Business and Social Mobility into the British Elite 1870-1914

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Abstract

This paper tests the claim that business stimulated general social mobility into the British elite during the heyday of the laissez-faire Victorian economy. It also investigates an alternative hypothesis that the 'rise of the professions' was the main driver. Intergenerational mobility into the elite was indeed higher among those with manually employed fathers working in business than among the non-business elites in Britain between 1870 and 1914. In addition two potential influences on mobility, education and religion, varied significantly between the classes. Educational divergences reflected the different markets at which those upwardly mobile in business, the professions and the civil service were aimed. Religious variations mirrored class position without independent effects on mobility. Despite a positive business contribution, mobility from the sons of manual workers was extremely low. Availability of capital was a key, not only for elite entry through business, but also for the formal education that determined access to the professions.

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In a business-dominated society entrepreneurship supposedly ensures that the elite is forever changing, 'recruited from below' (Schumpeter 1961; 156)[1]. The process is driven by the growth and decline of firms and by entry and exit from their industries. As more productive businesses expand and the less productive contract, new business leaders emerge and economic growth is maintained (Lansbury and Mayes 1996). More rapid economic growth may also be accompanied by greater mobility into the elite (Hassler and Rodriguez Mora 2000). Conversely any failure of business vigour can contribute to social rigidity. Low or falling social elite mobility may lead to a stagnation of ideas and attitudes, a deterioration in the quality of society's leaders, retarding economic growth and development (Pareto 1935; Brezis and Crouzet 1999).

Society consists of a great many more players than business though. Politicians, bureaucrats, professionals, rentiers, workers, all promote or discourage social mobility and growth. The British economy between 1870 and 1914 was a unique combination of free enterprise market relations superimposed upon traditional land-owner politics[2]. According to one contested view, a landed class supposedly promoted gentry values throughout society, particularly embracing those upwardly mobile through business, and sapping their economic vitality (Wiener 1981, Rubinstein 1993, Thompson 2001). 'Gentrification', on this interpretation, involved ossification of the elite.

In the same period and sometimes for this reason, the family firm has been charged frequently, albeit inconclusively, with conservatism and retarding the development of the British economy (Payne 1978, Rose 1994). Top management positions in family firms were allocated by virtue of birth rather than competence, slowing elite 'circulation'. Entrepreneurial career paths were becoming less common in the later nineteenth century (Miles 1993 Table 2.7)[3]

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[1] Joseph Schumpeter's *Theory of Economic Development* was first published in 1911.

[2] For example ' Much like the characterizations of competitive industries that one finds in today's microeconomics textbooks, Britain's major nineteenth century staple industries … were composed of numerous firms with small market shares.' (Elbaum and Lazonick 1986 3)

[3] Harold Perkin also asserts that social mobility through business was becoming more difficult.' For some such as the bank, insurance and commercial clerks, the ladder might lead to branch management or even a partnership , though this was becoming increasingly rare for those without capital or connections' (Perkin 1990 98)

At the same time Britain began to experience 'the rise of the professions' in both private and public sectors, where competitive exams rather than preferment became increasingly important. British professionals, outside the civil service and the Churches, were distinguished both by their self-employed status and by belonging to organisations with strictly defined admission criteria (Lengyel 1999). Greater social mobility was possible because of the stronger demand for the services of these people (Perkin 1990 Table 3.1 80). Meritocratic professions then, rather than business, may have been the principal driver of new entrants to the elite.

The present paper adjudicates between these opposed views of social mobility ('Schumpeter' versus 'Perkin' in shorthand) into the British elite in the later Victorian and Edwardian periods. In so doing it uncovers some of the sources and constraints upon social success for those not born into the upper echelons of society. The following section (1) outlines the relevant elements of British social structure in the late Victorian period. Section 2 discusses the measurement of social mobility in the current context. Section 3 describes the data used to address the two views. The results are analysed in section 4.

1. British Social Structure 1870-1914

Peter Temin (1999) identified the political and business elites in the U.S. as those at the top of their respective ladders. By contrast, supposedly there was one 'society' in the less federal, late nineteenth century Britain; the rich, the powerful and the exceptionally successful (Perkin 1990 63). The upper ranks of the business community were fully assimilated with the aristocracy (Cassis 1994 xviii). A measure of the integration of British business and social or political elites is that one half of all railway chief executives recruited in this period were knighted (Gourvish 1973).

For the nineteenth century and earlier, property and in particular land ownership rather than occupation, was more fundamental to status especially to the upper strata of society. The social position of the traditional, non-business, elite was based upon land (for example Pollard 1989 esp.228). Their distant roots lay in the fixed agricultural area owned by a few wealthy people, lords, who controlled the State (for example, North, 1990; 96). Even after the disappearance of serfdom, a small number of land-owners maintained their wealth over generations in Britain by primogeniture, or alternatively, by ensuring that 'wealth' married 'wealth', reducing the dispersal of assets passed on to more than one child.

> 'The extreme inequality of Victorian income and wealth was rooted in the special economic and political dominance of the English landed aristocracy. ...In England and Wales in 1873 the most landed 5 per cent held 79 per cent of all real-estate value. Of the countries for which we have comparable early data on landownership, only Mexico in 1923 yielded figures showing such concentration.' (Lindert, 1994; p.378).

Education at 'public' schools (by contrast with private tutors) ensured the transmission of values and skills that would avoid dissipation of wealth and authority (Sanderson, 1999). Effectively disinherited younger sons received employment by the British state in the armed and civil services and the Church (of England)[4]. The two ancient English Universities were traditionally focussed on providing personnel for the established Church. 'Until the 1870s more than 60 per cent of the graduates of Oxford and Cambridge became Anglican clergymen' (Rubinstein, 1993 98). Around this ruling class grew up a professional elite based more upon merit, especially in law. Landowners were the natural recruiting ground for the British elite but they needed competent support from outside their ranks as well.

The state responded to pressures for greater national efficiency. Competitive exams for the civil service were introduced between 1855 and 1870 to replace patronage. Purchase of cavalry and infantry commissions was abolished in 1871. Increased public expenditure on education gave greater access to investment in human capital despite an absence of inherited wealth and powerful family connections. Between 1850 and 1859 public expenditure on education grew more than six times- admittedly from a very low base- and numbers of (elementary) schools increased by one quarter. The 1870 Education Act established School Boards, financed from rates, with powers to make education compulsory within their areas (Curtis 1967 249-267; Mitch 1986).

These changes may be expected to have increased opportunities for the talented, born into less well-resourced social strata, quite independently of the progress of business and entrepreneurship. In western Europe as a whole, where state intervention was more pervasive, business elites apparently did become more open than the American business 'leaders' class (Kaelble, 1980).

The business elite may be divided into three groups; founders of firms, inheritors of family businesses and independent professional managers. Each of these offered different opportunities

[4] When Lord Randolph Churchill died aged 46 in 1895, his wife had nowhere to live although his elder brother was Duke of Marlborough, inheriting the estate of Blenheim Palace. His son, Winston Churchill, was obliged to earn a living in the Army and as a war correspondent.

for mobility into and out of the elite. A fourth category who worked in business is employees who made their way into the elite by other means than direct control of business, such as trade union leaders.

Founders of firms do not necessarily possess a monopoly of entrepreneurship in the broadest sense, which must also embrace the activities of innovative professional managers and family firm owners. In a competitive market economy survival and success of both professional managers and family firm owners usually requires innovation. A thorough examination of the Schumpeter doctrine of social mobility therefore ideally requires consideration of the differential effect on mobility into the elite of the three types of businessmen.

With less than perfect capital markets, a potential firm founder's access to capital, may be restricted to what family and friends were able and willing to supply. Social mobility through business then depended on two factors; how much equity capital was needed to found a business sufficiently successful to propel its owner into the national elite, and, how available that capital was to the lower social strata. Owners of large family firms, inheritors of their capital, were a drag on social mobility but competition ensured they would be less so than landowners. Their opportunities for downward mobility, as their business declined, were much greater.

Figure 1 offers a classification of the elite and their relation with other social strata. The 'elite' are balanced on top of the 10 classes from which they are selected in the Figure. Broadly interpreted, the two mobility views cover the possibility of arrival at 'the top' from all social strata; this is our concern, with only one destination category, the elite, but with all the origin groups of the Figure.

[Figure 1 near here]

Consistent with both 'the rise of the professions' and the Schumpeterian view of business, there is now firm quantitative evidence of rising (occupational) mobility in later nineteenth century Britain (Miles 1993, 1999 ch. 3). The entry of *nouveau riche* businessmen into elite circles in late Victorian Britain was also widely noted (for example Perkin 1990 64-6). Yet this observation is compatible with very little mobility for most social strata. So also is David Jeremy's (1998) survey that concludes from the industrial revolution and for much of the twentieth century British

business leaders originated from the middle and professional classes. Climbing a business ladder from rags to riches was rare in Britain, in the rest of western Europe and in the United States[5].

There was more scope for mobility from employee to employer in a dynamic industry. A survey of Lancashire textile towns just before the first world war showed 76% of managerial respondents in weaving and manufacturing firms were first generation, having originated from the 'operative classes' or classes with comparable earnings (Chapman and Marquis 1912). But these were small firms, not headed by members of the elite. Continuation school data from the same area and period showed that father's occupation was always the most common occupation of sons (Chapman and Abbott 1913).

What evidence there is of professional mobility suggests the legal profession was even less favourable than big business. Of 431 barristers admitted to Lincoln's Inn between 1886 and 1893 none had fathers in the skilled or unskilled 'wage earning' classes. The same was true of 76 'Benchers' of the Middle Temple between 1886 and 1912 (Ginsberg 1929).

2. Measuring Social Mobility

Later twentieth century analysts of social mobility typically chose occupation as indicators of class[6]. Measures of social mobility have therefore summarised the chances of movement of sons from fathers' occupational status. A common approach has been to construct a matrix, the rows of which are fathers in different classes and the columns are sons in the various classes. A single cell of this array is the number of sons in class i with fathers in class j. A 'transition probability' is the chance of a son being in class i given that the father was in class j. Perfect mobility pertains when the rows and the columns are independent; when the chance of a son being in a given class is independent of the father's class position. Lack of independence can be analysed with log-linear models that allow a comparison of actual and predicted cell frequencies.

Considering the origins of member of a particular social class or group is less complex than that of every social stratum. The second requires an interpretation of a matrix of movements between categories- over time or between groups- whereas the first needs only the investigation of a single column of changes. Even simpler is the analysis of movement between only two classes,

[5] Nonetheless upwards social mobility became a central part of the Victorian business myth, driven by Samuel Smiles writings (Miles 1999, 1).
[6] For example Goldthorpe (1980) and Erikson and Goldthorpe (1992).

such as ’being in the elite with a landowner or company director father ’ and ‘being in the elite without a landowner or company director father’.

As already noted, social mobility has usually been measured by the chances of originating in one class and ending up in another. Peter Temin (1999) has pointed out that, where analysis of elites is concerned, the small size of the group compared with others- such as all manual workers- means that the transition probabilities are extremely small. He therefore maintains that there is a case for considering instead the chances of originating in a particular social group and being in the elite. The relation between this measure and the more conventional index depends on the relative sizes of the social group in question and the elite, being determined by the inverse probability rule.

In the present paper we follow Temin. One consequence is that those factors influencing the probabilities of interest pertain to elite members, not to the population as a whole. A concern is the influence of business or other occupation upon the chances of someone in the elite originating in a certain class. This is not the same as the influence of business or other occupation upon the probability of a member of a certain class joining the elite. Again, the relationship between the two depends upon the relative proportions of those from the class of interest employed in business and those in the elite in a business occupation (see Appendix A).

Isolating other contributory factors (say secondary education) to social mobility necessitates distinguishing between two groups. The first is those now in the elite, who originated in class i, working in business. The second is those in the same category but who arrived where they did because of, say, receiving secondary education, not because business proved an effective means of climbing the social ladder.

In late Victorian Britain secondary education was rare (because state supported education was in effect restricted to primary) but predominant in the elite. Few sons of manual workers in the population as a whole received secondary education. But if secondary education were an independent contributor to mobility into the elite we would expect a considerably higher chance that sons of manual workers in the elite would have it. However we consider the related probability of sons of manual workers in the elite, not in the population as a whole, receiving secondary education. Once more the relationship between these two probabilities, from the inverse probability rule, depends on the relative sizes of the two groups, members of class i with business occupations and secondary education, and members of the elite with business occupations and secondary education.

A simpler way of presenting the tests permitted by a series of cross-tabulation is in a logit equation. This equation has the additional advantage of estimating the effect of continuous as well as categorical variables on the chances of moving between two classes. From a logit equation can be inferred equation (1) below.

$P_{i0} = f(B, Zi)$ …(1)

where P_{i0}, the probability of any elite member i originating in the group 0 (for example 'without a landowner or company director father') depends on business occupation or not (B) and Zi,, a variety of other factors that influence the chances of being in the elite[7].

Separation of the various effects on the probability P_{i0} allows discrimination between a pure 'businessman' effect on mobility (B), and the use of business as a channel for mobility by specific groups. In equation 1 the Zs may include for example secondary education (Z_1 say). If the businessman category is still statistically significant when Z_1 is included then the null hypotheses that there is no independent business effect can be rejected; more informally, there is an independent 'business effect'. Conversely, if secondary education is relevant to social mobility even after the impact of business has been controlled, a genuine education effect has been established.

Z_1 in equation (1) can have both, or either of, a direct and an indirect impact The indirect route is that education may influence the choice of a business career, $B = B(Z_1)$, and the choice of a business career may influence mobility.

In addition a full investigation of the business and mobility hypothesis requires a disaggregation of different types of business occupation; founder, owner and manager for instance may each exercise a different effect on mobility.

The analysis can be extended to cover a more detailed classification of the social origins of those moving into the elite. Perhaps members of the elite with manual worker fathers were entirely different from all others and a three category version of equation (1) should be estimated.

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[7] **T**he function, f, that links the probability of being in one category rather than another to explanatory variables, is assumed to be cumulative logistic. That is;

$P_{i0}=e^{\beta X i}/ (e^{\beta X i} +1)$ …..(2)

It follows that

$\text{Log} (P_{i0}/(1- P_{i0})) = \text{Log} (P_{i0}/P_{i1})= \beta X_i$ …(3)

The log of the 'odds ratio' in (3) is a linear function of Xi. It is apparent from the functional form of (2) that the parameter estimate, β, is not the same as the change in the probability of being in the elite with a landowner father in response to a small change in X. This marginal effect varies with the value of X, because the cumulative logistic function (2) is non-linear.

Parameters are then obtained for two sets of log odds ratios (log (P_{ij}/(1- P_{ij}))); for those in the elite with manual fathers relative to those with landowner or company director fathers, and for those in the elite with non-manual, non-landowner and non-company director fathers relative to the same reference group[8].

Turning to the independent variables to be included in the estimating equation and their expected signs, both more and larger companies and an expanding civil service created greater opportunities for a bureaucratic career in the later nineteenth century. These careers are correlated with greater mobility in Andrew Miles' (1993) data. On the one hand business may have been less conducive to social mobility generally because access to capital was rationed according to what could be provided by friends and family. On the other, mobility through the professions or the civil service may have been restricted to those whose families could raise the money for an elite education (cf Rubinstein 1986 192). State initiatives could have left a smaller role for patronage but again it is not clear which group, business or the professions, would be the principal beneficiaries.

The distinction between markets and hierarchies in selecting and rejecting people for reward does not exactly correspond to business and non-business. Both businesses and professions were obliged to sell their services but the market for the first could be more impersonal than for the second. The sign on 'business' is positive according to the Schumpeter hypothesis and negative on that of Perkin, but may differ between origin classes.

Four broad categories of non-business or occupational variables (Zi) that might explain or be associated with mobility into the elite are education, religious denomination, political participation and father's wealth. A category may merely reflect the class origin of the elite member; landowners' sons are likely to attend public school and sons of manual workers will not. Or they may capture something distinctive relative to the elite about the individual. In addition

[8] The multinomial logit model in this case is
$P_{ij} = e^{\beta X i} / \Sigma_j e^{\beta X i}$, j=0,1,2 ….(4)
The marginal effects are
$\phi = \partial P_j / \partial X_i$, j=0,1,2
where P_j is the conditional probability of having a father in class j and being in the elite. It can be shown that
$\phi = P_j(\beta_j - \beta^*)$ where $\beta^* = \Sigma_{j=0}^{j=2} P_j \beta_j$
Thus the coefficients estimated in this model may have different signs from the marginal effects in which the principal interest lies (Greene 1995 916). For this reason, only marginal effects are reported below.

slow social changes such as the diffusion of education or literacy might be measured only by a time variable, the date of birth of the elite member[9].

During the nineteenth century religious denominations were among the more observable sub-cultures and were not rationed or distributed in the population in the same way as education. So for example membership of the Church of Scotland is an approximate identifier of Scots in the British elite[10]. Religion may differ between business and non-business and be the real determinant of social mobility. Religion could exert an influence through information and credit networks; Scottish Free Church families were prominent in Scottish shipping, shipbuilding and marine engineering industries, and spread their economic activities far beyond the Scottish borders (Moss and Slaven 1998 84). Or a religion may encourage particular dispositions; for Martin Wiener (1981 111)

'…one can almost speak of a consensus of gentry values and attitudes held in Anglicanism from Right to Left.'

If so the spread of a religious denomination through society, or a section of it, in particular business, can be a cultural component of an explanation for mobility.

Father's wealth almost certainly affects the chances of being in the elite because it is an alternative definition of class position. Manual workers are less likely to bequeath sufficient wealth to appear in the records, so the variable would restrict the data set, though for the remaining cases greater wealth reduces the chances of being in the elite with a manual father**.** While this is obvious, the point of including the variable is as a control rather than for its own sake**.** For those with upper class fathers, (9 and 10), the opposite argument applies and a positive coefficient is expected. The variable also provides one simple measure of capital access.

Political participation might be thought an essential qualification for entry to the elite. But politics is a time-consuming occupation that must detract from other career concerns. So again possibly the sign will differ between origin groups.

[9] Tom Nicholas (1999) examines the relationship between similar variables and a measure of entrepreneurial performance based on the ratio of wealth at death to inherited wealth. This study restricted to business, unlike the present one, is not concerned with social mobility, though accumulating great wealth would no doubt be conducive to upward mobility. Moreover his performance measure is undefined for those who inherit nothing, as would be typical of those with manual occupation fathers, one of the concerns here.

[10] The measure excludes Scottish Episcopalians and Roman Catholics though. In 1690 the Scottish Presbyterian Church was 'established'.

3. The Elite Data Set

The Perkin-Rubinstein 'British elites' data set (SSRC 1977) permits a detailed investigation into differences and similarities between those working in business- manufacturing and commerce (including finance)- and other members of those identified as 'the elite'. A subset of those elite members who died before the First World War (575 individuals) has been created (see Appendix B). The data have been extended to identify where possible those members of the elite who founded a business, on the grounds that this was clearly an entrepreneurial activity of central concern in the Schumpeter hypothesis, whereas family firm managers may be less vital. Those in business are identified by their first or second occupation being in manufacturing or commerce.[11]

With reliance on family, and very little compensation by the State for low family endowments, the data confirm that late Victorian Britain was certainly no model of perfect mobility; there are no sons with unskilled or semi-skilled manual worker fathers in the elite. As late as 1911 the unrepresented unskilled and semiskilled manual group accounted for almost half of the population (44%) (Jeremy, 1998; p.383). However some with skilled manual fathers did manage to enter the ranks of British elite while working in business.

Table 1: Father's Occupations of Members of the British Elite
Business versus Non-business

Father's occupational class	Percentage of the business elite sample	Percentage of the non-business elite sample	Whole elite sample
Manual (1-4)	5.9%	1.5%	3.1%
Middle class (5-8)	28.4%	49.7%	41.7%
Upper class (9-10)	65.7%	48.8%	55.2%
Upper class (non-landowner) (9)	60.7%	8.0%	28.0%
Landowner (10)	4.9%	40.8%	27.2%
Subsample total Shares of total elite sample	37.8%	62.2%	100%-

Source: calculated from the modified Perkin-Rubinstein dataset.

In accordance with the Schumpeter hypothesis, Table 1 shows that a higher proportion of the elite who worked in business (5.9%) had skilled manual fathers and manual and non-manual

[11] Rather than in Agriculture, the Professions, Services or Public Administration and Defence.

supervisory fathers (30 per cent of the population) than did the elite with other occupations (1.5%) (χ^2 = 8.01, p=0.4%). Even if Trade Union leaders are removed from the sample, the proportions are still 4.0% and 1.2%. On the other hand, class 5 (lower professional fathers) was well represented in the non-business elite compared with business. So overall the middle class-originating members of the elite arrived there because of non-business connections - contrary to what might be expected from the Schumpeter doctrine and consistent with Perkin's 'professionalisation'.

How much did differential access to capital by family background affect the chances of mobility into the elite through business? With the extreme exception of landowners, there is little variation in Table 2 between class origins in the chances of founding a firm and being in the elite. Yet it would be wrong to conclude from the 'founder' percentages that differential access to capital by family background had no effect. The chances of establishing a successful firm and being in the elite were very different between those of various social origins, primarily because there were in the population many more persons with manual worker fathers than with middle class occupation fathers.

Table 2: Family Firms and Founders in the British Elite

Father's occupational class	Percentage of persons identified as founding company	Percentage of persons identified as in family firms
Manual (1-4)	5.9	0
Middle class (5-8)	6.7	6.2
Upper class (9-10)	3.7	13.1
Upper class (non-landowner) (9)	7.3	25.8
Landowner (10)	0	0

The proportion in family firms rises with the social scale (up to class 9 'non-landowner upper class') in Table 2. This demonstrates the importance of access to wealth for elite membership. Family firm owners in the elite are much more likely among those originating from the upper class. The family firm at first sight is a conservative or restraining influence on social mobility. One quarter of elite members with fathers in class 9 were backed by family businesses (Table 2), a far higher proportion than for those originating from other classes[12].

[12]. Such firms could however provide the income for radical political careers. The 'Free-Trader' John Bright (1811-1889) is a case in point. Joining the rapidly growing family cotton manufacturing business, he was deeply committed to the achievement of political and religious equality.

On the basis of these two cross-tabulations then a simple specification of the Schumpeter hypothesis requires qualification, partly because of the impact of family firms and partly because new firm formation was of minor significance. Possibly also general mobility through business was less attractive for sons of middle class parents[13]. The parents were able to buy the education, or otherwise acquire the necessary contacts, for talented sons to rise socially through the professions or government more easily, in accordance with the Perkin hypothesis. This in turn may have stemmed from, as well as influencing, the development of the economy

Evidence about the role of education might be gleaned from the distribution between those with a business occupation and the non-business elite. Table 3 does show that the education of those in the elite who worked in business was very different from elite members in other occupations. They were less likely than non-businessmen to have attended public school or Oxbridge. 65% of the non-landowner, non-business elite received formal higher education compared with 43% of landowners and 26.5% of the elite in business.

Table 3 Education and Occupation of the British Elite 1870-1914[14]

	Business	Non-business	Landowner
Public school	17.9%	36.3%	58.2%
Private school	14.7%	22.7%	1.3%
State school	14.2%	9.3%	0
Oxbridge	16.0%	41.4%	43.0%
Other h.e.	10.5%	23.4%	0

Source: Perkin/Rubinstein data set SSRC (1977). Note: 'non-business' excludes landowners. Excluded secondary schools are 'independent','grant maintained' and 'other secondary'.

Many of the upper class (9) originating elite came from very rich families who could certainly afford a landowner's education better than the middle classes entering the professions. The explanation is therefore that mostly those in business and in the elite did not want the public school and Oxbridge education that they did not have, because of the Church of England bias and their non-Anglican backgrounds. Those in the elite were less likely to be members of the Church of England if they were working in business (Table 4). Even so, comparison with Hartmut

[13] The middle class as defined here goes some way down the social scale. At the bottom of this stratum was Henry Tate (1819-1899) (father's occupational class 5) in the present sample. His father left £300 in his will when Henry was 17. Henry began his working life as a grocer's assistant. He invented a device for manufacturing 'Tate's cube sugar'. This contributed to his outstanding accumulation of wealth, to which the Tate Gallery, Liverpool University and many other public facilities, all bear witness.

14 The data differ from Youssef Cassis (1997) Table 6.3 for 1907 for example in a smaller proportion of businessmen in higher education partly because of the earlier period coverage and partly because of different definitions of elites employed. Cassis is concerned with CEOs of the 100 largest firms whereas the Perkin-Rubinstein data are more eclectic, including people in business in the elite not there because they are in business.

Berghoff's (1995) study of later nineteenth century provincial businessmen implies that the national elite in business were more assimilated to the religious, and educational, establishment than the business community as a whole[15]. This may be evidence of the absorption by business of 'gentry values' on arrival in the elite, by changing from Nonconformism to Anglicanism for example.

Given their small proportion in the population as a whole, Jews are very prominent in the business elite (Table 4). Notable for their absence from business, but not entirely missing from the non-business elite are Roman Catholics [16]. A converse tendency can be seen for Nonconformists. The Roman Catholic pattern suggests that, although historical 'exclusion' from the state apparatus and patronage may often encourage crowding into business, it is not the whole story. There is an independent role for culture, for religious adherence to encourage a tendency to chose some occupations rather than others, independently of constraints imposed by society[17]. Religion might then be the driving force for the pattern of mobility observed (perhaps because of capital access) and business only a vehicle for it, contrary to the Schumpeter hypothesis, but more consistent with the gentrification doctrine.

The non-business non-landowner elite – those in the professions - are almost identical to the smaller landowner group in that four fifths are adherents of the Church of England. So far as sharing religion implies an affinity with landowners, then this is at least consistent with Wiener's (1981 16) identification of 'anti-capitalist tendencies' among 'professionals'.

Table 4 Religious Denomination and Occupation of the Elite 1870-1914

	Business	Non-business	Landowner
C of England	56.2%	79.3%	80.8%
C of Scotland	14.8%	7.4%	20.5%
Jews	11.1%	1.4%	0
RC	0	3.7%	0
Nonconformist	16.0%	8.3%	1.3%

Note: Changes of denomination mean percentages can add to more than 100.

[15] Turning to another sample, the religious distribution in the *Dictionary of Business Biography (A-C sample)* is dominated by 'unknowns', rather than by the establishment 'Church of England' of Perkin-Rubinstein (Jeremy, 1984). Rather more of the Dictionary sample attended Oxbridge (32%) compared with 17% of Perkin-Rubinstein; in this respect they were even more 'establishment'.

[16] Foreman-Peck and Boccaletti (2002) find a similar under-representation of Roman Catholics among Scottish businessmen.

[17] The evidence on the absence of Catholics from the business elite is consistent with Shane (1996) for US time series over the twentieth century.

If ‘gentry values’ accompany absorption into the upper class, firm founders would be expected to be less ‘establishment’ than directors of family firms. However Anglicans are as well represented among founders as among family firms (Table 5). The established religion was apparently not detrimental to being a successful entrepreneur and in the elite. Assuming Anglicanism is a mark of identification with ‘the establishment’, then the gentrification thesis is in some difficulty. It must be combined with better access to capital for firm creation among some Anglicans that offsets the supposed impact of their cultural values, if it is to survive.

Nonconformists, like the Scots, were less common among firm founders (typically their families were already established in business). However the Scots seem to be disproportionately represented among the family firm owners in the elite, considering their share of the British population, whereas the reverse is true of Nonconformist. Again a capital access explanation seems possible. Jews, as relatively new arrivals, accounted for a higher proportion of start-up entrepreneurs than of the established business elite.[18]

Table 5 Firm Type and Religious Denomination

	Founder	Family firm
C of England	57.1%	57.2%
C of Scotland	14.3%	21.6%
Jews	14.3%	7.8%
Nonconformist	14.3%	27.4%

Note: not all cases in the elite could be classified so the totals of this table are smaller than in those preceding.

An initial examination of the elite data set then suggests that business seemed to favour manual workers and the professions, the middle classes. Family firms were an especially powerful conservative force in mobility to the elite and founders played a minor role. Education followed or was associated with religious denomination and divided those with landowners from the family firm elite. But the established religion was apparently no deterrent to founding firms and elite membership. However all of these conclusions, derived from bivariate associations, may not be robust to multivariate analysis.

4 .Multivariate Analysis

To test whether this is so, a multinomial logit equation is estimated first for three categories of elite members; those with ‘manual’ fathers, those with ‘middle class’ fathers and, as the base

case, those with 'upper class' fathers[19]. The business effect identified by the cross -tabulation (table 1) is supported by this analysis (table 6). Business occupation strongly increases the chances of being in the elite when originating from the upper echelons of society; the marginal effects range from 0.17 to 0.47 depending on the equation specification. On the other hand business occupation reduces the probability of being in the elite and originating from a ' middle class' family – by 0.21 to 0.50 depending on specification. These findings accord with table 1, with the added information that the result still holds when other possible influences on social mobility are controlled. For manual worker fathers there is a positive effect of business (0.02 to 0.03). So the Schumpeter contention continues to be born out in one respect but not in another.

[TABLE 6 ABOUT HERE]

More surprising is the significant negative effect of the 'date of birth' variable. The more recently an elite entrant was born, the less likely they were to have a manual father, other things being equal. Over a decade, the impact on probability of elite membership was small (0.00023-0.00048 depending upon equation specification) but so too were the chances of anybody with this background entering the elite. The effects of 'time' were, by contrast, benign for the middle social category. In these years bureaucratisation and professionalisation enhanced the role played by formal education in mobility. Interpreting the negative trend for those with manual fathers as an 'employer demand for educated personnel' effect[20] reinforces the view that professionalisation favoured those from middle class backgrounds.

Those entering the elite from lower social strata were unlikely to have received a public school education (equation (5) table 6). Even for those in the elite with middle class parents, 'public school' is a negative predictor, and 'state school' a positive predictor. Middle class children did not usually attend public schools; education mattered but not public school education,

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[18] Jews were estimated to account for perhaps 0.2% of the UK population rising to just under 1 percent before the First World War (personal communication from Andrew Godley). On Jewish entrepreneurship more generally see Godley (2001).

[19] 'Manual' fathers included- unskilled, semi-skilled, skilled manual and supervisory (non-manual and manual) classes IIIi to V coded 1-4 in figure 1 above. 'Upper class' fathers covered landowners, and company director or asset manager fathers- classes Iii and Ii or 9 and 10. The 'middle class' were lower professional, small business and manager, farmer, higher professional and managerial, coded 5-8 classes Iiii, to IIiii. See Appendix para.8.

[20] Although adding the wealth variable affects signs on the date of birth coefficient for some social origins the negative effect of birth date on those with manual worker fathers remains robust. Father's wealth increases with time and so is correlated with 'date of birth'.

a result which runs counter to Bill Rubinstein's (1986) claim that the poorer the family background of the elite member, the more likely he was to attend public school.

Oxbridge education adds nothing to the explanatory power of the model (in the specification of equation (4) not reported). Any Oxbridge entrant in the elite will almost certainly have attended public school, although not all in the elite who attended public school went on to Oxbridge.

Being a firm founder increases the chances of an elite member having a middle class father. This is not so for those with manual fathers however, even though working in business raises the probability that an elite member's father was manual. These findings are consistent with substantial capital rationing preventing mobility through starting a successful business for the sons of manual workers. This conclusion indicates that the simple cross-tabulation of Table 2, showing little variation in the proportion who were founders originating in each class, could encourage misleading inferences.

Father's wealth at death has a significant negative effect on the chances of an elite member originating in the lower social strata, and a positive impact on the probability of the elite member having an upper class father (equations (1) and (3) Table 6). Those originating in the lower strata would have been unlikely to inherit as much as those in the higher. But the effect is more muted for those with manual fathers because their chances of getting into the elite were so small anyway and their small numbers make it difficult to estimate marginal effects with precision. Even though missing data substantially reduces the number of usable observations, there is still a positive 'business' effect after controlling for the impact of 'father's wealth'.

Political participation at any level above passive party member is a negative influence on elite members with manual and with middle class fathers- but large and positive for the upper class (equations (4) and (5) Table 6). That is, the chances of being in the elite with a manual father are reduced with political participation. Politics was a rich man's hobby, not a means of upward mobility. This conclusion is slightly modified when landowner fathers are identified as a separate class (Table 7). Political participation increases the chances of being in the elite with a landowner father but has no effect on those in the business upper class. Landowners were likely to be in the elite because of their political participation, the business upper class were not.

[TABLE 7 ABOUT HERE]

Separating father's class 'landowner' from others in the upper class casts further light on the 'gentrification' concept of absorption of the business class by the landowners, as far as the elite is concerned (Table 7). Marked differences are apparent between the characteristics of those in the elite whose father's were landowners and those in the other upper class (9). Dissimilarities in political participation have already been noted. Elite landowners patronised public schools whereas this type of education was not a predictor for the others- confirming the pattern of the education in Table 3, but now when controlling for other influences on mobility.

The education pattern is explained by the distinction between signalling and human capital investment. Professionals, not in business as defined here, were nonetheless in the market for clients. But their clients were likely to originate from higher socio-economic strata and therefore there could be an advantage from acquiring 'signals', such as attending Oxbridge, acceptable to these people. By contrast the clients of much of business were often impersonal- establishing what could be sold to them, and how, would depend little on what could be learned at the elite educational institutions. Moreover examinations were more important for professionals and civil servants than in business. Upwardly mobile civil servants also needed to impress Ministers and other superiors who will have absorbed upper class values; table manners honed at Oxbridge could pay-off. Certainly no top civil servant in the elite originated from the manual working classes in this period.

The impact of 'fathers wealth' differs between the upper class groups – not significantly diverging from zero for landowners. Being a landowner was what mattered for entry to the elite, not how much was land was owned, over a certain threshold. Being in business was a positive predictor for the non-landowner group and a negative influence for the landowners. With the passage of time the chances of being in the elite with fathers of both upper class groups were reduced but the effect was greater for non-landowners. David Cannadine (1990 296) noted that the landed aristocracy was increasingly a victim of bureaucratisation, specialisation and expertise in these years. This result shows the effect to have been more general among the upper class. For the middle and manual class fathers the pattern is similar to the three category case.

Table 8 Religion and Parental Occupation in the British Elite 1870-1914[21]

	C of E	Nonconf	C of S	Jews	RC
Manual	57.1%	14.3%	28.6%	0%	0%
Middle	70.7%	11.6%	13.4.%	1.2%	3.0%
Upper (9)	59.2%	19.2%	8.3%	10.8%	0%
Landowner	85.9%	0%	14.1%	0%	1.4%

Religious denomination is entirely irrelevant to mobility (not reported- the four denominations Church of Scotland, Church of England, Jews and Nonconformists included in a multinomial logit model attained a χ^2 of only 1.4). Equation (4) Table 7 is illustrative; the 'Church of England' marginal effect is insignificant for all four classes. In this respect the British elite between 1870 and 1914 appear to reflect a secular, integrated society, based on wealth. In view of the Victorian emphasis on religion and the struggle between the denominational education societies over the control of education, this conclusion might seem surprising. The reason is that other more fundamental factors, especially class, are correlated with religion[22]. Table 8 shows the religion-parental occupation pattern in the elite. There is a clear variation of class with religion among the elite, though the configuration is not simple.

The impact of the correlation of religion and class is most clearly demonstrated in the determinants of being in business (Table 9). Given that a person was a member of the elite, other things being equal, membership of the Church of England markedly reduced the chances of being a businessman (equations 1,2 and 4). Conversely being Jewish or a member of the Church of Scotland increased the probability. Nonconformists showed a weaker tendency towards business but only at the 10% level of significance. Controlling for Church of England membership, attending Oxford or Cambridge Universities- and being in the elite- reduced the likelihood of being a businessman by slightly more than the religious affiliation. By contrast attending public school, although a negative influence, was smaller and less statistically significant.

[TABLE 9 ABOUT HERE]

At first sight then religion, a quantified cultural variable, determined the successful choice of a business career. The English 'establishment' – in contrast to the Scottish - was in this sense

[21] This table contrasts with Table 4 which shows the relationship between religion and occupation, rather than religion and origins, of elite members.
[22] This finding is consistent with the thesis presented by Bill Rubinstein (1996) as far as Jews in Britain are concerned.

apparently biassed against business, as Wiener and others have contended. But when class origins are included in the equation (5) Table 9, religion becomes irrelevant. Equation (5) and variants indicate that, other things being equal, landowner fathers reduced the chances of sons in the elite working in business and the same was true of middle class parents.

The association between business and class in the elite could be a manifestation of 'gentry values', but more plausibly is explained by two slightly different factors. The first is that landowners were rich enough not to work at anything -unless politics counts as a job -and indulged themselves. This interpretation merely requires the standard assumptions of neoclassical economics about human nature, not 'gentry values'. The second is that business development was simply not fast enough to provide sufficient employment acceptable to the middle classes to match the professions and the civil service. The prominence of the first factor reflects the skewed British income distribution and the second the rather slow economic growth of the period[23].

5. Conclusion

Study of elites identifies structural features of society that make for greater or lesser mobility. Elites of predominantly market-based societies may be expected to differ from those of the less commercially-orientated, but nonetheless all societies depend on a range of other social institutions, as well as markets. Thus predictions – like Schumpeter's - about their elites will depend upon the particularities of time and place.

The extreme inequalities of late Victorian Britain, and minimal state support for investment in human capital already suggest that social mobility into the elite would be low. Access to education appears to have been a key to mobility through the professions. Educational trends and changes in the economy seemed to favour those from the middle classes and handicap sons of manual worker families. Business was less subject to this influence than the professions – entry and exit were freer- and therefore was a more effective channel for mobility into the elite for children of manual workers.

The rationing of resources according to family background was also reflected in the small number of successful firm founders in the elite. The vast majority of the population, manual workers, had little access to equity capital and therefore could not start companies. Their chances

[23] Moaz and Maov's (1999) model of earnings mobility and economic growth suggests a link between these two factors.

of entering the elite by this channel were therefore low. The predominance of family firms was the other side of the coin. Established families with capital did not need to found firms because they already inherited them, and the inheritors in the elite were typically from upper class families. Resources similarly explain why land-owner education (public school and Oxbridge) could spread among the middle classes aspiring to the professions, because these families could afford to pay for it, unlike most of the population.

On the other hand, the liberal politics of a market-based society meant that 'outsiders', like Jews, who were able to accumulate wealth through business, were relatively easily absorbed into the elite. Religion or denomination was in fact irrelevant to the pattern of elite mobility, despite the apparent importance to late Victorian society. The paradox is resolved by the close correlation of class and religion and by the key role of class. The established English, but not Scottish, apparent religious bias against business reflected class and profession rather than a more deep-seated influence of religion.

The upper stratum, from which the elite was most commonly drawn, was not in fact homogenous. The 'gentry' in the elite, the landowners, were primarily fulfilling their traditional role of political leadership, whereas the business upper class-originating elite members were much less likely to participate in national politics substantially. Business families with sons in the elite were not 'gentrified'- in the sense of adopting the same religious denomination and education as landowners. To the extent that elite heterogeneity is beneficial, this pattern therefore should have contributed positively to economic development. On the other hand the strength of both groups reflected the inequality of income distribution in Late Victorian and Edwardian Britain, and this may well have pulled in the opposite direction.

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APPENDIX A. Inverse Probability and Mobility into the Elite

Let E signify elite membership and Xi originating from class i. Then Peter Temin (1999) proposes considering $P(Xi \mid E)$, whereas the conventional social mobility focus is $P(E|Xi)$ (which is extremely small). The relation between these, given by the inverse probability rule, is $P(E \mid Xi) = [P(Xi \mid E).P(E)]/P(Xi)$. If we know the chances of being in the elite (P(E)) and the chances of originating in class i (P(Xi)) then we can calculate the probability of being in the elite having originated in class i ($P(E \mid Xi)$) from the chances of originating in class i, given that the person is in the elite ($P(Xi \mid E)$).

The influence of business or other occupation upon the chances of someone in the elite originating in a certain class is $P(Xi \mid E \cap B)$ where B is business. A test of the significance of business is whether $P(Xi \mid E \cap B) > P(Xi \mid E)$. Slightly different is the influence of business or other occupation upon the probability of a member of a certain class joining the elite $P(E \mid Xi \cap B)$ .Again, the relationship between the two depends upon the relative proportions of those from the class of interest employed in business and those in the elite in a business occupation (A1)

$$P(Xi \mid E \cap B) = P(E \mid Xi \cap B) \,.\, P(Xi \cap B) / P(E \cap B) = P(E \mid Xi \cap B).\, [P(Xi).P(B \mid Xi)]/[P(E).(P(B \mid E)]. \quad \ldots(A1)$$

The test of whether secondary education (S) adds independently of business occupation to the chances of a person in the elite originating in class Xi is whether

$$P(Xi \mid E \cap B \cap S) > P(Xi \mid E \cap B). \quad \ldots(A2)$$

The probability we obtain from looking at the elite (the left term of the inequality (A2)) can be found from three terms;

1) the probability for the population as a whole of being an elite member originating in class i with secondary education and working in business times

2) the chances of a member of class i being occupied in business and receiving secondary education divided by

3) the probability that an elite member has a business occupation and secondary education.

$$P(Xi \mid E \cap B \cap S) = P(E \mid Xi \cap B \cap S) \,.\, P(Xi \cap B \cap S) / P(E \cap B \cap S). \quad \ldots(A3)$$

The ratio of these last two probabilities (on the right of equation A3) will be substantially greater than one because class i is large relative to the elite. Therefore the elite probability on the left of the

above equation will be larger than the first term on the right - the chances of a member of class i working in business and with secondary education getting in to the elite.

The chances of being in the elite having worked in business and originating from the manual occupation groups ($P(E \mid Xi \cap B)$), can be found as follows. From table 1 $P(Xi \mid B \cap E) = 0.059$. In addition $P(E) \approx 0.000005$ and $P(Xi) \approx 0.75$ Therefore

$(P(E \mid Xi \cap B)) = 0.059 \times 0.000005 \times P(B \mid E) / 0.75 \times P(B \mid X)$

If for the sake of argument the two conditional probabilities above were equal

$(P(B \mid E) = P(B \mid X))$,

then $(P(E \mid Xi \cap B)) = 3.93333E\text{-}07$ or just under 4 chances in 10 million.

That the chances of establishing a successful firm and being in the elite were very different between those of different social origins can be shown as follows. Where F is 'founder'

$P(Xi \mid E \cap F = P(E \mid Xi \cap F) . P(Xi \cap F)/P(E \cap F) = [P(E \mid Xi \cap F). P(Xi).P(Xi \mid F)]/[P(E).P(E \mid F)]$. …(A5)

The relative sizes of class i and the elite, P(Xi)/P(E), is a large number. Although $P(Xi \mid F)$ is likely to be smaller than $P(E \mid F)$, this effect will not be nearly sufficient to offset the different sizes of the two groups. So $P(E \mid Xi \cap F) < P(Xi \mid E \cap F$; for all classes the chances of being in the elite given that they were founders was less than the probability of originating in that class and being in the elite having founded a firm.

The left hand side term of A5 for the manual (say, i) and middle (say, j) classes are similar according to Table 2. But since $P(Xi) > P(Xj)$, $P(Xi \mid F) < P(Xj \mid F)$; the propensity to found firms from the manual worker class must be smaller.

Appendix B: British Elite 1870-1914 Data

Data Source: ESRC Data Archive
Original Data Compiler: Harold Perkin (1977)

1. *Data Recoding*
   The data were available in a spreadsheet, but in a format unsuitable for statistical and econometric analysis e.g. the fields contained string variables rather than numerical responses. They therefore required re-coding before analysis could begin. Fields containing a number of responses were divided into several new fields requiring [0,1] inputs.

2. *Data Restriction*
   The data set was restricted to those individuals who died before 1914, thus avoiding complications in the measurement of wealth at death that would arise during periods of inflation.

3. *Wealth Variables*
   Elite personal wealth at death is recorded in two forms, probate value and land rental. Perkin (1978) used the *New Domesday Book (Return of Owners of Land 1874-6)* to identify landownership and was able to trace most of the heirs and successors of John Bateman's *The Great Landowners of Great Britain and Ireland 1879 (to 1883)*. Land held in London is omitted, as are woodlands elsewhere. To construct a total wealth figure the rental must be converted into a capital sum. Rentals are valued at 1879-1883 prices. A constant price land value is created with a rent multiplier of 30 or 20 and added to a constant price probate value (with the same base) to create a total wealth measure. The nineteenth century price level was fairly stable compared with that of the twentieth century. (The relationship between rentals (LAND) and land values will change with expectations of future rent falls and changes in the interest rate. Rubinstein [Perkin (1977, App.4)] proposed a multiplier of 33 during the Golden Age, 20 during the post 1879 depression period, and 10 after 1897.) Settled personal wealth is excluded throughout but only the very rich are affected [Perkin (1977)]. Valuations are gross of personal debts and funeral expenses.

4. *Businessmen vs. Non-Businessmen*
   Businessmen were defined by their first or second occupation being in manufacturing or commerce, rather than in agriculture, the professions, services or public administration and defence, using the categories originally chosen Harold Perkin.

5. *Identification of Individuals*
   Harold Perkin provided the original hand-written data sheets, as compiled by his then research assistant, Bill Rubinstein. Individuals were distinguished in the spreadsheet only by identity numbers, but the new data enabled the researchers to recognise them by name. Additional biographical data, contained in this paper, were obtained from searches of world wide web sites and the CD-ROM of *Who's Who in the UK?* and *Who Was Who in the UK?*.

6. *Start-ups, Independents, Family Firms, Innovators*

New dummy variables were introduced to identify those who had started-up their own business; those who had gained their business experience through joining an independent firm; and those who had entered business by joining a family firm. These variables are not always mutually exclusive. An additional variable was defined to identify those who were innovative or entrepreneurial through having introduced new products, process or work practices (derived from the *Dictionary of Business Biography*, *The Dictionary of National Biography* (various editions), *The Concise Dictionary of National Biography* (various editions), *Who Was Who 1897-1915?*, *Who's Who* on CD-ROM, and W Rubinstein's (1981) *Men of Property*, London: Croom Helm.

7 *Political Participation*

Defined as the HIGHEST level of political participation of the individual was measured on a seven point scale, as follows:

7 - Cabinet
6 - Government
5 - Backbench MP
4 - Backbench Peer
3 - Local Government
2 - Political organisation worker
1 - Party member, non-worker

8 *Social Class of Father*

Variable Coding		**Class Definition**
FATHCLAS = 10	Ii	Landowner
9	Iii	Company director or asset manager
8	Iiii	Higher professional & managerial
7	IIi	Farmer
6	IIii	Small business & manager
5	IIiii	Lower professional
4	IIIi	Non-manual & manual supervisory
3	IIIii	Skilled manual
2	IV	Semi-skilled
1	V	Unskilled

Figure 1 The Elite and British Society 1870-1914

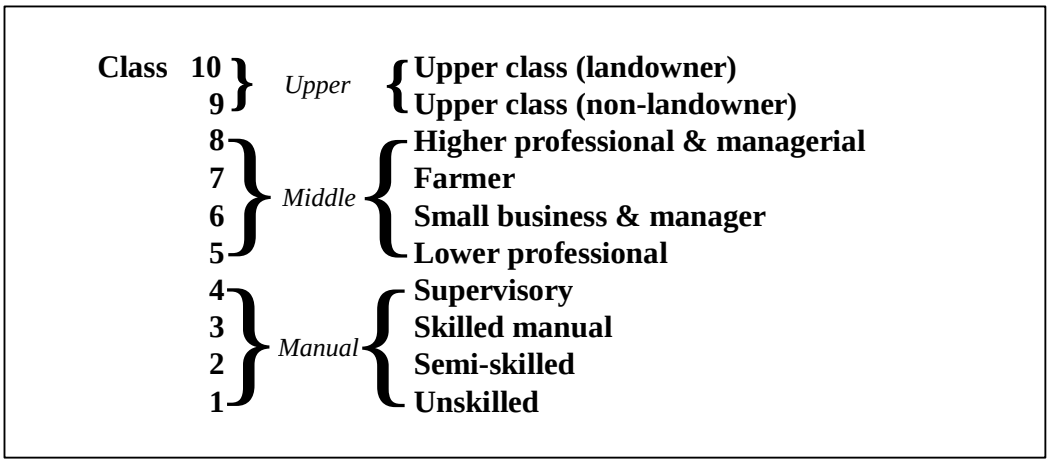

Table 6. Marginal Effects on an Elite Member's Probabilities of a Father from a Given Class (at mean of characteristics)

Upper class father (0)	**(1)**	**(2)**	(3)	(4)	(5)
Date of Birth x 10^{-3}	-0.26. (-7.50)	0.04 . (2.57)	-0.29 .(-8.66) .	-0.10 (-3.98)	-0.14 . (-4.89)
Businessman	0.47 (7.17)	0.24 (4.84)	0.44 (6.97)	0.17 (3.63)	0.35 (5.89)
Public School	-	-	-		0.25 (4.44)
State School	-0.41 (-3.24)	-0.67 (-5.80)	-		-0.62 (-5.17)
Founder	-	-	-		-0.24 (-1.93)
Father's wealth at death (log)	0.058 (5.25)	–	0.066 (6.06)		
Political participat	-	–	-	0.34 (6.91)	0.32 (6.00)
Middle Class Father (1)					
Date of Birth x 10^{-3}	0 .30 .(8.52)	0.006 (0.41)	0.33 (9.66)	0.13 (5.25)	0.17 (5.80) .
Businessman	-0.50 (-7.56)	-0.27 (-5.41)	-0.47 (-7.42)	-0.21 (-4.29)	-0.37 (-6.28)
Public School		-	-		-0.23 (-4.15)
State School	0.39 (3.11)	0.62 (5.61)	-	-	0.59 (4.99)
Founder	-	-	-		0.25 (2.10)
Father's Wealth at death (log)	-0.054 (-5.00)	-	-0.062 (-5.78)	-	
Political participat	-	-	-	-0.31 (-6.34)	-0.30 (-5.56)
Manual worker father (2)					
Date of Birth x 10^{-3}	-0.036 .(-3.10)	-0.048 (-5.33)	-0.035 (-3.22)	-0.031 (-3.73)	-0.023 . (-2.45)
Businessman	0.027 (1.77)	0.030 (2.39)	0.032 (2.05)	0.031 (2.86)	0.019 (1.75)
Public School	-	-	-		-0.019 (-1.15)
State School	0.022 (1.41)	0.047 (2.71)	-		0.036 (2.17)
Founder	-	-	-	-	-0.015 (-.79)
Father's Wealth at death (log)	-0.0038 . (-2.36)	-	-0.0044 .(-2.52)	-	
Political participat	-	-	-	0.0321 (-2.88) .	-0.27 (-2.31)
No.obs.	343	537	343	537	537
LL	-199.2	–388.4	-206.0	-389.7	-344.9
RLL	-276.4	-430.9	-276.4	-430.9	-430.8
χ^2 (df)	154.3(6)	84.8 (4)	140.7(4)	82.3(4)	171.8 (10)
Probs. At the mean vector	0= .372 1= .609 2= .020	0= .558 1= .421 2= .021	0= .377 1= .602 2= .021	0= .562 1= .416 2= .022	0= .561 1= .422 2= .017

Notes: Father's wealth at death is probate value. 'Founders' may be understated. Apart from Public and state, schools can be' independent', 'grant aided' or 'other'. Ratio of marginal effect to standard error in parentheses .

Table 7
Marginal effects on probability of being in the elite, distinguishing landowner fathers

	(1)	(2)	(3)	(4)
Landowner Father				
Date of Birth x 10^{-3}	-0.031	-0.072	-0.16	-0.21 .
	(-2.07)	(-4.11)	(-7.34)	(-5.27)
Businessman	-0.36	-0.54E-01	-.36	-0.47
	(-7.46)	(-2.15)	(-7.93)	(-7.91)
Public School	0.29	0.08	0.22	0.22
	(7.03)	(3.00)	(5.54)	(4.41)
Father's Wealth at death	-	0.0009	-	-
		(0.264)		
Political participation	-	0.043	0 .35	0.44
		(1.66)	(6.99)	(6.41)
Church of England				0.06
				(0.93)
Other Upper Class Father				
Date of Birth x 10^{-3}	-0.16	-0.31	-0.14	-.074
	(-10.0)	.(-9.74)	(-6.27)	(-2.30)
Businessman	0.53	0.50	0.55	0.55
	(11.79)	(7.74)	(11.92)	(10.74)
Public School	0.028	-0.044	0.051	0.027
	(0.57)	(-60)	(0 .95)	. (0.46)
Father's Wealth at death	-	0.06	-	
		(5.84)		
Political Participation	-	0.018	-0.073	-0.15
		(0.77)	(-1.48)	(-2.74)
Church of England				-0.06 .
				(-1.09)
Middle Class Father				
Date of Birth x 10^{-3}	0.22	0.41	0.32	0.30 .
	(10.81)	(11.73)	(11.51)	(7.03)
Businessman	-0.20	-0.48	-0.23	-0.098
	(-3.82)	(-7.09)	(-4.05)	(-1.49)
Public school	-0.28	-0.039	-0.24	-0.23
	(-4.97)	(-0.50)	(-4.02)	(-3.67)
Father's Wealth at death	-	-0.06	-	
		(-5.64)		
Political participation	-	-0.42	-0.24	-0.26
		(-0.64)	(-4.33)	(-3.97)
Church of England				0.01
				(0.16)
Manual worker father				
Date of Birth x 10^{-3}	-0.035	-0.027	-0.023 .	-0.015
	(-2.98)	(-2.43)	(-2.48)	(-1.55)
Businessman	0.036	0 .035	0.035 .	0.009 .
	(2.29)	.(2.08)	(2.31)	(0.68)
Public School	-0.043	0.003 .	-0.03	-0.015 .
	(-2.29)	(0.15)	(-1.61)	(-0.87)
Father's Wealth at death (log)	-	-0.004	-	-
		(-2.28)		
Political participation	-	-0.02	-0.03	-0.02 .
		(-1.51)	(-2.26)	(-1.63)
Church of England				-0.005 .
				(-.39)
No.obs.	537	343	537	432
LL	-489.9	-240.5	-454.9	-356.3
RLL	-636.0	-340.0	-636.0	-499.1
χ^2 (df)	292.2 (6)	198.8 (12)	362.3 (9)	285.5 (12)
Probs. At the mean vector	0= .218	0= .050	0= .174	0= .225
	1= .235	1= .277	1= .252	1= .236
	2= .522	2= .654	2= .552	2= .522
	3= .025	3= .019	3= .022	3= .017

Table 9
Religion and the choice of business among the British 'elite'- marginal effects

	(1) Dep. var. 'Business'	(2) Dep. var. 'Business'	(3) Dep. var. 'Business'	(4) Dep. var. 'Business'	(5) Dep. var. 'Business'
Date of birth	0.12E-04		-0.89E-04	0.35E-04	0.85E-05
	(0.43)		(-2.30)	(0 .88)	.(0.97)
Ch of Scotland		-0.059	0.26	-	0.47
		(-0.96)	(2.32)		(1.67)
Jews		0.41	0.55	-	0.37
		(2.80)	(2.80)		(1.12)
Ch of England	-0.17	-0.21	-	-0.22	0.16
	(-3.22)	(-9.20)		(-2.99)	(0.61)
Nonconformist		0.09	0.16		0.21
		(1.32)	(1.69)		(0.78)
Fathers Wealth		-	0.01	0.01	-0.002
at death (log)			(1.78)	(1.81)	(-.24)
Public school	-0.10	-			-
	(-1.62)				
Political	0.08		0.18	0.17	0.17
participation	(1.59)		(2.49)	(2.46)	(1.98)
Oxbridge	-0.19	-	-0.35	-0.35	-0.31
	(-3.15)		(-4.44)	(-4.49)	(-3.30)
Father's occupational class	-	-	-	-	**Landowner =** -0.82 (-3.91) Upper = 0.64 (6.57) Middle = -0.48 (-1.43)
No.obs.	456	457	271	271	260
LL	-271.1	-277.5	-160.6	-164.3	-123.4
RLL	-297.3	-298.3	-187.7	-187.7	-180.0
χ^2 (df)	52.4(4)	41.7 (3)	54.3 (6)	46.9 (4)	113.3(10)

Note: ratio of marginal effect to standard error in parentheses