounts but it's sufficient. It's the cream on the top that would have helped us refurbish this …. We just haven't spent any money. We need some new windows replaced. … All the seating down here we were going to do. Next year I was going to replace the bay window … Now that will be the year after".
>
> Public house, remote rural

By November 16% of affected micro-businesses had altered their business strategy in order to cope with the crisis. A livestock haulier, for example, had extended the general haulage side of the business and had diversified into providing storage space. A riding school had tried to be more flexible in attracting customers:

> "We try to accommodate what anybody wants … to do things that you wouldn't normally have done. … Maybe doing a night time where I never used to do that. But just to get a few extra customers".
>
> Riding school, very remote rural

Some firms were thus able to respond creatively to the crisis. This was less possible for many of those more deeply embroiled. This divide between firms adapting creatively and those struggling to survive is reflected in the different stances taken towards marketing. Whereas 32% of impacted firms increased their marketing efforts, 27% decreased theirs knowing that this might damage their future business:

> "One thing that's had to suffer is advertising. Its counterproductive I know that. But I would have to borrow money to advertise in certain places … I won't go into the red. I will just cut my cloth according to my needs".
>
> Bed and Breakfast, remote rural

Of critical importance was the extent to which firms were unable to sustain cash flow. Already in March, a half of impacted hospitality firms reported that they were drawing on their financial reserves. Some 38% of the high impact firms had renegotiated existing loans and 39% had taken out new loans. This was a very hard step for some business owners who were resistant to the notion of going into debt. Other firms were already heavily indebted and were unwilling or unable to go any deeper. For a few the losses they were sustaining were such that they had decided to temporarily close down.

5.3. External support

Impacted firms approached a wide range of external advisory sources (Table 7). In April, family members had been the most prevalent source of advice followed by friends and local authorities. By November, it was local authorities that had become the most used, followed by family members and the business advice organisation Business Link. It would seem that in the early stages of the outbreak many business owners relied on informal sources of help and advice, but as the outbreak progressed more turned to formal sources of support. To differing degrees these could provide information on FMD-related restrictions, financial and business advice and access to relief measures. The greater the impact on the business, the more marked was the tendency to turn to sources of external advice.

Table 7
Sources of help or advice used by negatively affected firms

	April survey % of affected firms (n=54)	November survey % of affected firms (n=72)	November survey High negative % of affected firms (n=25)
Family members	35	36	48
Council/local authority	33	47	50
Friends	33	32	44
Tourist Board	25	19	17
Accountants/financial advisers	17	32	32
Banks	17	28	40
Ministry of Agriculture, Fisheries and Food / Dep't for Environment, Food and Rural Affairs	17	24	33
MP	14	9	-
Tax Helpline	12	-	-
Federation Small Businesses	11	13	-
Business Link	10	35	44
Chamber of Commerce	8	13	-
Trade association	6	13	-
Other business owners	-	29	50

Business Link became prominent in the FMD crisis as their emergency advice and recovery schemes were widely publicised. Even so, the large majority of impacted firms - including the high impact ones - did not approach Business Link. In part this was because some business owners felt they had fallen through the gaps of the support framework or were in fact ineligible. Only four of the 13 high impact case study firms had applied for a business recovery grant (with two successful). The lack of recourse to Business Link also reflected the persistent causes of low take-up of formal support by rural micro-businesses, including the practical constraints in accessing support and a general lack of awareness about the value and relevance of business advice to their needs.

The research findings indicate, however, that some firms were induced to approach Business Link for the first time, with FMD leading to a partial extension of the client base of the organisation. Still, businesses with prior experience of Business Link before FMD (as indicated by the CRE baseline survey of micro-businesses) were more likely to contact the organisation (48% of those with prior experience, compared to 28% without).

Other major sources of advice were banks, accountants and financial advisors. These figured prominently amongst medium and high impact firms. Collective forms of support - such as the Chamber of Commerce or trade associations - were less prominent amongst the sources of help to which firms turned. What was striking, though, was the extent to which firms gained advice from other business owners. This was true of 29% of affected firms in the November survey, including half of high impact firms.

5.4. Labour

Employees appear to have shared much of the brunt of the FMD crisis (see Bennett et al, 2002, for an exploration of the implications for employee households). Labour strategies were common among the coping responses of the micro-businesses. Many firms moved quickly to lay off staff or not take on casual or seasonal staff. Overall, 29% of impacted firms with employees resorted to layoffs or redundancies and 24% did not take on seasonal or casual staff. Some 42% of impacted firms with employees had reduced staff working hours. In some cases this led to a progressive 'casualisation' of labour with staff working less regular and more flexible hours and with part-time jobs substituting for full-time employment. For example, the owner of one riding school explained how normally they would employ a full-time employee in the summer and another on a casual basis throughout the year. Because of FMD they had not taken on the full-timer. The other employee has been on reduced casual hours:

> "She is very good, just grins and bears it. There's nothing she could do. We tried to give her more hours. But there is only limits to what you can do. And if there is no work then she just goes home".
>
> Riding school, very remote rural

Similarly, the casual and part-time staffing of a rural hotel was influenced significantly as the hotel owner explains:

> "I have three ladies who come in as and when. One lady comes in and helps and does the breakfasts and then goes upstairs and then I've got another couple of ladies who come in to help. They all live locally. … None of them do a huge amount of hours a week, you know, 15, 20 hours. One lady has been here 23 years, and another young girl, she comes in the Winter, she's been here about 10 years. During Foot and Mouth … the lady who had been here for 20 years probably only did three days a week. The other 2 ladies, they didn't work. … It's just pin money they come for … I just pick them up and put them down, they are quite happy to do that. If they weren't they'd look for full-time. … One of them runs a B & B and she just comes for a bit of pocket money. And the other girl, she works for us in the Winter, two or three days a week. You know just to supplement her Winter income. … This is the lady who has been here 23 years (*introduces employee*) … She only did two or three days a week. … But then you've made up for it since really, because there's been a few extra hours, occasional weeks. … And she's one of these ladies with about six jobs … She has holiday

> cottages and she prepares crabs, she’s also got a mother in law she has to look after, well that’s a none paid job anyway”.

> Employee adds: “That’s a way of life here, you have to have five or six jobs or you don’t survive”.

This extract is striking in many respects: in the attitude of the owner towards the flexibility and role of casual work; in the apparent sense of local acceptance, by both the employee and the owner, of highly flexible labour practices; and in the significance placed by the employee on multiple sources and types of income.

Though a highly flexible labour market was in operation during FMD, in other instances the decision to lay off staff was taken with great reluctance, at least with certain staff members. Many firms had core staff that they could not or would not release. In fact there are signs that some businesses were carrying employees despite there being less work available. Firms would often not let go of trained staff on whom the business depended and particularly in light of the restricted availability of replacement skilled workers within the labour market. Thus in one haulage business some staff were re-deployed on ‘other jobs’ in order to keep them occupied:

> “I haven’t actually paid the drivers off. … There is a big shortage of quality drivers. … I haven’t been paying them full wages obviously. But they’ve been doing jobs in the garage, cleaning, painting trailers that’s standing. Because I can’t afford to let any drivers go and come to the situation where the work picked up but I haven’t got any … I didn’t particularly want to say to my young’uns after spending, well to put them through their driving tests

> £4000 say and a lot of training, to say ‘well I’m sorry Foot and Mouth is pretty bad you’re out of a job’”.
>
> Timber haulier, very remote rural

Many employees within micro-businesses are also family members who it is particularly hard to make redundant. Similarly, non-family employees may be well established within the business, having worked there for many years. Indeed they too are often treated as family. One business owner explained how in the bleak early weeks of the crisis they had held on to their employees and were able to do so by not paying themselves wages and by dipping into their personal savings. Another owner explained that staff needed money as much as them, that they shouldn’t “pass the buck” and, most important of all, they were considered family friends.

5.5. Household

Although FMD was a commercial crisis the responses were not confined to businesses. Some 74% of impacted businesses adopted one of five explicitly household centric coping responses (including household members working longer hours; taking a smaller wage; cutting back household spending; spending personal savings; household members looking for a job). Household members working longer hours was a primary adaptive response to which many small firms readily resorted. The incidence of this response grew between April and November, in part as household members assistance was substituted for paid employees. The supportive role of the household went beyond that of a labour reserve to include the contribution of finances to the business. The range of responses covered the spending, earning and saving capacities of households and were particularly pronounced among the worst suffering firms.

The ability of micro-firms to mobilise household resources to support the business appears to be a fundamental feature of their flexibility and resilience. They are able to do this because the divide between the household's and the business's financial and labour resources is often permeable. Businesses and households often share the same premises which means that even during 'normal' times, household members not formally employed in the business may be called upon, for example answering the phone and taking bookings, or assisting during busy periods. The familiarity of household members with the business meant they could help during FMD. One business owner explained how her daughter had assisted:

> "I think we've worked harder … you just have to. I could have done with someone else to help me in weeks we've been busy. My daughter's helped. … Whereas I might have had someone else on, I thought oh well, 'can you afford to take that extra person on?', and you just get the daughter and she would do the extra bits".
>
> Riding school, very remote rural

6. Endowments and coping capability

6.1. Variable endowments

So far the paper has demonstrated the complex patterning of coping responses adopted during the outbreak. It has been shown how the level of uptake and composition of responses varied with the duration and severity of impact. The research suggests that the potential repertoire of coping responses available to firms and which potentially influence their ability to endure crisis is influenced by a range of factors, including differential access to endowments. From the analysis of coping responses it is possible to identify a range of basic endowments and to speculate that these were variably present in or around the firms. Firms had differential access to household resources depending on several factors such as the circumstances of individual households and business owners. Looking externally, some firms' coping responses depended on the ready availability of a local flexible labour resource and the acceptance by the individuals concerned of such casual and informal working practices. Equally, the extent to which businesses were tapped into various support networks is also variable and was influenced by degrees of physical isolation, the availability of formal business support and the background of the business owners and the extent of their personal networks. It is perhaps ironic that FMD restrictions and control measures themselves often impinged heavily upon established social relations and structures within many rural communities and served to further erode this important source of potential coping capability for many firms.

It is also clear that firms which are employers had a certain range of coping responses available to them, since they were able to choose to decrease costs by cutting back on staffing. Numbers of employees also influenced coping responses (Table 8). Thus the firms with more than one FTE (in addition to the owner operator) were much more likely to have reduced staff working hours, refrained from taking on seasonal or casual staff, postponed investment, changed business strategy and co-opted family members into working longer hours (to compensate for reduced staff hours). For those smaller firms employing one or less than one FTE, marketing and spending based strategies have dominated, with an emphasis on reduced or increased marketing, the spending of business reserves and cuts in household spending. Both size groups placed similar emphasis on a reduction of own wages, the use of personal and business reserves and the household spending less. The rank ordering of strategies is markedly different, with the exception of taking a smaller wage out of the business which figures highly for both groups (see Table 8).

Table 8
Employees and coping responses adopted (rank in brackets) (November survey)

	0 to 1 FTE* n= 35 % firms	More than one FTE * n= 35 % firms
Take smaller wage	42 (1)	39 (4)
Increase marketing/advertising	38 (2)	26
Cut back household spending	29 (3)	29
Spend business reserves	29 (3)	27
Decrease marketing/advertising	29 (3)	24
Cancel or postpone plans to expand business	27 (6)	31
Cancel or postpone investment	26	46 (2)
Household members working longer hours	26	51 (1)
Reduce staff working hours	25	43 (3)
Spend personal savings	23	29
Layoffs/redundancies	21	24
Renegotiate existing loans	20	35
Change strategy	11	20
Not taking on seasonal/casual staff	6	26

* in addition to owner operator. FTE refers to Full Time Equivalent.

The level of firms' fixed costs prior to FMD appears to have also influenced coping behaviour and to have represented a negative endowment. Many small rural firms are based on capital assets: say, a hotel, a village shop or café, a piece of land, riding stables or a fleet of lorries or coaches. The responses of firms during FMD varied considerably between those firms that fully owned such assets and those which were renting or in the process of buying them. This factor is brought out by comparing the coping responses of firms with low fixed costs, with those with high fixed costs. Impacted firms with high fixed costs (including, for example, rental or mortgage payments on premises, interest or capital repayments on a business loan, or equipment hire charges) had to take more radical measures. Such costs had to be met regardless of any fall in revenue. They were also less well placed to take out new loans because of their existing indebtedness or lack of collateral security. Many of these firms had to go beyond the ordinary belt-tightening or additional borrowing that other firms did, and dig much more into household resources (see Table 9).

Table 9
Contrasting coping responses according to level of fixed costs[a] (November survey)

	Firms with low fixed costs % firms (n=27)	Firms with medium/high fixed costs % firms (n=37)
Household members working longer hours	19	38
Cut back household spending	19	35
Spend personal savings	19	30
Not taking on seasonal/casual staff	11	24
Household member looking for job	7	22
Change strategy	22	11

a - Only responses showing clear differentiation between the two groups are shown in the Table.

6.2. Critical endowments

When considering endowments or coping behaviour an important issue relates to their impact on businesses' ability to survive the crisis and their level of resilience. During the in-depth interviews business owners drew attention to a number of critical factors or points of stability to explain their success in weathering the outbreak.

For some the age and experience of the firm was considered important in determining what Ellis (2000) describes as 'coping capability'. For one pub, for example, there was a sense that the stability and experience of the business had been crucial. The owners emphasised that they had seen trade fluctuate before and survived downturns of various sorts:

> “We’ve probably seen it all before anyway haven’t we, with different sorts of recession over the 13 years. There is always something which comes along, just when you think things are going nicely. … We are quite fortunate in some respects because we have been here such a long time, we can probably survive”.
>
> Public house, remote rural

The availability of household resources and lifecycle stage were commonly referred to as crucial factors in weathering the crisis. These features were related to levels of financial and labour reserves, general financial security and access to alternative income sources. One business owner, for example, was able to rely on additional ‘off-business’ income provided by their spouse, which meant the business was able to survive and meet its loan repayments. Another owner considered things would have been much worse if the household had not already been in a position of relative financial security:

> “I think we are lucky in as much we are at retirement age. We haven’t a mortgage. Our major expenses have been things in the past”.
>
> Bookshop, moderately rural

Some business owners placed particular significance upon wider support networks within the local community or business milieu. One business owner, for example, highlighted the importance of local connections in coping with the crisis:

> “I was a bit worried. But, I don’t know whether it is a local thing, but my wife is local to here and Alan is local, but they didn’t seem to bother, ‘Ah it will be alright’. I had a lot of support from family. Particularly round here people said, you know, if you get into trouble come and see us”.

Nursery gardens, moderately rural

Other firms referred to intrinsic strengths or points of stability, such as a loyal local customer base or well-established business relationships. During the outbreak a local butcher had been able to maintain supplies of meat based on the development of long established good relationships with supplier abattoirs:

> "Even when the Foot and Mouth came on, they did look after us … They look after us favourably because we don't mess about with payments. … we've been with them a long time. We're honest with them … They probably looked at people like myself and thought 'Oh, well they're fair with us, we don't have any problems, yes we can have anything we can allow, we can supply', and they did, and we didn't get let down at all. … And really over the summer, yes I did see some businesses suffer, but we ourselves never really did."

Butcher, slightly rural

For other firms a diverse customer base had spread the risk of the business and offered a lifeline. A road haulier, for example, described how the firm was able to depend on general haulage when its livestock business was hit. A coach firm was bolstered by its public sector customers despite the loss of its tourism-based custom. A rural pub had prior to FMD successfully reduced its dependency on a seasonal trade and had nurtured a loyal regional customer base which turned out to be crucial during the outbreak.

6.3. The implications of coping behaviour

In the medium term the use of coping strategies suggests a less stable position for many impacted businesses and households compared to the situation prior to FMD. The immediate legacy for many firms related to reduced reserves, additional debt, reduced marketing and investment capability, disrupted trade and investment cycles and a reduced or altered complement of staff. A fifth of impacted firms considered they would be paying off additional debts and others referred to a reduced lending capacity:

> "Debt is coming out of the future profits. It's wrong because if I shoot an engine I've used all my borrowing capacity. My business can't stand £8,000 for an engine. I've gotta gan to the bank for it. You are living on a knife edge, yah just living on a knife edge. … I've seriously considered packing up … but sometimes your debts … sometimes its as hard to pack up as it is to start-up".
>
> Coach firm, slightly rural

Coping responses also had social repercussions with implications for businesses and households. Several business owners referred to living on credit and hand to mouth. A frequently mentioned response was cancelling or taking a shorter holiday. In this way household expenditure was reduced, but also business owners felt unable to be away for long. Some business owners were stretched to exhaustion:

> "Really we could have done with another member of staff in here. The funds aren't there. Which is difficult for me because I can't get a day off. I mean a day off. I work 365 days a year. But the thing is its starting to take its toll on me now … I'm not with it. I have to work twice as hard because I need, I've got to be here".
>
> Recreation business, very remote rural

> "My working week is a strain. I've forgotten what weekends are … I'm tired. But it's like bailing out. Stop it sinking, keep it afloat long enough to be able to beach it. … I still actually am involved emotionally, still retaining the hope against hope that somehow it might come back because I would like to carry on doing it. … I believe what I am doing is trying to

manage the run down and closure of the business. I’ve got 18 months to run on the bank loan. I need to reach the point when we can end, close the door without owing money to anybody”.

Craft manufacturer, moderately rural

Owners often felt exposed to intense personal pressures. A fifth of impacted businesses drew attention to the issue of stress. For some this was associated with crippling workloads as owners struggled to manage with fewer staff. For others there were acute financial anxieties and fears for the future, as the bills mounted:

> “[Tearful] You don’t know what next week's going to bring … And its up there all the time, 24 hours a day. Which you don’t need on your brain. It's difficult enough to do what I have got to do in here without having added pressure basically. And you’re thinking bank manager, bank manager … It doesn’t bear to think what the bank may do. And erm [pause] I obviously don’t want to think about it. But you do think about it.”
>
> Recreation business, very remote rural

For some there was the strain associated with being responsible for staff and their families and of needing to maintain morale:

> “Its been a difficult time socially … The pressures, the things going around in your head. Its bound to take a toll on relationships. I mean divent get us wrong, me wife’s been very good. But she looks at me and says ‘Frank, you’re in a dream world again’. That’s the sort of pressure that you can do without … You go to bed thinking about it man. I mean I’m not only trying to survive myself. I’ve got 10 drivers there all with mortgages [pause]. … They’re not particularly wanting me to drill into them every week ‘it’s bad again this week lads, we’ve had a bad week’. Morale would be that low …I keep it to myself. Betty will tell you that, too

> much possibly in some ways. … There is only so much you can say to people because at the end of the day there's too many negative thoughts going about. So people haven't been talking as much as they should … You coming round talking to me has made a hell of a difference to me, somebody else knows the problems".
>
> Timber haulier, very remote rural

Business owners thus shouldered a great deal of pressure upon themselves, and this tested relationships at home:

> "Its like staring redundancy in the face … Sometimes I'll gan into the house and nobody will dare speak to us. I'm so wound up and aggressive. And you wake up through the night with different things. You are thinking about it all the time like".
>
> Coach business, slightly rural

In many ways therefore the coping responses of firms effectively led to the running down of reserves of financial, social and human capital. In other instances coping behaviour may have led to a build up of assets. This is the case for example with the development - in response to the outbreak - of new alliances and networks or a strengthening of social relations. Coping with crisis may also have encouraged learning or instilled experience for the future.

7. Conclusions

The FMD outbreak of 2001 and the resultant impacts on rural firms drew attention to fundamental challenges facing rural areas and revealed much about the underlying dynamics of rural economies. It has been shown in the paper how impacts extended far beyond farming and tourism, demonstrating the diverse and interdependent nature of contemporary rural economies and much about the nature and coping behaviour of rural micro-firms.

A diversity of coping responses were adopted, often very quickly, demonstrating the resilience of this core component of the rural economy and the immediacy with which micro-businesses can change their plans, investment intentions or staffing. Responses were typically multifaceted with most common responses being for household members to work longer hours, owners to take a smaller wage from the business, the cancellation or postponement of investment and a reduction in staff working hours. Responses displayed a specific sequencing over time and with the severity of impact. Larger numbers of high impact firms adopted coping strategies and some were in the main particular to these firms as they were forced to dig deep to maintain the business. The paper has identified a number of lasting effects of coping responses which have implications for business recovery.

Recourse to external help and advice was also important for many, emphasising how internal coping is often based upon interaction with the wider business environment. A shift in the balance from informal to more formal forms of support occurred as the crisis progressed. Ongoing challenges were however highlighted in the uptake of business support. Although FMD raised the profile of support organisations and extended their client base, during the outbreak many business owners, including those in high impact firms, were disinclined to approach them for external assistance. This suggests the need for further attention to the persistent challenges of facilitating uptake of support and advice and tailoring of support to the nature and needs of micro-businesses.

Many micro-businesses - particularly high impact firms - drew on family and household endowments and flexibilities to cope with the crisis and its aftermath. Households acted as a buffer to the businesses, absorbing revenue and employment effects, through adjustments in the wage taken from the business, restrictions in household spend, the deployment of personal savings and the use of household members as a flexible labour reserve. The integral role of household flexibilities highlights how the dynamics of firms are inseparable from their social context and the way in which households and businesses are often intricately linked (Baines and Wheelock, 1997). This confirms the role of households in providing resilience within small firms and rural economies generally. It also means that through their coping responses business owners and household members were exposed to considerable pressures and that FMD had social (as well as economic) consequences.

For those micro-businesses with employees, employment oriented coping responses were central and many were adopted surprisingly early in the outbreak. Most of the employment effects were low profile ones - such as the non-reengagement of seasonal labour, losses of casual employees and the reduction of staff working hours. In consequence, the down-turn in trading conditions did not result in a sharp increase in levels of formal unemployment, and a degree of hidden unemployment and underemployment masked the full extent of job losses.

FMD revealed crucial characteristics of the rural labour process. It was seen how core employees were often deeply embedded within firms - a critical resource or treated like family in many cases - with repercussions for employment decisions. Equally, the operation of a very flexible rural labour reserve was exposed - with firms releasing or drawing upon local labour as and when required. This flexibility meant that people with already insecure livelihoods had to bear the impacts of the crisis and indicates a pressing need for greater attention, in research and policy, to the security of such rural livelihoods.

The condition of firms in the aftermath of the crisis reflected the pressures they had to face but also the effectiveness and sustainability of their coping responses. Some impacted businesses were better placed than others to cope and respond during the outbreak. Several factors or endowments (Sen, 1999; Oughton and Wheelock, 2002) influenced the coping capability of impacted firms and the choice of coping responses available to them. Businesses that had had the opportunity in the past to build up their financial, social and human assets were better able to weather the crisis. This would suggest a need for further attention to the relationship between and the role of business *and* household assets and the ways in which they enhance business resilience and livelihood robustness. Such an analysis should include an exploration of ‘asset strategies’ involving the conscious and strategic investment of effort in building endowments of human, financial or social capital, and ‘risk aversion strategies’ involving contingency planning, anticipation of future shocks or spreading of risk (Ellis, 2000). It will also be significant whether coping behaviour can effectively be steered or encouraged towards more sustainable forms and how a strategic outlook among owners towards asset development and risk can be encouraged. In some ways this could involve the need to encourage a shift in asset development from being an unreflective process to becoming more of a deliberate approach to building up the resources available to the business.

The centrality of households within the coping responses of micro-firms draws attention to the more general question concerning how support and rural development organisations should take account of the ‘household’ dimension in their services. It has been recognised that small business policy in general needs to more effectively embrace the small firm as a social system. The implications for support services may be wide ranging and could relate to taking more fully into account the objectives and decision making dynamics of business households or placing greater emphasis on supporting household income portfolios and the development, skills and choices of household members. More generally, given their bedrock function within rural economies, the question arises as to whether more should be made of business households as a basic unit of rural development interventions and monitoring.

In summary, the paper has cast considerable light on the way in which rural firms - and the rural economies that they comprise - respond during crisis. It has been shown how rural firms, households and economies display resilience and serve to absorb the impacts of economic shock. This shock absorption capacity was partly responsible for the low levels of formal unemployment and business failure arising from the crisis. The paper suggests however that this resilience has not been without social or economic costs or implications for recovery.

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Notes

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[2] In the present paper 'assets' are used interchangeably with the term 'endowments'. Assets are understood in a broad sense as going beyond the narrow definition of physical or financial capital, land or property, to also embrace social and human capital and various intangible endowments.

[3] The research was part of a study exploring the business, consumer and institutional response to FMD, funded by the Economic and Social Research Council (Grant R000223758), ONE North East Regional Development Agency and the North West Development Agency.

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[5] The sectors were weighted to ensure sufficient numbers of firms were covered in the different sectors that comprise the wider rural economy. Firms under the age of two years were excluded from the original data base due to their specific characteristics. The study therefore represented an analysis of impacts on more well established firms and was unlikely to pick up on the potentially more destabilising effects of the outbreak on very young businesses.

[6] The April research was funded by Durham County Council (Bennett et al., 2001).

[7] The research design was constructed in such a way as to maximise the robustness of the telephone survey and interview data and to identify and avoid as far as possible potential problems or distortions that might arise from its 'self-reported' nature. For example, face-to-face interviews were timed in between the two telephone surveys. Thus through careful probing the interviews aimed to 'test out' the basis of responses given in the first telephone survey. Similarly, findings from the interviews were subsequently compared against the responses to the second survey. Given that the November survey explored the respondent's recollections of impacts during the early period of FMD this could also be compared against their original April responses several months before. Finally, during both the telephone surveys and face-to-face interviews researchers aimed to explore a diversity of evidence relating to impacts (including economic, social and emotional data). This approach helped to provide a holistic and critical perspective of respondent circumstances and responses. In conclusion self-reporting was not considered to have compromised the robustness of the data.

[8] The FMD survey sample does not fully mirror the overall sector profile of micro-businesses located in the rural North East. The data has therefore been weighted in order to provide an overall estimate of employment losses to micro-businesses in the region's rural districts. The estimates are speculative due to the small

sample size of impacted firms providing information and a lack of information on the precise characteristics and size of the micro-business population.

[9] Again these figures have been recalibrated (see note 8).