

Continuity and Change in a Seventeenth-century Scottish Farming Community

By I D WHYTE and K A WHYTE

I
IN THE past few years there have been significant advances in our knowledge of Scottish agriculture and rural society during the sixteenth, seventeenth and eighteenth centuries.¹ Recent research has added to our understanding of the development and functioning of rural settlement and field systems and has demonstrated the existence of evolutionary changes in what had previously been considered a stagnant, even declining, rural economy.² Nevertheless, one central figure still remains shadowy and insubstantial: the tenant farmer. Tenants were not the most numerous group in the Scottish countryside; in many Lowland parishes they were substantially outnumbered by cottars and farm servants.³ However, tenants were arguably the most important group, as the others depended on them for employment and were affected by their prosperity or poverty. The fortunes of the tenantry were equally important to the landowners whose incomes were mainly derived from the rents which they paid. It is surprising, therefore, that although the condition of tenant farmers in Lowland Scotland is central to an understanding of the roles of continuity and change in Scottish agriculture at this period they have received little attention. Impressions of their reactions to economic changes have been

formed from the biased writings of eighteenth-century improvers who consistently described them as ignorant, reactionary, and unwilling to innovate. Equally, their position within rural society has been viewed within a model of a stagnant, impoverished economy, and they have been portrayed as a comparatively poor and homogeneous group. Some writers have depicted them as uniformly squalid and hardly distinguishable in wealth or status from their cottars.⁴ Their poverty has been attributed to insecurity of tenure caused by the prevalence of short leases and tenancies at will.⁵ Insecurity is thought to have caused poverty by encouraging low standards of husbandry as tenants were reluctant to invest labour or capital in improving their holdings if they were likely to be evicted without compensation at the end of a short lease or have their rents raised. Implicit has been the suggestion that short leases caused high rates of turnover with little or no continuity for long periods of occupation of farms by the same family. The poverty of tenant farmers is considered to have rendered them vulnerable to the effects of short-term subsistence crises which continued to affect Lowland Scotland into the early eighteenth century.

This paper aims to show that existing theories regarding Scottish tenant farming at this period are over-simplified and require some modification. The basis of the study is the particularly well-documented estates of the Earls of Panmure in the Forfarshire lowlands between Dundee and Arbroath

¹For general surveys see: R A Dodgshon, *Land and society in early Scotland*, Oxford, 1981; M L Parry & T R Slater (eds), *The making of the Scottish countryside*, 1980; I D Whyte, *Agriculture and society in seventeenth-century Scotland*, Edinburgh, 1979.

²Traditional views regarding agrarian change in early-modern Scotland are summarized in Whyte, *op cit*, pp 1-5.

³I D Whyte & K A Whyte, 'Some aspects of the structure of rural society in seventeenth-century Scotland', in T M Devine (ed), *Ireland and Scotland, 1660-1850: parallels and contrasts in economic and social development*, Edinburgh, 1983, pp 32-45.

⁴H G Graham, *The social life of Scotland in the eighteenth century*, 1937, pp 179-81.

⁵J E Handley, *Scottish farming in the eighteenth century*, Edinburgh, 1953, p 120.

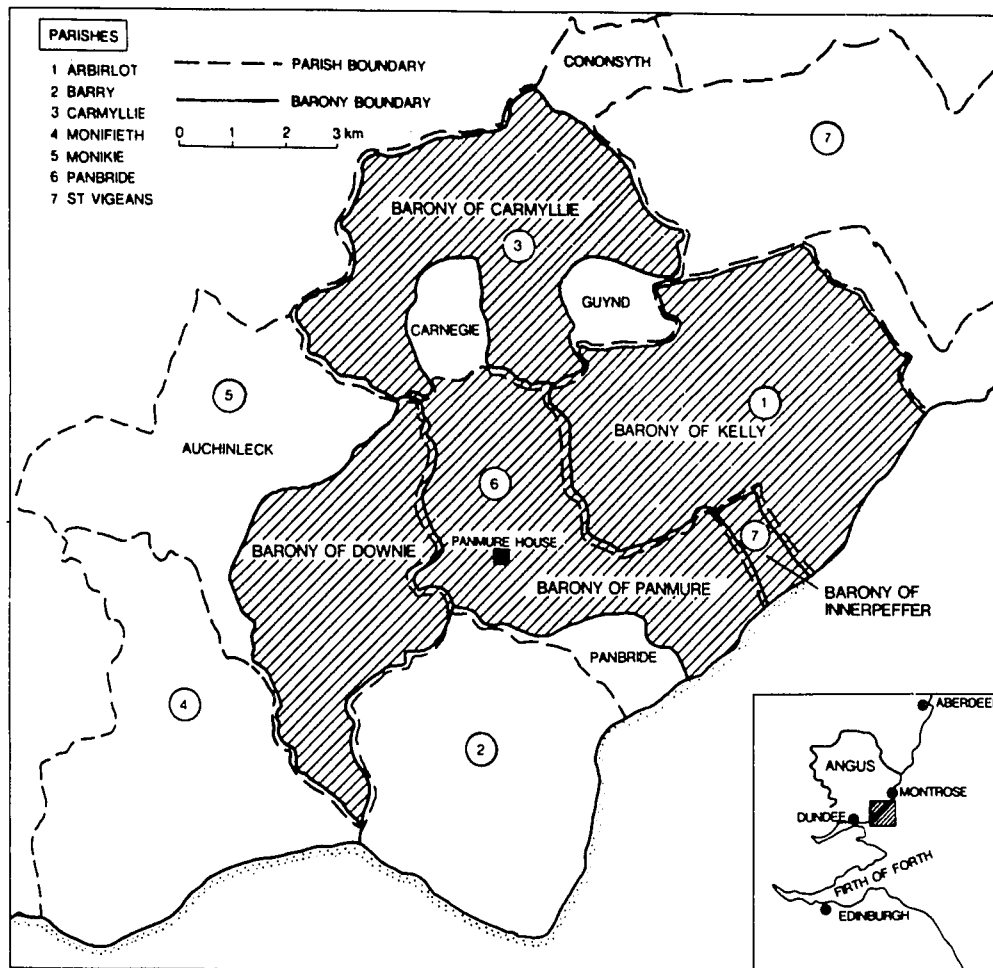


FIGURE I

(Fig 1). A series of annual rentals and accounts for the estates from the later seventeenth and early eighteenth centuries provides a framework into which data from other sources can be fitted.⁶ The background of rents, farm structure and holding sizes, and leasing policies within which the Panmure tenants operated is first outlined. This is followed by an analysis of continuity of tenure and the role of geographical and socio-economic mobility within the tenantry. The vulnerability of tenants to short-term economic fluctuations and the implications of this for agriculture and rural society as a whole are then considered.

⁶Scottish Record Office, Dalhousie muniments. Series of rentals commencing GD 45 18 1 (Carmyllie, Downie, Innerpeffer and Panmure baronies) and GD 45 18 1031 (Kelly barony).

II

Rents

A measure of the overall stability of conditions at Panmure is the stagnation of rents between the early seventeenth and early eighteenth centuries. On the South Mains of Panmure, for example, rents remained unchanged between the 1630s and 1714. Some small-scale adjustments of rents did occur but there was no move to raise rents generally. As rack renting is known to have occurred elsewhere,⁷ this has the appearance of a deliberate policy carried out under successive Earls of Panmure and must, in itself, have conferred a measure of stability and security on tenant society.

⁷Whyte, *op cit*, p 252.

Nor did the structure of rents alter materially. As was normal throughout the arable areas of the eastern Lowlands rents were paid mainly in kind. The principal rents of most tenants consisted of grain: some wheat from the most favourably located farms, but generally bere and oatmeal. In addition kain rents, small payments in kind including poultry and coarse linen cloth, were required, as well as labour services such as harvest work on those mains farms which the Earls of Panmure kept in their own hands. Only in Carmyllie barony were money rents normal. Dodgshon has contrasted the early appearance of money rents in the pastoral upland areas of Lowland Scotland with the persistence of rents in kind in arable areas.⁸ Nevertheless, Carmyllie tenants were as strongly oriented towards arable farming as their grain-paying neighbours in other baronies.⁹ Carmyllie was a comparatively late-settled area among the low hills at the eastern end of the Sidlaws and rents had probably been set in money from the start. A few farms in grain-paying baronies like Panmure paid money rents, and these, too, have the appearance of lands taken in from the waste at a comparatively late date. There was no significant trend towards commutation of rents in kind to money during the seventeenth or early eighteenth centuries and, as will be discussed below, this had important implications for the conditions under which tenant farmers operated.

Farm structure and holding sizes

Something of the socio-economic contrasts within the Panmure tenantry can be appreciated by considering farm structure and holding sizes. The traditional model of pre-improvement farm structure in Lowland Scotland has been the joint or multiple-tenant farm on which four or more

tenants worked small holdings and pooled labour and equipment to furnish a common ploughteam.¹⁰ At Panmure, however, 67 per cent of all farms were in single tenancy and only 29 per cent in multiple tenancy, many of the latter being divided into only two or three substantial holdings. The remaining 4 per cent comprised clusters of pendicles or smallholdings on which most tenants leased only two or three acres.

It is hard to be precise about holding sizes as these were given only for smallholdings. The best way of measuring the sizes of holdings is to examine the rents which they paid and relate these to the amount of land cultivated where a commissary court testament for the tenant of a particular holding survives. The relationship between rent and the amount of land in cultivation will have varied with land quality and the proportion of infield to outfield between farms. Nevertheless, where data are available, the strength of the correlation coefficient between rent paid and the amount of land cultivated ($+0.69$, significant at the 0.01 level) suggests that such differences were not of major significance. Table 1 shows that a considerable range of rents and holding sizes existed and that the tenantry were far from homogeneous. There must have been major contrasts in capital resources and status between the tenants of larger and smaller holdings. Many smallholders were part-time artisans and testaments for this group show that there was no real distinction in wealth between them and the cottars. On the other hand, at least a third of the tenancies were large enough to have required a full ploughteam, traditionally of eight oxen, while the largest holdings needed two ploughteams and a substantial labour force.

Farm structures and holding sizes, like rents, remained unchanged throughout the period under study. There was some flexibility regarding whether certain farms

⁸Dodgshon, *op cit*, pp 98-9.

⁹I D Whyte & K A Whyte, 'Regional and local variations in seventeenth-century Scottish farming: a preliminary survey of the evidence of commissary court testaments', *Manchester Geographer*, 3, 1982, pp 49-59.

¹⁰Whyte, *op cit*, pp 137-45.

were leased as single units or divided, probably depending on the availability of suitable tenants, but there was no long-term movement towards the farm amalgamation, holding enlargement, and reduction in the number of tenancies which occurred on some other Lowland estates.¹¹

TABLE I
Range of Rents and Holding Sizes on the
Panmure Estates

Rent		Approx. Acreage Under Cultivation (Scots acres)	% of all Holdings
Rolls of Grain	Money (£ Scots)		
1-5	5-20	0.5-4	34
6-10	21-40	5-8	14
11-20	41-75	9-16	9
21-40	76-100	17-36	15
41-60	101-200	36-48	15
61-100	200+	49-75	10
100+		76+	3

Continuity of tenure

The series of annual rentals allows the length of time during which tenants occupied particular holdings to be calculated (Table 2). Considerable variation occurred: 9 per cent of tenants held land for only a single year and 37 per cent for five years or less, while 39 per cent held land for over ten, and 18 per cent for more than twenty years. This indicates that elements of mobility and continuity existed within the tenantry, and the pattern is strikingly similar to those identified by Williams for the Devon community of Ashworthy and by Nalson for an area in the Pennines, both in recent times, and, apparently, under more secure conditions of tenure.¹²

A breakdown of length of occupation by holding size showed no significant tendency for particular sizes of holding to change hand more or less rapidly than the rest. Other studies have suggested that higher-lying,

TABLE 2
Length of Occupation of Holdings within
Panmure Estates 1650-1714

Years Occupied	% of Tenants
1	9
2-5	28
6-10	24
11-15	12
16-20	9
21-25	6
26-30	5
31-35	3
36+	4

more marginal farms experienced faster rates of turnover,¹³ but at Panmure there was no significant statistical relationship between the turnover of holdings and either altitude or land capability class. This probably reflects the generally favourable environmental conditions for arable farming in this area with even the higher farms in Carmyllie not being marginal for the cultivation of oats or bere. It could also, however, have been influenced by the estate's policy towards rent arrears, as will be discussed below.

One group of short-stay tenants which can be isolated were women. Most were widows who leased their husbands' holdings temporarily until a new tenant could be found or a son was old enough to take over. Their mean period of tenancy was 6.3 years against 12.6 years for all tenants, though instances did occur of widows managing large holdings for extended periods.

To what extent did the estate's leasing policy influence continuity of tenure? Surviving leases or tacks¹⁴ show that short leases for five years or less predominated until the late 1660s. There is then a gap in the sequence, and when the run re-commences in 1701 leases of eleven, fifteen and nineteen years had become normal. During the earlier period the renewal of short leases was often

¹¹ R A Dodgshon, 'The removal of runrig in Roxburghshire and Berwickshire 1680-1766', *Scottish Studies*, 16, 1972, pp 121-37.

¹² M W Williams, *A West-Country village — Ashworthy*, 1963, p 32; J S Nalson, *The mobility of farm families*, Manchester, 1968, p 66.

¹³ Nalson, *op cit*, p 199.

¹⁴ Scottish R O, Dalhousie muniments, series of leases from GD 45 18 148.

automatic; 85 per cent of tenants for whom leases survive from the 1650s and 1660s worked the holding concerned either before or after the period covered by the lease. Thus it was normal for tenants to go through at least two tacks on a particular holding and short leases did not necessarily cause a high rate of turnover. Equally, the change to longer leases later in the century did not slow down the rate of turnover.

The evidence of tenants' surnames also indicates a significant amount of continuity. The wide range of surnames on the estate makes it likely that when successive tenants of a holding bore the same surname they were related, probably father and son in a majority of cases. Most female tenants were demonstrably the widows of the previous occupants and were often succeeded by a son. About a third of all changes of tenancy involved such relationships. However, this is probably too restricted a definition of continuity. It omits instances where, for example, a son-in-law took over a holding after marrying a tenant's daughter. As will be discussed below, it can also be shown that in one barony at least nearly half the sons who followed their fathers into farming did so within the same barony but on a different farm, something which cannot be distinguished from rentals without supplementary evidence from parish registers. Continuity of farming on the estate within individual families was thus an important element in tenant society.

Tenant mobility

The rentals also allow tenant mobility within the estate to be studied. Between 1660 and 1710, out of nearly 700 tenants in the five baronies, only 16 per cent can be identified moving from one farm to another. This figure underestimates geographical mobility as it does not include Panmure tenants who moved to other estates or farmers who migrated into the estate. However, figures for individual baronies allow us to come closer to real levels of

mobility. Kelly had the highest proportion of geographically mobile tenants, with 27 per cent moving internally or to and from other baronies. Kelly was located on the coast and was bordered by other Panmure baronies on a substantial part of its landward perimeter. Given the limited distances over which migration to new farms occurred (see below), it is probable that this figure does not greatly underestimate the total movement of tenants and that overall about a third of the Panmure tenants made a migratory move of this kind during the period under consideration.

With the farm structures which existed, many tenants were able to alter the amount of land which they worked without moving to other farms. One option was multiple leasing, where a man leased all or part of a neighbouring, separately-named farm in addition to the land which he already held. On multiple-tenant farms a tenant could increase his share of the farm. Equally, a reduction of holding size could be effected by relinquishing land held on an adjoining farm or reducing the share of a multiple-tenant farm. Such non-migratory means of changing holding size formed an important proportion of known alterations in tenants' operations. Multiple leasing accounted for 39 per cent of changes against 33 per cent for migration and 28 per cent for increasing or decreasing the share of a multiple-tenant farm. The balance between migratory and non-migratory options varied with the farm structures and range of holding sizes within particular baronies. In Kelly a high proportion of the farms were single-tenant ones, and here multiple leasing accounted for 62 per cent of all changes. In Downie, where many single-tenant farms were very large, there was less scope for multiple leasing or engrossing and migratory moves made up 58 per cent of changes in holding size.

The importance of changes in holding size which did not involve migration by the tenant may indicate a desire to minimize risk. Multiple leasing and engrossing involved

expansion from a base of land whose qualities were known and working with familiar neighbours. A move to another farm might increase the risk of failure by requiring the tenant to work land whose qualities had not been assessed personally as well as co-operating with comparative strangers.

When tenants did move to other farms the distances involved were short. Seventy-six per cent of all moves were under 5 km, 54 per cent under 3 km, and 70 per cent of moves occurred within baronies rather than between them. The restricted horizons of mobility are also shown by surviving leases which give the origins of incoming tenants. Only 14 per cent of the leases were granted to farmers from outside the estate and 69 per cent of these 'outsiders' came from farms on estates within the same parish as the Panmure farm to which they were moving. In such instances the parish minister would have been able to vouch for the character of the tenant, who would probably also have been known to the Panmure factor responsible for allocating tenancies. Most Panmure tenants seem to have originated within the estate, whether from existing tenant families or other groups, while most incomers came from within a narrow radius.

The rentals provide an over-view of geographical mobility among the tenants but more detail can be obtained by comparing them with data from other sources. For Downie barony the origins of tenants can be explored using the register of Monikie parish, in which the barony was located, which is virtually complete from the early seventeenth century, listing baptisms, the calling of banns, and marriages though, unfortunately, not burials.¹⁵ If tenants who entered holdings in Downie between 1670 and 1714 are examined it is possible to check whether they had been baptized in the parish and to compare the origins of larger tenants and smallholders with a sample of cottars.

Only 28 per cent of tenants leasing holdings after 1670 could be traced in the baptism register. However, 40 per cent of tenants taking on holdings paying over twenty bolls of grain had been baptized in Monikie against only 21 per cent of smallholders paying five bolls or less and 20 per cent of cottars. Of the tenants leasing these larger holdings who had been baptized in the parish 82 per cent had fathers who had been Panmure tenants, though not necessarily on the same farms. Forty-six per cent of the men who followed their fathers as Panmure tenants in Downie barony did so on different farms. Only 14 per cent of smallholders were the sons of Panmure tenants. This suggests that when holdings were leased to men from within the estate the larger ones usually went to men with tenant origins, while smallholdings were more frequently occupied by men from non-tenant backgrounds.

So 60 per cent of the men taking on substantial holdings in Downie had not been baptized in the parish. The entries in the parish register indicate that some of them were already married when they moved into the parish and may have been established farmers from neighbouring parishes. In cases where a tenant had no baptism record but his father had been a Panmure tenant then a move of this kind had probably occurred a generation earlier. Many of the incomers were probably tenants from other Panmure baronies but it is impossible to demonstrate this as the registers of the appropriate parishes are deficient.

Socio-economic mobility

It has already been shown that the patterns of farm structure and holdings on the estate provided a range of holding sizes from pendicles to ones with 80 or more acres under crop in any year. Within this framework, how much socio-economic mobility occurred within the tenantry in terms of movement to larger or smaller holdings? This can be answered by examining the

¹⁵ Scottish R.O., Old Parish Registers, Monikie parish, OPR 311 1-3.

change in holding sizes shown in the rentals. If holdings are divided into the seven size categories shown in Table 1 then 56 per cent of all increases in holding sizes did not involve a tenant moving into a higher size category and are unlikely to have involved marked changes in the socio-economic position of the tenant involved. Only 12 per cent of all tenants showed marked upward social mobility by moving into a higher class of holding size, whether by migration or other types of adjustment. There was a good deal of small-scale adjustment within the individual size groups, and geographical moves tended to produce more marked upward changes of holding size than non-migratory alterations. Significant downward socio-economic mobility was even less common. Most farmers finished their period of tenancy leasing a holding of more or less the same size as when they started, suggesting that the various levels of the tenantry were substantially self-recruiting and that despite the range of holding sizes the idea of a 'farming ladder' had only limited applicability.

The difficulty of upward socio-economic mobility within the Panmure tenantry can be appreciated by examining the resources needed to stock holdings of a given size. This can be done using commissary court testaments.¹⁶ The total value of farming stock, including livestock, crops and implements, was abstracted for a sample of sixty-five tenants and sixteen cottars. The mean value of farming stock for cottars, £91 Scots, was not materially different from that of smallholders paying under five bolls (£100 Scots). This explains the ease of movement between the cottars and the lowest level of the tenantry noted previously. Above this level, however, the mean value of farming stock increased rapidly. Tenants paying between twenty-one and forty bolls of grain required seven times as much capital to stock their holdings, tenants of the largest

holdings fifteen times as much. Given this scale of difference it is not surprising that few tenants in the two lowest size categories rose to acquire one of the largest holdings. The amount of capital needed to stock the latter suggests that inherited wealth must have been important in determining who was in a position to lease the larger holdings.

It is possible to make some assessment of downward mobility from the tenantry to the lower levels of rural society in Downie barony by comparing names of tenants with those of people who received money from the parish poor fund.¹⁷ Between 1660 and 1714, out of 118 tenants only twelve received any poor relief. Nine cases involved smallholders; only three tenants of larger holdings came onto the poor list after relinquishing their tenancies and only one received money on a regular basis. It was thus uncommon for tenants to sink to this level.

Stability and crisis in tenant society

Many features of tenant society at Panmure were clearly stable throughout the period under consideration, particularly the nature and level of rents, farm structures and holding sizes. Within this framework, how vulnerable were tenants to short-term economic fluctuations? Some indications can be gained from studying the turnover of holdings, levels of rent arrears, and grain prices.

An analysis of the testaments of Panmure tenants mentioned above shows that they operated with very slim reserves. If the debts owing to and by tenants at their deaths are related to the value of their farming stock, 78 per cent had a net deficit which, had all the debts been called in at once, could only have been met by selling the livestock, implements and grain. In 13 per cent of the testaments the debts owed by the tenants exceeded the combined value of debts owing to them and farming stock, while only 10 per

¹⁶ Scottish R O, CC Series, Brechin commissary court records.

¹⁷ The parish poor records are interleaved with the parish register, *op cit*.

cent had a credit surplus which equalled or exceeded the value of their equipment. This implies that tenants may have been highly vulnerable to short-term crises such as harvest failures. On the other hand, a high proportion of the debts owed by most tenants consisted of rent arrears, and much of their security or vulnerability would have depended on their landlord's attitude towards arrears. There are indications of an important element of what can be seen as paternalism, shown, for example, by the readiness to enter widows into their husbands' holdings, and by the way in which tenants were allowed to continue working a holding and even have a lease renewed despite substantial rent arrears. Estate policy seems to have been to keep tenancies filled as far as possible even when the rent could not be paid immediately. Instances of holdings not being cultivated due to the lack of suitable tenants were rare.

While the financial weakness of the tenants may have encouraged a flexible attitude towards arrears by the earls of Panmure the system also reinforced the farmers' dependent position. While most rents were paid in grain, arrears were charged at a money equivalent. Undelivered grain was charged against the tenant at the market rate for that particular year. Thus, after a poor harvest when prices were high, tenants accumulated heavy arrears which they had to try and pay off from surplus production in good years when prices were low. It might have taken several years to write off arrears accumulated after one bad harvest.

While the survival of such rent structures into the eighteenth century in Lowland Scotland may be attributed in part to inertia and a lack of economic growth, the system may also have been a method of social control which prevented tenants from accumulating enough capital to enter the land market. A recent study of land ownership in Forfarshire during the late seventeenth century has emphasized the absence of any 'peasant' land market and

stressed the ability of the nobility and shire gentry to remain exclusive groups capable of resisting penetration of the land market by outsiders; for example, by urban burgesses.¹⁸ Such rent structures may have helped landowners to distance themselves from their tenants by maintaining the gulf between proprietor and tenant as the greatest single division within Scottish rural society. The existence of large sums in arrears may also have enabled proprietors to borrow money more easily, while the arrears themselves gave them direct control over their tenants.

The prices paid by Dundee and Montrose merchants for Panmure oatmeal (Fig 2) give a general indication of the quality of harvests in the second half of the seventeenth century, though conditions for individual baronies and farms may well have varied. The trend of prices corresponds broadly with those for eastern Scotland as a whole, with generally low prices from the 1660s through to the 1690s and then a sharp increase reflecting a succession of poor harvests which brought widespread famine conditions.¹⁹ The pattern of rent arrears correlated highly with prices ($+0.72$, significant at the 0.01 level), though even during the period of generally low prices between 1660 and 1695 some arrears still occurred in all baronies in each year.

The crisis of the later 1690s affected all tenants, though in Carmyllie, where rents were paid in money, the increase in arrears was much lower proportionally than elsewhere. Whatever the social and demographic effects of the harvest failures, the economic crisis was prolonged. Arrears began to build up rapidly after the first sharp rise in prices following the harvest of 1696, but although prices fell after 1701, arrears remained at far higher levels than during

¹⁸ J. McFaulds, 'Forfarshire landowners and their estates 1660-90', unpublished PhD thesis, Univ Glasgow, 1980, p. 239.

¹⁹ R. Mitchison, 'The movements of Scottish grain prices in the seventeenth and eighteenth centuries', *Econ Hist Rev*, 2nd series, 18, 1965, pp. 278-91.

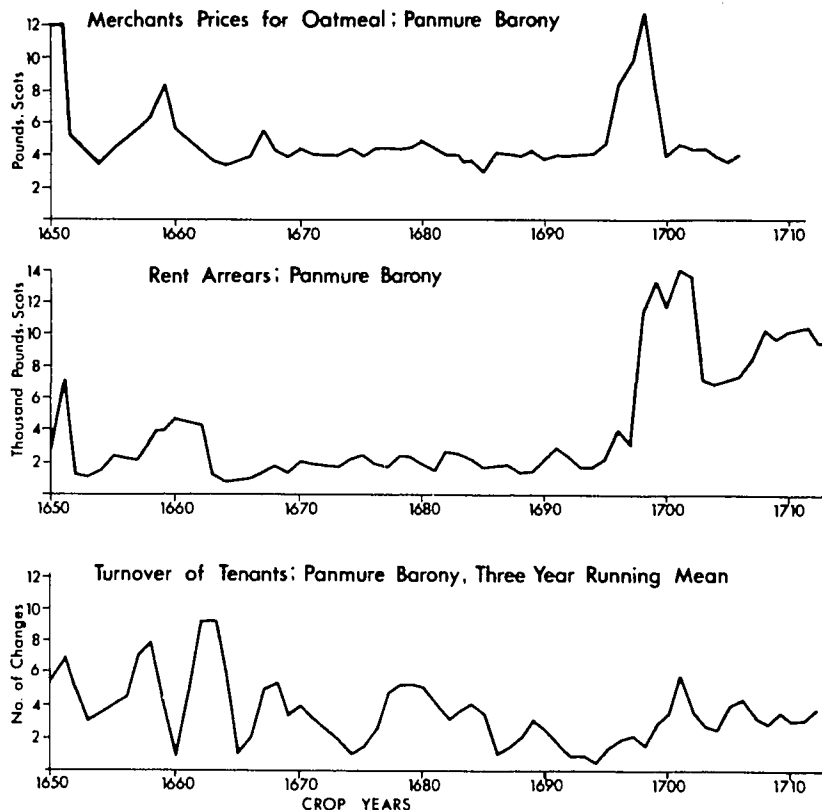


FIGURE 2

most of the second half of the seventeenth century until the data for most baronies terminate in 1714. In Kelly, where the series continues into the 1740s, arrears peaked at about twelve times the 1695 figure but remained at around nine times this level until 1711, after which they fell slowly, though without returning to late seventeenth-century levels. As late as 1717 the barony accounts list arrears specifically for 'crop 1699 and before' and sums of money described as 'old rests' were listed separately through the 1720s and 1730s, gradually diminishing, in all probability, as tenants died off rather than as debts were repaid.

To what extent were economic fluctuations reflected in the rate of turnover of the tenants? There was virtually no correlation between the annual turnover of tenants and levels of arrears for the same crop year. Correlations between arrears in any crop

year and turnover in the succeeding two, three or four crop years were only very weakly positive, and were not statistically significant, suggesting only a slight time lag effect. Difficult economic conditions do not seem to have led to a markedly increased turnover with bankrupt tenants relinquishing their holdings. A notable feature is that there was no sudden rise in turnover during the late 1690s. Along with the fact that no farms were left untenanted, this indicates that no matter how indebted tenants became they were not displaced. Farms continued to be occupied and when a holding fell vacant a new tenant was found. The period from 1696 to 1701 is indeed characterized by relatively low rates of turnover. With the crisis being so widespread there may have been little incentive for tenants to move elsewhere, while the factor may have been unwilling to allow tenants to move to other estates as this

would have made the recovery of arrears more difficult. Only around 1702 was there a rise in turnover, but overall from 1696 to 1702 the turnover of tenants was only marginally higher than for 1689-95. While it is difficult to assess the effects of such crises on the morale of tenants they did not lead to large-scale displacement.

Conclusion

This paper has merely introduced a largely unexplored topic. Nevertheless, tenant society on one Scottish estate has been shown to have been more complex than previous models have allowed for. There was more continuity of occupation of holdings than expected and the prevalence of short leases did not necessarily in itself cause high levels of turnover. Some interesting contrasts in mobility patterns among the tenantry existed, however, and further investigation of the demographic background to farming, such as age at first marriage and first tenancy, and life expectancy, may help explain them. Tenants were geographically mobile but on a more limited scale than expected and over shorter distances: their responses in changing the sizes of their holdings seem to have been essentially cautious. Tenants may have formed a comparatively stable element within rural society, being less mobile than cottars or farm servants, but the relationship between these groups and the tenantry requires clarification to determine to what degree they were linked by life and labour cycles: for example, whether it was common for sons of tenants to work away from home as farm servants before acquiring their first holding. The Panmure tenantry was more markedly stratified than might have been expected, but there was only a moderate amount of socio-economic mobility within the farming community and little indication of the existence of a farming ladder.

The contrasts in the amount of capital investment required to stock holdings of

different sizes suggest that it may have been hard to build up the resources required to work one of the larger areas, other than by inheritance, reinforcing the idea of continuity and limited social mobility within tenant society. Patterns of debt, credit and capital accumulation within tenant society require further study. Limited socio-economic and geographical mobility, and the restricted participation in the market system implied by rent structures, indicate that the responses of tenants are likely to have been cautious and conservative. While their limited capital reserves may have rendered tenants potentially vulnerable to short-term economic fluctuations, they were protected by a system of estate management which simultaneously granted them reasonable security of tenure while reinforcing financial insecurity through a rent system which discouraged profit and worked against capital accumulation.

The crisis of the late 1690s, while undoubtedly severe, was not unique. It has been suggested that the demographic effects of the famine of 1623, which by comparison is poorly recorded, may have been far greater.²⁰ However, the pattern of arrears following the late seventeenth-century crisis highlights the problems faced by tenants. It is not difficult to appreciate why commercial efficiency in agriculture should have been so low and innovations difficult to introduce. Tenants were caught in a vicious circle which could only be broken by alterations in rent structures, more direct participation in a market economy, and greater capital accumulation. The existing system ensured that when prices were low, as between the 1660s and mid-1690s, tenants could accumulate little capital, whereas when prices were high they built up debts which could wipe out the marginal returns from several favourable harvests. Changes in this system were introduced only gradually during the eighteenth century. It must be emphasized

²⁰ M. Flinn (ed), *Scottish Population History*, Cambridge, 1977, pp 119-26.

that while this study of a single estate may have some general validity for arable areas of eastern Scotland, particularly north of the Tay, different farming economies, different farm and holding structures, and different estate management policies could have

produced contrasting conditions within the tenantry, greater capital accumulation and different responses to economic change. It is hoped that further research will shed more light on some of the questions which have been raised here.

Notes on Contributors (continued from page 158)

DR IAN WHYTE is a lecturer in Geography at the University of Lancaster. His interests include agriculture, social structure, population and economic development in Scotland from the sixteenth to the eighteenth centuries. He is the author of *Agriculture and Society in Seventeenth-Century Scotland* and the editor, with G Whittington, of *An Historical Geography of Scotland*.

DR KATHLEEN WHYTE is an Administrative Officer at the University of Salford and Honorary Research Fellow in Geography at the University of Lancaster. She is currently working on a study of population mobility and migration in seventeenth- and eighteenth-century Scotland.

PETER RIPLEY is Head of the Department of Humanities and Social Service at Brunel Technical College, Bristol. His main interest is the history of the early modern town. He has had several articles on Gloucester published in the *Transactions of the Bristol and Gloucestershire Archaeological Society*, and he is currently preparing a calendar of the freemen of the city for the years 1653-1838.

J M MARTIN, a former lecturer in economic history at the Universities of Bath and Belfast and at the Middlesex Polytechnic, has just completed a year as education archivist in the Gloucestershire Record Office. He has recently completed studies of the Vale of Evesham gardeners, and of Bedworth, a Warwickshire weaving and mining community. He is currently studying agricultural innovation and rural protest 1815-50 in Gloucestershire and neighbouring counties.

MS H M E HOLT is a postgraduate student in the Department of Geography, Exeter University, and is currently completing her thesis on upland farming in northern England, *circa* 1840-1880. The focus of this research has been on the role of farmers, as opposed to landlords, in bringing about agricultural change in the uplands. It has included an analysis of regional differences in farmers' financial resources, and an examination of the consequences of their inheritance practices for farm management and agricultural investment in the uplands.