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"THE RISE AND DECLINE OF SMALL FIRMS"
AND
SMALL FIRMS IN BRITISH INDUSTRY, A
REAPPRAISAL

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Book and thesis submitted for
examination for the degree of Doctor
of Philosophy at The City University.

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INTRODUCTORY NOTE

This thesis is submitted, together with the author's previously published book, "The Rise and Decline of Small Firms", for examination for the degree of Doctor of Philosophy at The City University. The submission mainly depends on the book, without which certainly the thesis cannot be understood. For example, the underlying definitions of "small firm", "economic efficiency", "growth", "age structure" etc. contained in the book are taken as read in the thesis. So is the concentration on manufacturing industry. A central implication of the book - that a small firm sector constantly rejuvenated by newcomers and cleansed of obsolescence is essential for national economic growth - is largely assumed in the thesis. The latter's purpose is partly to supplement this central argument but mainly to reflect on some of its wider implications for theory and policy.

A B S T R A C T

"The Rise and Decline of Small Firms" by J.S. Boswell (George Allen and Unwin, 1973) was an exercise in micro-economic history based on published historical chronicles of family businesses, the records of over 400 small companies and field studies of 64 small firms. The book examined the great contrasts in economic performance in this sector. Critical phases in the development of small firms were analysed: birth, infancy, formative growth, transition, decline, revival, take-over, mortality. The principal influences on economic performance were identified as both exogenous (markets, technology, social trends) and endogenous (management problems mainly related to finance, fatigue, gerontocracy, family and social factors, succession and the inheritance system). The central phenomena emerged as dynamism in young small firms and stagnation - but also great survival power - in old small firms. It was suggested that Britain's small firm sector was unduly biased towards age and inheritance. Central importance was attached to the age of firms and to the related issues of new entrepreneurship, resource mobility and a phasing-out of the obsolescent.

Some of these themes are taken further in "Small Firms in British Industry, a critical re-appraisal", also by J.S. Boswell (The City University, 1976). This thesis argues that entrepreneurial renewal is more urgent than was assumed in the early 1970's in the wake of the Bolton Report on small firms. It suggests that the small firm sector has probably been deteriorating in age composition as well as numbers; that anti-youth and pro-establishment environmental biases may have increased over a long period; and that "Marshallian" age effects in large firms make a renewed small firm sector more desirable - but less likely as a result of unaided market forces. Subsidised, selective "nursery finance" for infant industrial enterprises is advocated. The implications of age effects and age structures of firms for both theory and policy are further developed.

SMALL FIRMS IN BRITISH INDUSTRY:

A REAPPRAISAL

Public policy concern about small firms takes several forms. It can be argued that small firms are necessary for economic efficiency and growth. They fulfil economic functions which are appropriately small-sized, contribute to innovation and strengthen competition. Moreover, small firms act as a recruiting ground or "seedbed", replenishing and rejuvenating the company sector as a whole. In a more socio-political sense, too, small firms can be viewed as underdogs to be protected, as sources of fulfilment for proprietors and workers and as a salutary means of diffusing power and property ("small is beautiful").

Generalised concern about small firms in the economy has a long history in Britain. For many years the main issue was widely felt to be the absence of a capital market and the possible lack of long-term capital for companies which were both private and small. In 1931 the Macmillan Report persuasively argued that there was indeed such a "gap". (1) The Industrial and Commercial Finance Corporation was set up in 1945 with the object of helping to fill it. Later the clearing banks and other financial institutions greatly increased their contributions to small firms. By 1959 the Radcliffe Committee was able to report that the general capital "gap" for small firms appeared to have greatly shrunk. (2) During the 1960's, however, concern moved onto a wider front. A number of important developments - notably tax changes, new disclosure requirements, extensive take-overs by bigger companies and, not least, prolonged economic recession - led to a widely held impression that small firms were under disproportional pressure. This led to the establishment of the Bolton Committee which reported in 1971. The Bolton Report mainly addressed itself to the question of the relationships between small firms and other parts of the economy. It found that the share of small firms in the economy had declined, apparently to a greater extent in the U.K. than in comparable industrial countries. It argued that this retreat was due partly to technology and market forces which it saw as largely irreversible "facts of life", but partly also to government action. The Bolton Report advocated the removal of what it saw as unintended, unnecessary or unjustified governmental obstacles to the position of

small firms. Significantly, it stopped short of recommending major tax concessions or subsidies specifically to help small firms but warned that the continued economic decline of the small firm sector could become economically dangerous, in which case more radical public action would be necessary. The Bolton Report represented the high water mark, the fullest statement so far attempted in any country, of concern about the overall role and share of small firms. (3)

By contrast the author's "Rise and Decline of Small Firms" (henceforward referred to as "Rise and Decline") mainly concentrated on the internal dynamics of the small firm sector. (4) Some of the findings in this book tended to reinforce earlier research or represented a quasi-consultancy exercise in probing management problems at individual firm level. The variability of performance among small firms, as measured particularly by profitability, growth of sales and innovation, was found to be very great and was also found to correspond with marked variations in management attitudes and goals. The presenting problems so often discussed in relation to small firms - notably of scale, technique, labour and more particularly capital shortage - were mostly found to reflect or be secondary to, more fundamental management problems. Moreover, such management problems were identified in terms largely distinctive to the small firm sector: problems of founder-entrepreneurs, inheritors and internally promoted managers: problems connected with self-management, delegation, fatigue and gerontocracy, management succession and traditionalism. The firms with the most serious management problems of these sorts were found to be the least dynamic in terms of growth, profitability, innovation and other indicators. However, the main distinguishing feature of "Rise and Decline" lay in three hypotheses. These were (1) that there are strong "age effects" in the development of individual small firms, such that, broadly, young small firms are economically better than old ones; (2) that small firm births, deaths, survivals and take-overs have operated in some sense inefficiently so as to produce, in Britain, an unbalanced age distribution (with too few young and too many old small firms); and (3) that selective public policies are necessary in order to assist infant firms and phase out the obsolescent.

The purpose of this thesis is to reassess these hypotheses and to discuss their implications in more critical detail than was possible in the book. The paper is set out as follows:

Section 1 relates the main findings of "Rise and Decline" on age effects in small firms to Alfred Marshall's important theory of "the trees of the forest".

Section 2 outlines criteria for an "economically optimal" small firm sector related to the dynamics of new entry, take-over and mortality.

Using these criteria, section 3 suggests that the small firm sector has probably been deteriorating in age composition as well as declining in numbers, with serious economic implications.

Section 4 discusses the hypothesis that age effects of the type analysed in "Rise and Decline" extend also to large businesses. It suggests that this factor, too, makes a renewed small firm sector more desirable - but less likely as a result of unaided market forces.

Section 5 considers the public policy implications and argues in particular for subsidised, selective "nursery finance" for infant industrial enterprises.

Overall, the argument is that the issue of age effects and age structures of firms, as developed in "Rise and Decline", has significant implications for both theory and policy; and that public action to assist entrepreneurial renewal is more urgent than was assumed in the early 1970's in the wake of the Bolton Reports.

(1) AGE EFFECTS IN SMALL FIRMS

The hypothesis of an "age effect" in the development of firms, or organisations generally, is not new. In 1890, in "The Principles of Economics", Alfred Marshall suggested that business enterprises follow a dynamic pattern of early growth and later decline. In the youthful stages, Marshall observed, there appeared to be a cumulative and economically virtuous relationship between the founder's energy and ability,

the exploitation of internal economics and the process of growth. But Marshall suggested that the founder's life span, still more his period of full vigour, set a limit to this process. After a time the business might decay or at least "lose much of its elasticity and progressive force." It would fall into the hands of people "with less energy and less creative genius" and would experience both competition from "younger and smaller rivals" and diminishing returns to scale of production. (5) In the second edition of the "Principles" Marshall elaborated on this theme with his celebrated analogy of the "trees of the forest":

"But here we may read a lesson from the young trees of the forest as they struggle upwards through the benumbing shade of their older rivals. Many succumb on the way, and a few only survive; those few becoming stronger with every year, they get a larger share of the light and air with every increase of their height, and at last in their turn they tower above their neighbours, and seem as though they would grow on for ever, and for ever become stronger as they grow. But they do not. One tree will last longer in full vigour and attain a greater size than another; but sooner or later age tells on them all. Though the taller ones have a better access to light and air than their rivals, they gradually lose vitality; and one after another they give place to others which, though of less material strength, have on their side the vigour of youth."

"And as with the growth of trees, so it is with the growth of businesses. As each kind of tree has its normal life in which it attains its normal height, so the length of life during which a business of any kind is likely to retain full vigour is limited by the laws of nature combined with the circumstances of place and time, and the character and stage of development of the particular trade in which it lies." (6)

Marshall later conceded that, at least for the large joint stock company, this process might be long delayed. In the sixth edition of the "Principles", published in 1910, he amended the last paragraph to

read: "And as with the growth of trees, so was it with the growth of businesses as a general rule before the great recent development of vast joint stock companies, which often stagnate, but do not readily die." (7) This qualification was a critically important one, as we shall see. Unfortunately, though, Marshall's theory of corporate growth, obsolescence and resilience remained largely undeveloped. Faint echoes were later evident in Sargent Florence's mention of the economic contrasts between "founders" and "heirs", in Kenneth Boulding's tentative application of biological "life cycle" and "homeostatic" analogies to the firm, and in Alchian's use of analogies derived from natural selection. (8) Edith Penrose's "Theory of the Growth of the Firm" elaborated on one aspect described by Marshall, the virtuous interaction between growth and managerial dynamism, but ignored his intimations of eventual stagnation. (9) A stronger echo of Marshall's 1910 hypothesis is to be found in Anthony Downs' study of public agencies, "Inside Bureaucracy". Downs suggested that public organisations may show increasing conservatism and survival power as they get older, these two processes tending to reinforce each other. (10)

However, these were exceptions. Mainstream economic theories of the firm continued in the neo-classical tradition of neglecting "real time", concentrating instead on the categories of equilibrium and competition. The "long run" tended to remain a logical planning concept related to the period of universal cost variability. Growth theories discussed the constraints and opportunities arising at any time in the development of firms (Penrose, Baumol) or generated mathematical models assuming "steady state" environments (Williamson, Wood). The more empirical studies concentrated on sociological, organisational or other concomitants of business economic behaviour (Sargent Florence, Carter and Williams, McIntosh). Even where a strongly historical dimension was apparent in such studies, this was generally restricted either to the detailed "life stories" of particular businesses (the company historians) or to findings on strategies and control systems as the firm developed (Chandler, Chamberlain). Only the historico-economic theorists, notably Veblen, Schumpeter and Gardiner Means, Marris and Galbraith, attempted bolder hypotheses. But even they largely neglected the Marshallian notion of cyclical regularities in the development of firms. The idea of patterns of dynamism, stagnation

and resilience over the long-run - perhaps comparable with those of other types of organisation - remained unexplored. Thus it is hard not to share Kenneth Boulding's regret, expressed in 1950, that the theory of the firm, and of economic organisms in general, has developed so little of an historical perspective, even though, as he rightly said, "one would have expected economists to move to a discussion of the forces which determine the birth, growth, decline and death of a firm." (11)

The author's elaboration of age effects in the small firm sector depended on (a) published historical chronicles of a sample of family firms, (b) analysis of a large body of financial and demographic data derived from Companies House records, and, most important, (c) field study interviews with a sample of small firm chief executives. The methodology of synthesising these represented an attempt to grapple with a problem which has been unfortunate in micro-economic history: the gap between individual firm studies and wider trends. The analysis identified certain stages in the development of small firms. At each stage a distinctive pattern of interaction was found between the exogenous factors (markets, technologies, social influences) and endogenous factors (for example, the type and generation of management, the age of managers, family influences, age and characteristics of employees, physical infrastructure, critical size thresholds and indivisibilities). The resulting patterns were as follows: (1) a highly vulnerable first few years of infancy; (2) a dynamic youthful stage up to about 20 or 25 years (marked by above-average growth, profitability, innovation, take-over propensity and public quotations); (3) a frequently problematic transitional stage as the founder faced old age, retirement and succession problems; (4) pressures towards decline in most older firms, due mainly to a combination of exogenous forces and weaknesses in the inheritance system; and (5) a tendency for such older small firms to maintain themselves, often for periods of 20, 30 years or more, in a situation impervious to reform, take-over or liquidation. Exceptions to the trend were discussed, notably revivals in some older small firms. But the dominant pattern was suggested as dynamism in surviving young firms and decline-plus-resilience in older ones. Within the small firm sector, therefore, empirical support was given

to Alfred Marshall's original theory of youthful vigour and later decline. Moreover, Marshall's amended hypothesis as to older firms that "often stagnate, but do not readily die", which he applied to the large joint stock company, was also found by "Rise and Decline" to apply to small firms: a phenomenon described as "congealment." The analysis suggested that from the point of view of national economic growth and efficiency, generalisations about the small firm sector as a whole were largely pointless or even misleading; that instead attention should be mainly concentrated on the issues of renewal, turnover and mobility of resources both into and within this sector; and that the question of its age distribution was as important, if not more so, than its size.

"Rise and Decline" found that, of the independent small firms in British manufacturing, about one-half were more than 50 years old and that about one-half or slightly less were managed by inheritors as opposed to self-made men (founders or new owners). (12) This age structure, so it was implied, was in some sense unhealthily biased towards older firms. The problem appeared particularly serious because of another factor identified in the study: a long-term weakening in the inheritance system. Since the heyday of Victorian industrial dynasticism there had been a sharp reduction in the size of business families (and therefore in the reservoir of succession material); an increase in the availability and attractions of other occupations for later generations in the family firm; an apparent decline in confidence in the inheritance system; and an increased difficulty of recruiting talented "outsiders" into firms where the family retained ownership and final control. Yet the inheritance system was still heavily relied upon in default of viable alternatives. More than 3/5 of small firm chief executives had bequeathed their firms to family successors since 1918; and of the firms closely observed in 1969-70 substantially more than one-half seemed likely to devolve on inheritors. (13) "Rise and Decline" suggested that such a persistent but weakened inheritance system would exacerbate certain management problems: tendencies for chief executives to continue in power for too long because of inadequate succession, anxiety over the quality of successors, constrictions on dutiful members of the family, parochialism and traditionalism,

father-son relationships, etc. The normal managerial weaknesses of the inheritance system would be increased. Thus if a deterioration in the age distribution had occurred, it was thought that this would be more economically adverse in modern times than in, say, the 19th century.

(2) CRITERIA FOR AN OPTIMAL SMALL FIRM SECTOR

"Rise and Decline" did not offer any yardstick for judging what would be an excessive skew towards old firms in the age distribution. Nor did it consider whether the U.K. age distribution had actually deteriorated. A major difficulty was, and still is, that even the most elementary demographic data about rates of new entry, take-over and mortality of small firms are unknown. The facts we know with reliability are few: notably that the number of small firms in British manufacturing industry declined from about 136,000 in 1935 to about 60,000 in 1963 (14); that this retreat has probably been more rapid than elsewhere (15); that the number of small firms is now probably less than in West Germany, for example (16); and that the age distribution is older than in the United States. (17) Even if fuller facts were available, any theory on the dynamics of the small firm sector would still involve a particularly daunting identification problem in seeking to evaluate causal influences. Nonetheless, putting together various facts and hypotheses both in "Rise and Decline" and elsewhere, some attempt can be made. Let us consider two issues. First, on the assumption that a reasonable rate of national economic growth is desired, what would be an optimum small firm sector in terms of numbers and age distribution? Since an equilibrium concept is inappropriate here, this translates into a question of optimum dynamics. Second, do long-term trends in the U.K. appear to diverge from such optimum dynamics? In particular, is it likely that our small firm sector has deteriorated in age distribution as well as size? In seeking to answer these questions we need a theory which posits certain relationships between small firm demography (new entry, take-over, mortality) and wider socio-economic trends. Such a theory of enterprise dynamics will necessarily be broad, proximate and tentative. The theory can only suggest what seem to be the main factors and the direction of their influence: it cannot assess their relative weight, let

alone predict their likely confluence. But even such a limited theory may be better than nothing and is indeed unavoidable for any sort of policy. (18) Let us now, therefore, outline the preface to such a theory in relation to the following factors: economic growth itself, concentration trends and economies of scale, tax and capital market systems, and wider social attitudes and influences.

First of all, there is probably a mutual influence between the process of economic growth and the numbers, quality and age distribution of the small firm sector. Thus economic growth appears to be a cause of expanding small firm numbers. Such growth enlarges the savings from which new businesses begin, the credit and outside finance needed by established small firms and, not least, general profit expectations and opportunities. However, it seems highly unlikely that economic growth will in itself necessarily induce adequate movements in numbers, quality and age distribution. The question of "adequacy" here relates to both the size and quality of new entry and the turnover of obsolescent firms. On the one hand, economic growth may not induce entry of sufficient numbers and quality to assist in reinforcing the expansion process and in ensuring that growth is subsequently sustained. For example, new small firms are often insecurely based ventures, springing from narrowly based speculation or from inflated expectations at or near the peak of a boom. The proportion capable of surviving, let alone innovating and pushing out the production frontier, may still be very low. Inspection of data on new company registrations and liquidations over long periods suggests that whilst prosperity may favour new entry, it does not reduce mortalities. The phenomenon of mushrooming new businesses succumbing to nemesis even before the boom which has produced them peters out has often been observed. (19) But this is not all. Economic growth may actually reinforce some adverse influences on the age distribution and quality of the small firm sector. Insofar as this sector contains an abundant share of market imperfections and pro-establishment biases, as demonstrated in "Rise and Decline", prosperity operates as a preservative. It merely buttresses the cosy security of many stagnant small firms by favouring easy credit, organisational "slack", satisficing profits and "rule of thumb" practices. Thus it may be fair to assume that whilst some economic growth is probably a necessary condition for more new firms, its effect on the dynamics of

the sector as a whole are likely to be highly mixed. Its influence on the quality of new entry and on the age distribution more generally are far from necessarily benign.

One factor clearly has a negative impact on the number of small firms: the trend towards industrial concentration. But only part of this concentration trend is likely to be economically beneficial. More specifically, only part of the impact of the trend on the small firm sector's numbers is likely to be economically justified. This is for reasons so well rehearsed in the literature as to need only the briefest mention here. The potential for plant-size economies needs to be qualified by the risks of poor worker morals and strikes in large units. (20) Where genuine technical economies of scale are obtained, the advantages are not necessarily passed on to the consumer, particularly where elements of monopoly power are increased. The argument that firms need to be larger to beat overseas competition may well exaggerate the importance of size as compared with other key variables, notably the quality of management. (21) The contention that large size is necessary for technological innovation is probably of restricted validity. (22) Perhaps more important, the undoubted internal advantages of corporate bigness - related to firm-size financial, purchasing and marketing economies - are socially questionable. The longer-term, less quantifiable risks of conservatism in large organisations must be reckoned with (a point we return to below); many firm-size economies tend to be merely redistributive, transferring advantages from some economic agents to others rather than producing net cost advantages to the final consumer; and not least, internal efficiency gains as firms grow in size may be counterweighed by decreased responsiveness to democratic social control. This catalogue of scale economies which are exaggerated, unrealised, secreted or not truly social in any case - or which are offset by internal and/or external diseconomies of scale - is formidable. At the same time there is the considerable body of evidence that now exists on types of concentration which appear, in practice, to increase corporate size for its own sake and merely to stabilise profit fluctuations and reduce risks. (23) Taking all this into account, genuine social economies of scale seem likely to justify only a modest upward creep of concentration. Moreover, even this justified part of the trend may not continue indefinitely.

Clearly, then, socially justified concentration may depress the number of small firms over a long period but only slowly, to a limited degree and, again, perhaps not indefinitely. Much of the reduction in small firm numbers would have no such justification. Whether neutral or harmful concentration has a disproportional impact on small firm numbers is hard to say. There will probably always be some industries densely populated with small firms which are arguably not concentrated enough. On the other hand, concentration's potential threats to human relations, competition and enterprise may be particularly marked in relation to its impact on small firm numbers. First, it is possible that worker morale deteriorates above an organisation-size threshold broadly corresponding to the usual (employment based) definition of a "small firm" but not consistently thereafter as size increases. In that case a reduction of small firms would produce more long-term harm to worker morale than, say, a reduction in medium-sized firms. Second, the increased dominance of larger firms, as well as raising capital entry barriers in particular industries, may reduce the propensity of capital market, fiscal and social institutions to encourage new entry in a more general sense. If so, the long-term effects on innovation and competition would clearly be adverse. Third, it is sometimes argued that there is a "ratchet effect" in concentration. When techniques change in favour of smaller size there is less impetus towards deconcentration than there is an impetus for concentration when they favour larger size. (24) Insofar as this is true, the ratchet effect may be particularly bad for the small firm sector. If large firms decentralise for economic reasons, this will be to subsidiaries or divisions; if they divest, this will more likely be to other public companies than small private firms. The latter's exclusion from the capital market is a major disability here. Thus any limited traffic of resources back to smaller units may tend to stop short of the small firm sector proper. A fourth reason for concern lies in the impact of big company take-overs not so much on the numbers of small firms as on the age distribution and quality of the sector: a point we return to later. Meantime a further and consoling side effect of justified concentration should be noted. Although technological change has so far thrown its greatest weight on the side of increasing size, it has also produced some currents favouring small

firms, both in new and established industries. But it seems reasonable to suppose that technological decentralisation has encouraged the entry of new small firms more than it has favoured the survival of old small firms and that it has therefore tended to act as a net rejuvenating as well as slimming-down influence on the small firm sector.

A final condition for an optimal "growth contributing" small firm sector, as already implied, is a socio-institutional framework favourable to the supply, mobility and replacement of entrepreneurs. It is tempting to specify such a framework in purely neo-classical terms. Theoretically, the conditions for perfect competition would need to be approximated to a high degree in the market for entrepreneurial skills, as also in labour, capital and seller markets (issues of externalities and income distribution being disregarded). In such a neo-classical "model" situation, profit-seeking and perceptive potential entrepreneurs would quickly respond to new opportunities by founding or acquiring firms; the most efficient would be the ones to obtain scarce resources from the factor markets; and competition in seller markets would similarly help to ensure a flexible mobility of productive factors, not least by encouraging the reform, take-over or liquidation of the inefficient. But useful though the perfect competition model often is as a benchmark for social efficiency - and it must be admitted that "Rise and Decline" was sometimes unfair in doubting its conceptual-normative value - even in the small firm sector this model demands heavy qualification. This is partly because non-profit motivations are widespread and probably inevitable (and in many ways salutary); partly because of the unavoidable power disparities which exist, notably between small firms and their larger suppliers or customers; and partly also because of the sort of Schumpeterian market imperfections which are positively essential for growth.

Judged by the more feasible, if diffuse standards of J.M. Clark's "workable competition", the small firm sector has its full share of defects - the occasional long-lived quasi-monopoly, informal restrictive practices in some cases, too many competitors in certain declining, "weak seller" industries. The removal of such defects would clearly facilitate more efficient resource allocation. But even then the

conditions for a correspondingly "workable" mobility of existing resources, let alone for a "workable" influx of new productive factors, would still be far from complete. The most rigorous purge of monopoly features would still not ensure supple conformity to price-profit signals by established, let alone potential, entrepreneurs. Indeed, the "stickiness" of entrepreneurial reactions even to a strengthened price system may be particularly great in the small firm sector. Just to take two examples: low barriers to the entry of new firms, and even the lure of high profit will count for little if other occupations seem more attractive, secure or reputable to the potential small entrepreneur. Again, even the best foreseeable approximations to perfect knowledge and to multiplicity and parity of buyers and sellers would still be slow in achieving another part of the optimal dynamics, the reform, take-over or bankruptcy of inefficient older firms. This is because of factors elaborated in "Rise and Decline": loyalty, myopia, self-preservation, family wealth. In the former case lagged or inadequate responses reflect the small firm sector's membership of a bigger, highly mixed society, in the latter this sector's own highly developed social mores and structures. The sector is also heavily dependant on "extra-market" demographic factors: managerial life cycles, age formations of owners and work forces, the sizes of, and relationships within, businessmen's families, even the genetics of inheritance. Many of these social obstacles to workable resource mobility are inescapable. But insofar as some are more malleable, this requires more than the gentle attentions of Monopolies Commissions and Restrictive Practices Courts. It requires that countervailing social forces should act strongly in favour of entrepreneurial renewal.

These renewing social forces are likely to come from three directions: the general social atmosphere, the tax system and the factor markets. First, social attitudes towards entrepreneurship, as expressed through the systems of education and mass media and by opinion formers, are probably an important influence on the rate of formation of new firms. The social esteem accorded to business as compared with other activities can hardly be insignificant. Second, the influence of the tax system on the small firm sector is likely to be diffuse, many sided and also controversial. On this issue "Rise and Decline" hazarded

several judgements. The discussion in that book suggested that an "economically good" tax system would (a) encourage the (generally moderate) personal savings required for individuals to start new firms, (b) allow personal wealth accumulations by founder entrepreneurs so as to foster this particular business motive, (c) provide concessions for struggling infant firms during the critical first few years, and (d) reduce inherited management and wealth. In relation to (b), "Rise and Decline" ventured the view that the "incentives" argument for a less progressive tax system, as often advanced by businessmen, was probably exaggerated. In relation to (d), "Rise and Decline" not only showed that inheritance in older firms tends to be economically adverse, as we have seen, it also contested the view that inheritance is a vital incentive in founding and building up new firms. (25) Essentially, then, the criteria for an optimal tax system vis-a-vis small firms were regarded as two-fold. Such a system would encourage the supply of new small entrepreneurs at one end of the process and facilitate or even compel the turn-round of resources at the other. Finally, there is the influence of factor markets, particularly those for land and capital. These, too, should nurture infancy and avoid undue cossetting of the obsolescent (the conditions for capital market efficiency in avoiding an "undue" bias against newcomers - and in foreseeing and backing long-term entrepreneurial potential - will be referred to later in this paper). It is hard to offer any view on the relative importance of these social ethos, tax and factor market influences on small firm entries, take-overs and deaths. Nor is it easy to see how any greater precision on causes can be expected in the future. One conclusion, though, should be clear: that to overcome market and social rigidities the renewing impacts from social attitudes, fiscal systems and capital market institutions need to be particularly strong. Only some vigorous combination of these forces - ensuring healthy rates of new entry and private take-overs and also a flushing-out of the obsolescent - would be sufficient to prevent a deterioration in the age distribution and quality of the small firm sector, let alone to improve it.

So much for the preface to our tentative theory. Putting these strands together, the main conditions for an optimally developing small firm sector can now be stated. Some general economic growth, a precondition for all else, would operate to increase crude numbers but not

necessarily renewal or quality. Technological and market change would justifiably produce a net downward effect on numbers, but slowly and with some rejuvenating side effects on the age distribution. Above all, social forces, tax systems and capital markets would favour new entry, private take-overs and a turnover of the obsolescent at rates at least sufficient to keep the sector's age distribution from deteriorating. To transform these broad criteria into a precise formula for numbers and age composition in a particular economy at a particular point of time is, of course, impossible. But they at least provide benchmarks for assessing whether things are going clearly right or seriously wrong. If growth is already satisfactory, the small firm sector might be fairly stable or slightly reducing in numbers but maintaining its age distribution. In an economy seeking to increase its growth rate, there would need to be an improvement in the age distribution and also, at least in the short-term, in numbers. Equally, though, one could envisage a situation in which both the numerical size and quality of the small firm sector would be declining, possibly quite rapidly. In such a situation the impetus to small firms from economic growth would be spasmodic, faltering, even to some extent perverse; concentration would be reducing the sector more rapidly than could be justified by genuine social economies of scale; and the social, fiscal and institutional forces necessary for renewal would be inadequate and even receding. Such an interaction between weak growth, excessive concentration and corporate obsolescence - involving a qualitative as well as quantitative decline - would be highly damaging. It was a major implication of "Rise and Decline" that some such process has been happening in Britain.

(3) IS THE SMALL FIRM SECTOR DECOMPOSING ?

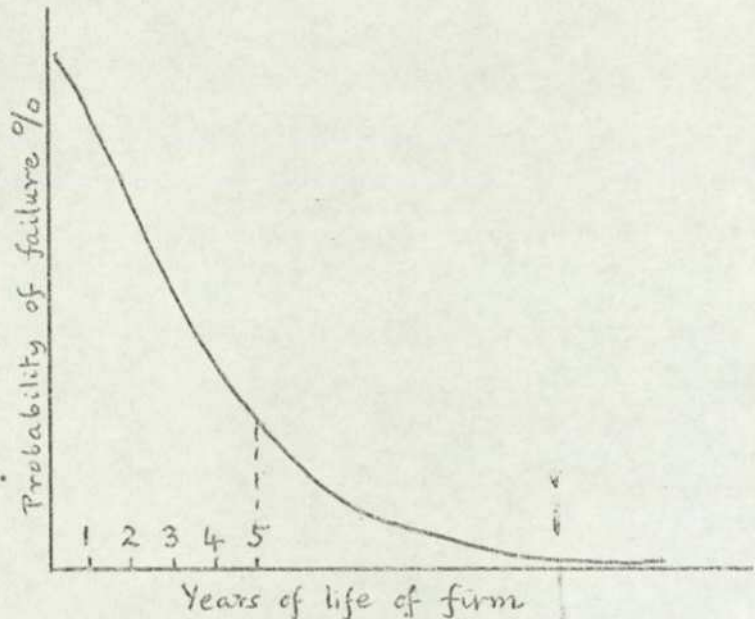
At this point it is necessary to introduce a key phenomenon affecting populations of firms, that of mortality and survival rates over time. The hypothesis relates to large numbers of firms and states that the older the firms, the less their chance of dying, at least over an observable post-Industrial Revolution period. This notion, an important part of the wider theory of age effects, has been extraordinarily

neglected. Let us call it the Law of Increasing Resilience. Like many phenomena, it can be approached through detailed historical observation of a few cases or statistical analysis of large samples. The former path was that followed in "Rise and Decline." Small firm mortality was first taken to mean complete discontinuance of the firm through compulsory or voluntary liquidation (as opposed to take-over, merger, change in legal status or activity). It was hypothesised that such mortality would operate differentially according to the age of firm, the risk of "death" reducing with increasing age. The hypothesis mainly grew out of field studies of the histories of 64 firms ranging in age, at the time of observation, from 2 or 3 years to over a century. On the one hand, the period of business infancy, as directly observed by the author or recalled for him by founder-businessmen, had certain definable characteristics. These included "shoe-string starting-points, high risks, poor premises, little spending on fixed capital and great personal sacrifices." (26) Transcendence of these constraints through attainment of a minimum economic size was temporarily located. It normally seemed to take at least three or four years "to acquire the necessary foundation of goodwill from customers and suppliers, to establish a loyal team of employees and, not least, to build up a run of trading figures of the kind that will get a loan from a bank manager, let alone any other source of funds." (27) During this infancy period the firm was highly mortality prone. But the converse phenomenon implied by the Law of Increasing Resilience, that of survival power in more mature enterprises, was no less apparent. Marshall's idea of stagnation combining with resilience was strongly evident here. Inefficient older firms were observed as successfully defying the threat of mortality even in hard times because of internal loyalties (sometimes also industry ones): the "Dunkirk spirit"; continued bank and local support linked with their social respectability; the problem of owner-managers seeing no other social role for themselves if the firm ceased to exist; and, not least, the use of family wealth from outside the business to keep it going through years of poor returns. (28)

Empirical observation of a relatively small sample does not of course establish a general tendency. "Rise and Decline" produced some limited statistical support for the Law of Increasing Resilience (or

"last in, first out" rule) based on rates of departure in the engineering trades between 1910 and 1968. But wider statistical evidence can in fact, be adduced. This evidence was provided by MacGregor (1934), Hutchinson and Newcomer (1938) and Churchill (1955) in relation to large samples of firms in both Britain and the U.S.A., observed over long periods. (29) In

particular, the data provided by Hutchinson and Newcomer on the length of life of firms established in Poughkeepsie, U.S.A., between 1844 and 1926, were analysed by Lomax (1954). Lomax used these data to show monotonically decreasing conditional



probabilities for business failure. (30) The probability of business failure relative to age of firm was of a form shown in the accompanying figure. In this and other studies the risks of failure emerged as highly concentrated in the first few years of existence, tapering off to low and fairly steady rates thereafter. The overall tendency for company survival power to increase with lengthening age over observable time periods is probably endemic. Indeed, the Law of Increasing Resilience seems to be beyond dispute.

What matters for our purposes, though, is whether historical forces are operating to accentuate it. "Rise and Decline" implied that they were, although without detailed argument. Is this hypothesis tenable? Let us review the main forces which our theory has identified as influencing small firm dynamics. First, it might reasonably be argued that the social ethos in post-1945 Britain positively strengthened pro-establishment biases in the small firm sector. On the one hand, the image of small business seems to have deteriorated; the cult of large units was widespread; full employment provided more diverse job opportunities for those who might otherwise have become

entrepreneurs; changes in the educational system probably reduced traditional sources of entry from the shop floor - without producing compensating increases from corporate management, the professions or the universities. All of this may well have dampened the propensity to set up in business. On the other hand, the social influences buttressing mature enterprises appear to have gathered strength. The institutional, dynastic and internal social factors which buoy up even the stagnating older firm have probably always been formidable. But in post-1945 Britain the pursuit of full employment, combined with increased trade union and worker power, probably added a further strong twist to this tendency. The texture of a welfare state may well have heightened the normal social propensity to prevent older firms, however inefficient, from going to the wall. (31) Colourably, therefore, whatever its wider merits, the social atmosphere in post-war Britain could be viewed as less productive of small industrial newcomers, more protective of the established.

The pro-establishment bias may also have increased in the fiscal and capital market systems. A familiar allegation is that greater progressivity in personal taxation has reduced both the financial incentive to enter business and the private resources needed to do so. This interpretation is still debatable. Qualifying the "reduced incentives" argument are a number of important factors: the apparently limited extent of any genuine redistribution of real, post-tax incomes and benefits within the relevant ranges; the strength and ubiquity of avoidance devices; the relatively small amounts needed to start in business in many sectors; the likelihood that the strongly acquisitive would-be entrepreneur is swayed by a gambler's hope for large gains rather than a rationalist's calculation of probabilities; and, not least, the evidence that deep-rooted motivations of self-assertion, independence, power and craftsmanship, rather than a desire for big money, are highly important in the formation of new businesses. (32) Therefore, a more progressive tax system may have dampened entrepreneurial entry to only a limited degree. Given that a large number of individuals still have the determination to enter the race, a less frequently discussed but equally important question arises. This is the issue of whether the company tax and capital market systems are

unduly biased against newcomers. During the infancy period, before a minimum economic size in terms of equipment and building is reached, the main financial problem is a shortage of working rather than fixed capital. Yet in the post-war period it was tax concessions for investment in fixed capital that markedly increased, mainly benefiting the already fairly well-established small firm. Moreover, an increased differential in favour of the established probably emerged in the capital market system, too. As already noted, the provision of medium and long-term capital for small firms greatly improved in the post-war period but once again the important issue is, for whom? At any time there are three built-in biases against infant firms obtaining outside finance. First, given the small amounts of money normally at stake, investigation and transaction costs to the lender are likely to exceed his return on the loan; and so applications for small amounts are usually not even considered. Second, much finance (both bank overdrafts and, more particularly, medium/long-term loans) is advanced on the security of fixed capital resources possessed by the firm but these are precisely what the infant enterprise normally lacks. Third, the financial institutions normally expect a track record of several years financial results in order to appraise capital-worthiness. (33) Given these powerful constraints on the ability and willingness of the financial markets to assist specifically infant firms (a problem we return to later) it is likely that the greatly increased post-war financial facilities for small firms overwhelmingly favoured the already established.

In considering whether the Law of Increasing Resilience has been reinforced by post-1945 trends one further factor must be reckoned with: corporate take-overs of small firms. "Rise and Decline" produced evidence to suggest (a) that acquisitions of small firms by larger, mostly public companies had markedly increased in the 1960's; and (b) that such take-overs appeared to be biased towards firms which were founder-controlled, young and already efficient when they were acquired. Both of these points are significant. (a), a rapid rate of take-overs by public companies, would appreciably contribute towards declining small firm numbers. Moreover, this process has probably continued into the '70's. Economic stagnation has probably

increased the vulnerability of small firm potential victims. It also seems a classic recipe for diverting big company growth appetites from 'internal' expansion toward empire-building take-overs of smaller units. (b), the apparent bias of corporate take-overs towards relatively young and efficient small firms, raises important qualitative issues. The social implications are two-edged. On the one hand, it can be argued that if good small firms are absorbed into bigger units, this at least prevents them from later succumbing to the decline syndrome of family firms. On the other hand, it is by no means evident that such a mass absorption of entrepreneurial units is the best social alternative that can be conceived. A source of actual and potential challenge to the bigger companies is destroyed; a possible new candidate for the "big league" is scratched from the race; entrepreneurial vitality arguably becomes quickly buried inside the anonymity of the corporate empire; the technical economies of scale attainable through such amalgamations are exaggerated. The social opportunity cost of all this seems likely to be great. It would surely be preferable to seek conditions in which able but hard-pressed entrepreneurs are not necessarily forced to sell out to bigger firms and, perhaps more important, in which the efficient small firm is assured of continued independence, if necessary under new ownership and management. Meantime, the overall effects on small firm demography are clear in direction, if not extent. Corporate take-overs operate not only to reduce numbers but probably also to worsen the age distribution. They "cream off" younger and abler firms whilst leaving the stagnant firms, once again, relatively untouched.

We return to the hypothesis that the small firm sector has been declining in quality as well as size. In view of the absence of solid data, this hypothesis must be related to a theory of small firm sector dynamics, a theory of what it is that influences the flows of new entry, take-over and mortality. The outlines of such a theory have been suggested, relating numbers and age distribution to a variety of external factors: economic growth, social attitudes and trends, concentration and economies of scale, fiscal systems and capital market institutions. The theory suggests that the marked numerical decline in small firms in British industry has probably been excessive. It also suggests that this numerical retreat was probably accompanied by, and

related to, a deteriorating age composition. The Law of Increasing Resilience, of an inherent bias against infancy and in favour of the established, has probably been accentuated by diffuse socio-economic influences. Taking the post-1945 period as a whole, environmental factors appear to have more strongly (a) discouraged the entry of newcomers, (b) encouraged the longevity and security of the established and (c) removed the younger and abler from the entrepreneurial sector. If this view is correct, the rapid decline in numbers cannot be attributed to an increased mortality rate but rather to some combination of lower entry and increased corporate take-overs. Less fertility and more invasion, rather than more death, would appear to be the main problem. By the same token the age composition of the small firm sector would have deteriorated. The decomposition hypothesis hinted at in "Rise and Decline" gains support; the Bolton Report's refusal to express immediate alarm at the severe decline in numbers would seem too complacent; and that report's own warning that an ageing of the small firm population would be economically unhealthy would have sounded after the event, not before. (34) The prima facie case for considering some kind of public intervention would be strengthened.

However, before inferring that action is needed, it is necessary to consider whether the situation may improve. The possibility that market and social forces may redress the balance "naturally" must be evaluated. This necessitates a glance at some wider dynamics in the company sector as a whole. In particular, it raises the important issue of whether, how far and in what ways the theory of age effects applies to a wider field.

(4) AGE EFFECTS AND BIG FIRMS

A large part of the case for helping small firms proceeds from a dislike of large firms becoming too dominant. It is feared that further increases in industrial concentration will (a) reduce the impetus to both allocative and "X-efficiency" provided by effective competition, (b) create unwieldy monoliths and (c) harmfully concentrate socio-economic power. Therefore, the argument goes, we should strengthen the ability of new small firms to challenge and compete with the giants.

However, suppose that the giants after all prove to have feet of clay, as part of the theory alleges? Suppose that the traditional prophecy of diminishing returns to, and eventual diseconomies of, scale is fulfilled within a reasonable time period? Surely, then, there would be a weakening in the position of large firms of the sort that smaller and newer enterprises would be able to exploit? Such an inbuilt tendency for concentration to be eventually self-correcting was clearly posited by the Bolton Committee: "If, as we believe, the small firm is for many purposes a very efficient organism, with special advantages in the exploitation of new opportunities, it should be able to take advantage of the weaknesses and inefficiencies that over-concentration would inevitably produce in the structure of big industry." (35) Leaving aside the circular reasoning and question-begging phrase "over concentration", the inference was clear: insofar as market forces could be relied upon in this way, there would be less need to get excited by the cause of helping small firms. In a neo-classical sense countervailing forces would arise naturally to redress the balance and restore some equilibrium. "Rise and Decline" itself offered some support for this view. It argued that large firms tend to produce a healthy number of rebels and fugitives from size who would continue to set up new firms. But there is another possibility. Suppose that the age effects portrayed in "Rise and Decline" also apply to giant firms? Suppose that in big firms, too, maturity brings not only greater conservatism but also increased survival power? Suppose that Alfred Marshall's 1910 hypothesis as to "vast joint stock companies which often stagnate, but do not readily die", proves realistic? If this is indeed the case - and age effects have to be brought into the reckoning alongside size effects at the level of large firms as well as small ones - the situation may call for more urgent action than a concentration of size effects alone would suggest. Countervailing forces and equilibrium restoration would operate in a long-run so far ahead as to be useless. Meantime the large firms' congealment might make more desirable and necessary some form of intervention to speed up the process of renewal from below.

At the level of the large firm both size and age effects are, of course, more difficult to investigate. This is not only because of the

well-known problems of measuring social efficiency in this field. There are also special problems in assessing age effects specifically, so that a framework for historical analysis such as that developed with some difficulty in "Rise and Decline" would be still harder to apply. The time span of observation is shorter insofar as the large corporation of today is a relatively new phenomenon, sometimes with a 19th or even 18th century ancestry, but with a more typical corporate, public company existence of 60 or 70 years at most, generally much less. The frequency of mergers makes for problems over the definition and underlying identity of the firm. If, as seems reasonable, we adopt Edith Penrose's criterion of avoidance of dispersal of assets and of "complete absorption in an entirely different administrative framework", the time span of observation of the individual large enterprise often becomes still shorter. (36) More important, its complexity and diversity, usually increasing over time, probably make for great subtlety, diffuseness and gradualness in the way in which various types of economy and diseconomy work through. There are few analogues for such major small firm discontinuities as thresholds of minimum efficient size and of capital market entry or "clean sweep" changes of management. Correspondingly, the discernment of comparable "stages of development" is more difficult, at least so far as economic behaviour and performance are concerned; and scholarly studies have understandably taken the easier line of identifying successive production or marketing phases or types of organisational structure as the company develops. Alternatively, big theories on the development of business systems as a whole, like those of a Veblen, a Schumpeter or a Galbraith, have seemed unavoidable. To adapt Marshall's analogy, as the "trees of the forest" get ever higher, so their branches spread out and even intermingle, with the result that their growth processes, individual roots and even separate identities become less discernible, and correspondingly it is their collective character which has to be evaluated.

The case for envisaging diseconomies of scale in very large firms (and other organisations) is familiar enough. On the one hand, there is the view that increasing problems of managerial control and human relationships will eventually produce internal diseconomies as the firm grows beyond a certain size. On the other hand, there is the contention

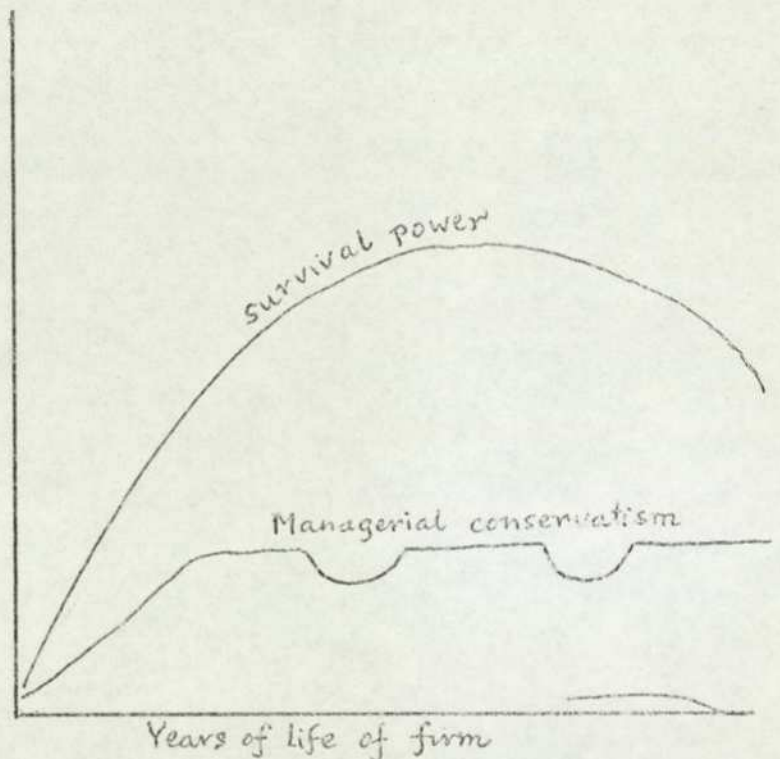
that external diseconomies will loom in the shape of excessive corporate power, an ability to get away with anti-social actions, to avoid political control or to bend social processes. Both views take some colour - and are certainly hard to disprove - on the available evidence. The data on profitability and innovation by size of firm, on managerial expansion motives, on the limited potential for scale economies in conglomerates and on worker morale in large units all suggest scepticism on the reality of productivity gains obtainable from indefinitely increasing size. (37) Nor is evidence lacking that large companies often over-influence governments in such matters as taxation and foreign economic policy - and contribute towards social consumption biases of an inflationary or morally debatable kind. However, given that there is indeed a case for fearing diseconomies (internal and/or external) of giant scale, the question at issue is whether there are also diseconomies of maturity at this level and, if so, how the two sorts of problems interact.

It would be remarkable if the large business enterprise were exempt from tendencies towards stagnation observed not only in small firms but also in other types of organisation over much longer periods. The evidence of millennia of history of non-hereditary organisations, including that of religious orders, republics and city states, can hardly be dismissed. After the formative period of building up the business management in the large corporation may well become more conservative. Once the firm has established itself in the first league as a result of rapid innovation, acquisition, diversification or commercial flair, its management probably tends to settle into a pattern of greater routine. Change is still pursued but mainly for risk-avoiding and defensive reasons. Strong coteries of established interests, based on personal power, product groups and functional specialisations, develop in the lower and middle echelons. To counteract these exceptionally able top management is required, preferably an outstanding individual. But it is unlikely that excellent leadership of this type can be consistently maintained. The mature big business probably looks for, and gets a leader whose gifts are primarily for diplomacy and co-ordination rather than radical change. Even where a radical leader emerges, his impact

is likely to be slight because of a span of only a few years as chief executive (moreover, as the firm also gets bigger, top management tenures may even be shortening due to the longer time it takes to work one's way up the hierarchy). Such an hypothesis of post-formative managerial conservatism must not be overstated. There is probably less risk of extreme ineptitude or reaction than in the small firm.

Managerial conservatism in the mature corporation is unlikely to increase consistently, let alone exponentially. Instead, it probably remains fairly stable over the long-term, broken by relatively brief spurts of dynamic

reformism (see diagram). Thus Anthony Downs' concept of a cumulative process in which, faced with conservative bosses, lively younger people are either deterred from entering the organisation or driven to leave it whilst the timid conformists are promoted - all of these things tending to re-



reinforce each other - is probably overdrawn as a generalisation, although doubtless true in some extreme cases. (38) Townsend may be nearer the mark with his suggestion that competition for promotion inside the business - and the fear of losing good people to rival firms - probably act as a preservative of sorts against the worst excesses of conservatism. Following Andrews, however, Townsend sees such internal correctives operating only in the presence of a fair degree of external market pressure, and even then probably only in the long-run, and this seems plausible. (39)

The other age effect foreshadowed by Marshall and explored in "Rise and Decline", the Law of Increasing Resilience, can also be predicated for large businesses, although for more complex reasons

than those applying to small firms. Once again market imperfections obviously play a considerable part in perpetuating mature big businesses. But the interpretation which sees specific monopolies as the main buttress of the large modern corporation has surely been overdone. The reasons for regarding Galbraith's "revised sequence" and "dependence effect" as exaggerations are familiar enough. The frequent complicity of consumption-hungry affluent consumers: advertising and new product failures: increasing market size as a result of international trade and improved communications: new technological substitutes and shifting market frontiers: the entry of conglomerate giants into apparently monopolised sectors: the sheer extent of uncertainty facing corporate planners - all of these factors suggest that the ability of a large corporation to manipulate a particular market indefinitely in the classic monopoly sense is, in practice, fairly restricted. Indeed, the attritions of indirect competition, of eroding trade and knowledge barriers and of bored or resistant buyers may even have increased. But this does not mean that the ability of the large corporation to survive has been reduced. On the contrary, its survival power has probably grown but for reasons different from those associated with the traditional categories of market power. As with small firms, so with large ones, one must look to wider historical currents. Galbraith's exaggerated rhetoric on the planning power of the "technostructure" in particular markets - part of his didactic attack on the long-outdated notion that perfect competition actually exists - must not be allowed to detract attention from his more justified comments on the massive socio-political leverage which the large, diversified corporation can exert in modern society. It is surely the large corporation's economic pervasiveness and social power, not its commercial dominance of particular markets, that are the sources of its resilience. Socio-political, rather than consumer "dependence effects" are what count. In this view, market forces are not destroyed head on, they can still exert substantial influence, particularly through the capital markets and new entry and substitution effects. Rather it is that the large corporation has a superb ability to absorb, sidestep and hold market forces at bay.

The large corporation seems able to perpetuate itself by processes familiar long before the Industrial Revolution, let alone the advent of limited liability. Diversification enables the large firm to spread its risks in terms of both countries and markets: a process well described by Knight over fifty years ago as a sort of massive insurance policy. (40) The large corporation also becomes increasingly entrenched in the social and political fabric through its complex interactions with employees, citizens and national governments. As the corporation matures, so increasing numbers of people depend on it. Workers rely on it for jobs, governments for support for balance of payments and other national economic interests, politicians for patronage and political contributions. Many of these linkages form the business element of that ubiquitous economic system existing alongside ordinary markets: the grants economy. (41) Thus the big business entrenches itself by paying massive tribute, more or less willingly, in the form of taxes, cooperation with government and trade unions, "pay-offs", subsidies and public relations expenditures. Its voluntary gifts run the gamut from the occasional outright bribe to the charitable donation. Moreover, the social impact of the large corporation may become more highly "geared", for example, insofar as it generates high employment multipliers, jobs in politically marginal areas, employment of ex-civil servants and politicians, operations in strategically important foreign countries.

Until these processes of diversification and social entrenchment of large enterprises are properly traced through, any hypotheses as to their effects over time are even more hazardous than with small firms. However, the outlines of a tentative theory seem possible. Slow to build up, the big corporation's diversification and social entrenchment tend to follow in the wake of its ordinary commercial success. But these processes probably go on increasing after both the decline of its original markets and the onset of managerial conservatism. They enable the big corporation to retreat in orderly fashion from obsolescing markets, to cover up inefficiencies and losses in some operations by success in others. They also enable it to claim continual support from government, trade union and other established interests on the grounds that its size and existence are socially indispensable.

Perhaps this process of market and socio-political diffusion follow a different pattern from managerial conservatism, tending to increase over time and describing a curve with an eventual downturn (see previous diagram). Thus in the very long-run, judging by the evidence of history, even the large company will eventually become extinct. But at the very least, it may well be several generations before this occurs.

Nor does the longevity of established large companies seem likely to be curtailed by new political developments. Possible scenarios here must reckon with changing balances between employee, governmental and corporate power. If employees become more influential in decision making, one can envisage reduced managerial prerogatives on "hiring and firing", increased political influence on subsidies, manning levels and location decisions. Such a trend might improve social harmony and stability, possibly at some cost in terms of commercial flexibility, as well as further entrenching the big enterprise: a welcome result, perhaps, but one hardly likely to reduce the conservatism-plus-resilience of mature big companies. Increased governmental and social controls might have similar results. It is debatable how successful any future effort on the part of government and counter-organisations to curb and influence the large corporation's power will be. Insofar as such efforts succeed, the big companies may become increasingly enmeshed in the social structure, further legitimised because of their greater social acceptability. Again, such a trend may be viewed as highly salutary, more so than any syndicalist development towards "workers' control." But again, certain risks can hardly be ignored. It is difficult to see Big Government actually running down or splitting up, let alone discontinuing, big businesses, however inefficient. Indeed, government control could give a new fillip to their survival power as it permeated and further "politicised" them. As for the alternative scenario - in which big companies preserve or even enhance their existing power, particularly at multinational levels - this would be perhaps the most congealing of all. A situation in which political control and integration consistently lag behind business geographical diversification offers indefinite opportunities for the multinationals to protect themselves by manoeuvring resources, exploiting national differences and spreading their political risks. Thus whether the existing power balance is envisaged as unchanged or as shifting towards workers, government or the big companies themselves, one net result appears to

be broadly the same: a continued, perhaps even increased ability of individual large companies to keep themselves in existence for long periods of time.

The hypotheses outlined in this section, which clearly require empirical testing, pose certain implications for theories of the firm. Support is given to the view that theories of the business corporation should not be divorced from theories of other types of organisation. The generic processes discussed - of birth, formation, obsolescence, revival, diversification, social entrenchment, death - suggest many analogies with non-business, non-market types of organisation, most of them more venerable, some even extinct. Management theorists, economists and others should abandon the parochial notion that the modern business corporation is a unique and entirely new form of life since patently, in so many ways, it is nothing of the kind. Again, the addition of age effects to size effects helps to restore, in qualified form, at least part of the traditional neo-classical formulation of the theory of diminishing returns. The neo-classical view was that as organisations grew in size, so they would become more efficient first at an increasing rate but then at a decreasing rate, and that there was a size beyond which they would actually become less efficient. Specifically, the long-run average cost curve would be U-shaped. For a time this view receded partly because of the daunting empirical problems of observing "long-run" cost and production functions, partly because of the glamorous phenomena of business diversification, increasing economies of scale and apparently sophisticated management techniques. The notion that these things could provide indefinite escape routes from diminishing internal and social returns reached an apotheosis in Edith Penrose's "Theory of the Growth of the Firm." This promethean notion, which has long held sway in management theory and the business schools, now appears questionable. Although the big business may transcend the diminishing returns of particular markets and technologies - and may achieve herculean feats of large-scale co-ordination in the short-run - sooner or later it seems likely to face internal human problems and/or external resistances. The notion of an observable upturn in the long-run average cost curve may be a will o' the wisp; but the underlying idea of diminishing returns to scale in

the long-run - at least in more diffuse social terms - is likely to prove correct. An equally important implication arises for the theory of economic power. Although the diseconomies of scale and maturity may make for corporate sluggishness, social weakness does not necessarily follow. On the contrary, the Law of Increasing Resilience implies a long drawn-out curve of increasing and persistent corporate power. This curve derives from categories of economic power different from those under the conventional headings of market share, entry and knowledge conditions, types of competition, etc. The theory of age effects implies the need for careful study of the processes which help to perpetuate the big enterprises: diversification, social linkages and interdependence, lobbies, pay-offs and grants, pro-establishment biases. It is unfortunate that economists have neglected these processes partly because they appear to affect the conventionally understood economic phenomena of G.N.P., growth, etc., but partly also because they fall squarely within the purview of allocation systems and scarce resource disposition.

For purposes of this paper, though, the main implications are for possible public policies on small firms. An economy in which the big corporations, even relatively stagnant ones, are so securely entrenched, is unlikely to favour countervailing power from small newcomers, but all the more likely to need them. We return to Alfred Marshall's eloquent image of the older, taller trees producing a "benumbing shade." To adapt his analogy, the mature, giant trees may be gnarled, turned in on themselves, growing outwards rather than upwards, even characterised by many rotting branches. But despite all this, indeed largely because of it, they persist in restricting access to the light and air needed by the saplings below. This they do through their continued grip on large resources of labour, capital and land, their ability to command finance, credit and supplies on more favourable terms, their direct discrimination against small suppliers and customers, their special access to the top echelons of financial, political and social power. Such a pervasive monopolisation of resources may be particularly marked in a country like Britain which is small, industrially mature and socially conservative (and now perhaps unlikely to achieve sensational growth). There is all the less room for new young saplings to put down seeds, let alone survive and grow, when the ground is

restricted, the older trees so numerous, the deference towards them so great. "Rise and Decline" argued that many of the "benumbing" older trees are themselves small. Yet if the extended age effect hypothesis is true, the larger trees are even less likely to wither and die, let alone be chopped down, in the foreseeable future. Barring a cataclysm in the Western economies, neither market forces nor political developments seem likely to create great new clearings in the forest. Therefore, the countervailing entrepreneurial rebellion against size, on which the Bolton Report and to a lesser extent "Rise and Decline" pinned so much hope, is likely to be a puny affair unless powerfully assisted. Yet at the same time the settled conservatism of the established large firms makes such a renewed challenge from the grass roots all the more desirable. New small firms appear still more essential.

(5) PUBLIC POLICY IMPLICATIONS

So far the argument has been that renewal of the small firm sector is important because this sector has declined too fast, because its age composition has deteriorated and also because market forces cannot necessarily be relied upon to redress the balance in the foreseeable future. However, it is one thing to argue for action to help new small firms in general terms, quite another to formulate a feasible method of providing such assistance in practice. The daunting problem is to propose forms of assistance which would avoid undue social costs. At this point the major differences between the Bolton Report and "Rise and Decline" come to a head. True, the two analyses shared some important assumptions of a positive-predictive nature. They both assumed that economic growth would remain a prime national objective, that sustained growth would imply in some sense a more vigorous small firm sector and that the dynamism of this sector would largely depend on socio-institutional factors some of which lie within the ambit of public policy. But when it came to the question of what should be done in practice, the two surveys markedly diverged. "Rise and Decline" argued that public policies on small firms could and should be selective whereas the Bolton Report maintained that if action were found to be necessary, it would have to be (and on wider grounds probably should be) of a global character. Whereas "Rise and Decline" envisaged small firm policy as a limited affair, the Bolton Report saw it as part of a more sweeping process of change.

The Bolton Report's argument needs setting out carefully. They vehemently rejected not only negative selectivity in the form of strengthened death duties or inheritance taxes but also positive selectivity in the shape of tax concessions or public subsidies for deserving small firms. First, such positive selectivity would not be feasible. Although it might be theoretically attractive to concentrate public resources on an elite minority of top-grade firms, in practice such potential "high flyers" could not be identified. A wider form of selectivity, public assistance for young or infant firms, was likewise rejected. A tax concession to such firms, so it was argued, would run into massive problems of demarcation and abuse. Subsidised finance would involve massive technical problems. In any case, "It is inconceivable that the dynamic minority could be preserved by selective measures in an environment which had been allowed to become radically uncongenial to small firms generally." (42) Secondly, selective assistance was not necessary. Studies commissioned by the Bolton Committee were held to suggest that there was "no body of legitimate unsatisfied demand significant enough to require radical changes in the market." "We have failed to find a significant number of clearly deserving firms which were unable to raise finance on reasonable terms." The financial market had proved very dynamic and seemed likely to be able to cope with any new demands. Meantime "any deserving firm will eventually, if it perseveres, find an institution willing to advance money on proper terms." The main problems were on the demand side: small firm ignorance, inexperience and misinformation about sources of capital. Moreover, small firms on average achieved higher rate of return on capital than large: "This makes it difficult to sustain a case for affording them cheap money - they should indeed be able to pay the economic cost of the resources they use." Overall, therefore, "There is no single major defect in financial facilities for small firms that calls for radical action." (43) Finally, selectivity would not be desirable. Since the existing institutions were reasonably satisfactory, a subsidy would distort the market. It would merely "divert funds from more profitable to less profitable uses"; and since the profit measure was assumed to correspond to "efficiency", this would be "uneconomic." (44)

According to the Bolton Report, therefore, small firm policy should be in broad essence global. "We have to ensure that the small firm population remains large and healthy enough to continue to throw up, as it has in the past, a sufficient number of dynamic enterprises to revitalise and renew the economy." (45) That depended particularly on high levels of "personal wealth and earning ability" related to both the state of the economy and the tax system. As we have seen, the Report felt that market forces might still redress the balance. But if they did not and the small firm sector's position continued to deteriorate, "nothing less than discrimination on a massive scale in favour of small firms would be effective." That, however, would be impracticable in existing circumstances. "To tilt the balance of forces in favour of the small firm would require a concession of a size that we would judge to be politically unacceptable to the majority of the population, and which we could not at present justify on economic grounds." (46)

I have already argued that the situation is more urgent than the Bolton Report suggested. I have also cited the evidence in "Rise and Decline" to suggest that the small firm sector can be differentiated to a greater extent than the Bolton Report implied. These arguments already cast doubt on their central theses of non-urgency and of any hypothetical assistance requiring to be global in character. But the Bolton Report's more specific arguments against selectivity need further consideration. Let us concentrate for this purpose on the question of possible assistance to small firms through the tax system or subsidised finance. Is it true that aid in a selective form would be infeasible, unnecessary and even harmful? The answer to this question is crucial. For if only a global defence is appropriate, even the added reasons for concern about the small firm sector advanced in this paper might still not justify the great social cost. The political acceptability of large financial concessions to small firm proprietors (or better-off people as a whole) and of the greater degree of income and wealth inequality resulting from a less progressive tax system would still be highly doubtful. It is hard to see how any national consensus could emerge on such an issue or even how a right-wing government would dare to implement such a plan. Therefore, the logic of global defence might well preserve a "do nothing" situation. But if, after all, the argu-

ments for selectivity turn out to be reasonable, the moderate action to which our analysis points would appear more likely.

Let us first define the circumstances in which a selective subsidy would be justified. There is an analogous field of economic debate which usefully crystallises the criteria and pitfalls both on subsidies in general and on subsidies to new activities in particular. This is the question of special protection to infant industries through tariffs or subsidies. From Alexander Hamilton through Friedrich List, J.S. Mill and Marshall to Taussig, Haberler and the modern international trade theorists, the infant industry protection argument has strong echoes for the theme of assistance to the infant entrepreneur (with which indeed it partly overlaps). Even free traders have tended to accept the principle of special assistance to infant industries with good potential which would not otherwise survive and where important external economics were likely. Thus J.S. Mill argued for assistance where there was a good chance of developing the new industry well, testing it in new conditions, and where it would be unfair to expect manufacturers to take the whole burden of experiment. (47) Mill and others argued the case for external economies largely in terms of the knowledge and labour skills resulting from an innovation. H.J. Johnson outlined the "orthodox" free trade case in 1965 by stipulating two conditions for temporary assistance to an infant industry: (a) that the social rate of return exceeds the private rate of return on the investment and (b) that there are serious imperfections in the capital market. External economies, (a), would be fulfilled either where the investment leads to knowledge which can be enjoyed by additional users without additional cost of production or where new labour skills are created which can later be transferred to other firms. As Johnson explained, since such diffused knowledge and skills cannot be recouped by the innovator, the social benefits clearly exceed (and in the case of strong competition may even erode) the latter's private gains. The argument based on (b), imperfections in the capital market, was less clear. Johnson merely remarked that such imperfections might make the cost of finance in new industries "excessively high," in which case public subsidisation of the provision of capital would be the appropriate policy. (48) The implication of this argument is that financial institutions may lack the ability to identify new industrial potential or

may apply unduly restricted time horizons in contemplating such investments. Thus the market imperfection would imply a private opportunity loss resulting from the ignorance of institutions or from what Pigou called "defective telescopic faculty."

These economists tended to argue for stringent safeguards. As Mill put it, "The protection should be confined to cases in which there is good ground for assurance that the industry which it fosters will after a time be able to dispense with it; nor should the domestic producers ever be allowed to expect that it will be continued to them beyond the time necessary for a fair trial of what they are capable of accomplishing." (49) Later writers followed Mill in arguing not only for temporariness but also for explicit public subsidies rather than tariffs. They urged great caution in view of the possible political abuses, the risk of merely sheltering the inefficient and, not least, the genuine difficulty of foreseeing external economies and future success. Caution was expressed particularly by Haberler when he argued that the burden of proof was on those who maintain that external economies "are numerous, persistent, large and, last but not least, practically recognisable and calculable." (50) Nonetheless, whatever the degree of caution, the principle was fully conceded.

How far do such criteria apply to the idea of public assistance for new small firms? First, as with infant industries, so with infant firms, the social benefits often go much wider than those accruing to private interests. "Rise and Decline" argued that new small firms provide essential economic gains. But a large part of these gains must be classified as external economies of renewal.

Such external economies of renewal take three main forms. First and most obvious are the Schumpeterian innovation effects: the wider "know how" and "spin-off" benefits from pioneering entrepreneurial firms. A more frequent spillover arises from the training effects of new entrepreneurship. No one who has closely observed new small firms can fail to be impressed with the way in which they extend self-reliance, rapid decision making and powers of leadership, with their probably unique capacity to develop an understanding of business situations in the round. To simulate this experience outside the real world of business is far more difficult than with management of a more specialised, structured nature. Moreover, the benefits of the entrepreneurial

training experience spill over whatever subsequently happens to the infant firm. If the founder shoots upwards to manage a large business, the abilities he has developed in the infant firm stage may benefit a wider field (the Weinstock syndrome). It is by no means evident that these abilities can be drawn out in the same way in a large, diversified corporation, despite the rhetoric of "decentralisation", "profit centres" and the rest. (51) If the firm remains small, independence and versatility on the part of workers as well as owner-managers are likely to be drawn out over a fair period of time. Assuming there is no subsequent migration to other firms, such qualities probably have a salutary demonstration effect on the wider community. Even if the firm succumbs to early death, the character-building experience gained by the unsuccessful entrepreneur may spill over into his new employment. More important still, perhaps, are the external benefits from increased competition. Improvements in competition result not so much from innovation but from the more typical cases where new small firms reduce costs, improve service and enlarge customer choice. Here the classical conditions for competition to operate for social benefit, with a quick reversion to normal profits all round, more nearly apply. But insofar as they do, the social advantages again extend well beyond the profits reaped by the marginal new firm.

True, this list of renewal externalities concentrates on benefits and excludes negative spillovers. However, there is no evidence that new small firms are more likely to pollute, exploit or create public nuisances than others. Although public regulation, for example of pollution, may be more difficult in the case of tiny new firms, purely local or private counter-pressures against such firms may be more effective. At the same time, though, if benefits wider than those to economic growth and efficiency in the direct sense are taken into account, the net social advantages of new firms appear stronger. There are the wider contributions of small firms to local community life mentioned in the Bolton Report. (52) There are the much discussed benefits of small units for worker morale. True, the human relations advantages are likely to be largely recouped inside the firm through higher productivity. Indeed, they form an important part of the inherent competitive advantages of small firms. But the greater social harmonies

and fulfilments, so far from being trapped in the place of work, clearly spill over into family and community life. Thus there are two levels of renewal externality, both highly favourable. On the one hand, the innovation, training and competition spillovers, which directly favour economic growth and efficiency, already make absurd the crude equation of social efficiency with private profit implied at one point in the Bolton Report (see above). On the other hand, there are also some more diffuse spillover community gains from the human benefits of small units. All of this would make a strong case for some element of public subsidy to new firms even apart from the serious trend discussed above.

The second criterion for such a subsidy, that of serious and persistent imperfections in the capital markets, is harder to verify. However, it is clear that the Bolton Report's satisfaction with the existing framework of capital provision was not necessarily justified. Their commissioned research survey on financial facilities for small firms had certain inadequacies. Surprisingly, it largely neglected the crucial issue of finance for potential and infant entrepreneurs. The report confirmed the well-known disabilities of infant firms in raising external finance which have already been referred to: the lack of fixed asset security for loans, the absence of minimum period trading records. (53) In view of these factors one might have expected a careful probe into all aspects of the anti-infant biases of financial institutions, but there was none. Instead, the problem of financially nurturing the frail and vulnerable newcomers was lumped in with the much wider issue of capital for firms with established, larger resources and longer track records. The survey concentrated on surviving firms which had applied, successfully or unsuccessfully, for finance and on the records of those firms previous to the application. It did not research firms which had applied, successfully or otherwise, and later gone out of existence. Nor did it investigate the post-application performance records to see how many "poor" firms got money, how many "good" ones did not. In assessing whether the applying firm "deserved" financial help, the survey applied conventional financial performance data and relied heavily on the qualitative views of the financial institutions. It did not evaluate in detail the search and forecasting abilities of the institutions, for example whether they were properly using techniques of

personnel assessment and market research or generally available facts about established or would-be entrepreneurs. It did not examine whether the biases in favour of "large small" transactions, fixed asset cover and minimum periods in business were operating reasonably or how many infant firms were thereby automatically excluded from consideration. Nor did it research among potential entrepreneurs to unearth data about their financial resources, attitudes to obtaining finance or likelihood of doing so. (54)

The result was a certain circularity of reasoning. Hardly surprisingly the firms successfully raising finance were found to have been more profitable, expansive and financially sophisticated prior to application than those who failed to get money. (55) This suggests merely that the institutions are probably adept in appraising previous financial records. It does not confirm that the market is performing the function of properly evaluating and backing potential profitability and entrepreneurial success. Perhaps the Bolton Report was right to suggest that the market has shown great versatility and adaptability. Perhaps, too, further research will vindicate the market relative to small firm renewal. But meantime since the Report accepted the supply side's criteria without serious question, researched the demand side so scantily and failed to explore or even distinguish the fundamental issues related to finance for new entrepreneurship, the basic issue is still an open one. The question raised by H.J. Johnson in the infant industry context, of whether market imperfections make the cost of finance for new activities "excessively high" is still unproved either way. The possibility that institutional ignorance, conventionality or systematic bias obstruct infant projects which offer good chances of profitability (let alone of wider social benefit) still exists. By the same token it can hardly be argued that if on national interest and externality grounds there is a strong case for assisting new firms, this should be ruled out because the market's existing efficiency makes it "unnecessary."

Could public subsidies to infant firms be feasible, effective and reasonably free from abuse? First, it is important to determine a cut-off point beyond which help would not be given. In the case of new industries and innovations the threshold of minimum economic size is hard to predict: a familiar problem requiring specialised expertise. (56)

But most new firms arise in established activities where the shape of the average cost curve is reasonably predictable. Evidence has been quoted to the effect that mortality risks tail off dramatically after the first three or four years, and also that the capital market "gap" for new firms is largely concentrated in that period. (57) Subsidised help should therefore be restricted to this period. Second, assistance to infant firms should probably not be channelled through the tax system. Although previously sympathetic to a universal tax concession for infant manufacturing firms, the author is convinced on reflection that this would fail to benefit many newcomers whilst being far too indiscriminating towards many others. Third, there is the idea of a new government-backed institution which would lend at cheap rates directly to deserving infant firms: broadly, the American Small Business Agency idea but restricted to a "nursing" function. This also has drawbacks. Such an institution would have to be very large, could become cumbersome and would monopolise a function which should arguably be dispersed among a variety of "judgement centres." Moreover, its direct and continuing links with many thousands of tiny firms would compromise the desirability of "arm's length" rather than unduly interfering public support. (58) Fourth, then, there is the idea of providing a public subsidy to existing financial institutions so that they could lend more cheaply to infant firms, which would still be carefully selected. Alternatively, a public subsidy could be provided to a new institution or institutions whose function would be to evaluate and guarantee the loan worthiness of infant firms seeking finance from various commercial quarters. The last expedient is used overseas (59) and has the advantage of developing new specialised abilities in initial selection under public auspices whilst leaving the detailed provision and administration of loans to commercial institutions well fitted for that purpose.

This brief discussion of public policies has some obvious gaps. There has been no consideration of the complementary measures, also suggested in "Rise and Decline", for phasing out declining or potentially inefficient older firms through inheritance tax, euthanasia and transfer policies. This partly reflects scepticism as to whether

vigorous anti-inheritance and anti-obsolescence policies at this level would command sufficient political consensus, although a consistent philosophy of small firm sector renewal should certainly consider them. Nor has it been possible to consider another possibly useful idea: measures to reduce large company acquisitions of entrepreneurially rescuable small firms. The more frequently discussed general types of assistance have been omitted altogether. The author is convinced that subsidised, selective nursery finance would be quite decisively more nationally cost effective than an equivalent expenditure on either (a) tax concessions for all small firms, (b) protectionist measures to reverse market disparities operating against them or (c) purely informational improvements like those immediately advocated by the Bolton Report. Whether the public money involved would be better spent on infant firms than on subsidies to large-scale industry or high technology, taking into account relative risks and returns, is a wider issue. It is fair to point out, however, that the likely sums would be considerably lower than those involved in Concorde-type projects and the risks considerably less. Moreover, the policy advocated is consistent with a variety of wider socio-political attitudes to the role of small firms in a mixed economy and a modern society. It is consistent with the philosophies which see a vigorous small firm sector as either (a) the keynote of a generally more competitive, profit and market-oriented society or (b) a necessary complement in an economy inevitably dominated by big corporate units and government intervention or (c) an essential minority element in an increasingly wealth-egalitarian, socialised and fraternal society. This is no mean advantage in a field so fraught with ideological differences.

FOOTNOTES

- (1) Report of the Committee on Finance and Industry, Cmd. 3897, London, 1931.
- (2) Report of the Committee on the Working of the Monetary System, Cmd. 827, London, 1959.
- (3) Report on the Committee of Inquiry on Small Firms (Bolton Report), Cmd. 4811, London, 1971.
- (4) Jonathan Boswell, *The Rise and Decline of Small Firms*, London, 1973.
- (5) Alfred Marshall, *Principles of Economics*, 1st edition, London, 1890, pp. 375-6.
- (6) Marshall, *Principles*, 2nd edition, 1891, pp. 372-3.
- (7) Marshall, *Principles*, 6th edition, 1910, p. 316.
- (8) P. Sargant Florence, *Economics and Sociology of Industry*, London, 1964; Kenneth Boulding, *A reconstruction of Economics*, 1950, p. 38; A.A. Alchian, "Uncertainty, evolution and Economic theory", *Jnl. Pol. Econ.* June 1950.
For a sweeping attack on biological theories as vacuous and/or deterministic see Edith T. Penrose, "Biological Analogies in the Theory of the Firm", *American Economic Review*, Dec. 1952.
- (9) Edith Penrose, *Theory of the Growth of the Firm*, Oxford, 1959.
- (10) Anthony Downs, *Inside Bureaucracy*, Boston, 1967.
- (11) Kenneth Boulding, *A Reconstruction of Economics*, 1950, p. 34.
- (12) Boswell, *op cit.* P. 36, p. 249-250.
- (13) Boswell, *op cit.* p. 93-4.
- (14) Bolton Report, *op cit.* p. 60.
- (15) *Ibid*, pp. 68-70.
- (16) This finding emerges in an unpublished paper by S.J. Prais.
- (17) Bolton Report, *op cit.* pp. 72-73.
- (18) For a defence of this sort of "tentative theory of social evolution", see W. Arthur Lewis, *The Theory of Economic Growth*, London, 1955, especially pp. 10-18.

- (19) D. H. McGregor, in *Enterprise, Purpose and Profit*, Oxford, 1934, found a positive correlation between annual formations of new limited companies and indicators of economic prosperity between 1860 and 1910; but no correlation between recessions and liquidations (both "compulsory" and in the "voluntary" category linked with either strict insolvency or apparent loss-making). He attributed the relative stability of such liquidations to the tendency for booms to create an "unsettling factor" through over-trading, excess credit and generally unwise decisions.
- (20) For a useful summary of the evidence on human "size effects" see Geoffrey K. Ingham, *Size of Organisation and Worker Behaviour*, London, 1970.
- (21) As used particularly in the late 1960's for example in justifying certain large-scale mergers, this argument implicitly assumed that top quality management of the expanded units could be found or that, once found, it could be indefinitely maintained (sic).
- (22) See Jewkes, Sawers and Stillerman, *The Sources of Invention*; C. Freeman, *The Role of Small Firms in Innovation in the U.K. since 1945* (Bolton Committee Research Report 6, 1971); and E. Mansfield, *The Economics of Technological Change*. Kennedy & Thirlwall (1972) found that "as it stands, the evidence appears to be heavily weighted against the hypothesis that a necessary condition for technical change and progressiveness is that firms should be large scale and dominate the market in which they operate". Norris and Vaizey (1973) found "no consistent connexion between research and development expenditure as a proportion of total assets and size of firm".
- (23) See particularly G. D. Newbould, *Management and Merger Activity*, Liverpool, 1970; M. Z. Brooke and H. L. Remmers, *The Strategy of Multinational Enterprise*, London, 1970; B. Ryden, *Mergers in Swedish Industry*, Stockholm, 1972; Aaronovitch and Sawyer, *Big Business*, London, 1975.
- (24) Aaronovitch and Sawyer, op cit. p. 214.
- (25) For a reasoned analysis of both points on similar lines see J. C. Wedgwood, *The Economics of Inheritance*, London, 1929, and C. T. Sandford, *Taxing Personal Wealth*, London, 1971.
- (26) "Rise and Decline", p. 75.
- (27) Ibid, p. 59.
- (28) Ibid, p. 163.

- (29) D. H. McGregor, *Enterprise, Purpose and Profit*, Oxford, 1934; R. G. and A. R. Hutchinson, and M. Newcomer, "Study in Business Mortality", *American Economic Review*, 28 (1938), pp. 497-514; and B. C. Churchill, "Age and Life Expectancy of Business Firms", *Survey of Current Business*, December 1955.
- (30) K. S. Lomax, "Business Failures: another example of the analysis of failure data", *Journal of the American Statistical Association*, December 1954, pp. 847-52.
- (31) For a detailed description of trade union action to this end see H. A. Turner, *Trade Union Growth, Structure and Policy; a comparative study of the cotton unions*, London, 1962.
- (32) See C. W. Golby and G. Johns, *Attitude and Motivation*, Bolton Committee research report 7, London, 1971.
- (33) Economists' Advisory Group, *Financial Facilities for Small Firms*, Bolton Committee research report 4, London, 1971, sections 3, 4, 5, 6, 9.
- (34) The Report suggested that among the "symptoms of ill-health in the sector which should be watched for" were (1) lack of new entrants, (2) ageing of the small firm population, (3) over-concentration, (4) rate of business failure and (5) too few high-fliers (Bolton Report, op cit., p. 90.).
- (35) Bolton Report, op cit. p. 88.
- (36) Edith T. Penrose, *Theory of the Growth of the Firm*, Oxford, 1959, pp. 22-3.
- (37) On profitability and size of firm see A. Singh and G. Whittington, *Growth, Profitability and Valuation*, London, 1968, and Bolton Report, op cit., chap. 4. On innovation and size of firm see footnote (22) above. On big firm expansion motives and reasons for mergers see footnote (23). On worker morale and size of organisational unit, see footnote (20).
- (38) Anthony Downs, *Inside Bureaucracy*, Boston, 1967.
- (39) H. Townsend, *Big Business and Competition*, in T. M. Rybczynski, *A New Era in Competition*, Oxford, 1973, pp. 74-75. P.W.S. Andrews, "Competition in the Modern Economy", in G. Sell (ed.), *Competitive Aspects of Oil Operations*, London, 1958, p. 29.
- (40) Frank Knight, *Risk, Uncertainty and Profit*, Boston, 1921.
- (41) See Kenneth E. Boulding, *The Economy of Love and Fear: A Preface to Grants Economics*, Belmont, California, 1973.
- (42) Bolton Report, op cit. pp. 86, 210.

- (43) Ibid, pp. 188-192.
- (44) Ibid, p. 190.
- (45) Ibid, p. 86.
- (46) Ibid, pp. 89, 91.
- (47) J. S. Mill, Principles of Political Economy, Arkley's edition, p. 922.
- (48) H. J. Johnson, Optimal trade intervention and domestic distortions, in R. E. Baldwin and others, Trade, Growth and the Balance of Payments, essays in honour of Gottfried Haberler, 1965.
- (49) Mill, op cit.
- (50) Gottfried Haberler, "Some Problems in the Pure Theory of International Trade", Economic Journal, June 1950, quoted in H. Myint, Infant Industry Arguments for assistance to industries in the setting of dynamic trade theory, in R. Harrod (ed.), International Trade Theory in a Developing World, 1963. See also a more practical warning by Alfred Marshall in 1875, based on a study of American tariffs: "I found that, however simple the plan on which a protective duty started, it was drawn irresistibly to become intricate, and to lend its chief aid to those industries which were already strong enough to be without it."
- (51) On the gap between this rhetoric and the reality and increase of centralisation in large multinationals see M.Z. Brooke and H. L. Remmers, The Strategy of Multinational Enterprise, London, 1970, chaps. 8 and 9.
- (52) Bolton Report, op cit. pp. 26-27.
- (53) Among the points emerging here were the following. In the critically important field of bank finance for small firms, security was generally required and the proportion of secured loans was rising; 3 or 4 years audited accounts were normally required, showing regular and steady profits; there was reluctance to provide funds for completely new ventures; loans were not provided in riskier cases where (so the report commented) it would be preferable to lend but at higher rates; clearing bank subsidiaries providing term loans generally insisted on minimum amounts of £20-25,000; and "there were certain areas where a large number of bankers thought that small firms might have difficulty", notably over risk or venture capital for amounts less than about £40,000 and formal term loans of 5-10 years for less than £20,000. (Economists' Advisory Group, Financial Facilities for Small Firms, Bolton Committee report 4, 1971, pp. 18, 20-21, 86, 93). In the case of factoring, a minimum of £100,000 was normally required (Ibid, p. 25). In the case of

(53) Continued

hire purchase and leasing, there was reluctance to lend more than very small sums to entirely new firms and also wide agreement among finance houses about the difficulties in borrowing facing a new firm or a new venture of an established firm (Ibid, pp. 28, 30). In the field of specialist institutions providing medium and long-term fixed charge finance, little was being done for small firms generally by the insurance companies and pension funds; the practice of insisting on minimum amounts was widespread (£20-50,000 in the case of merchant banks, £25-50,000 in the case of insurance companies, £50-100,000 in the case of pension funds, £5,000 in the case of the I.C.F.C.); fixed security was normally required; and normally no changes were made unless a loan was offered so the institutions had an obvious incentive not to spend a lot of time considering small applications; again, several years accounts were normally required; (Ibid, pp. 32, 33, 34, 114, 128).

- (54) Economists' Advisory Group, Problems of the Small Firm in Raising External Finance, Bolton Committee research report 5, 1971. In their accompanying qualitative report the E.A.G. made some criticisms of the market relevant to our argument. They felt that more bank overdrafts should go to riskier cases at higher rates, implying that the banks' evaluation of risks was often inadequate (pp. 20-21); that among institutions making short-term loans there was "little scientific attempt to evaluate risk" (p. 70); that the lower limits set by insurance companies and pension funds for mortgages were "unnecessarily high" and their valuations of properties "too conservative" (p. 74); that there were not enough financial institutions providing medium or long-term finance (p. 147); that "there may exist a number of new ventures that need finance but do not promise a high enough growth rate to attract the venture capital companies" (p. 55); and that "the market mechanism is sometimes deficient in 'spotting the winners' among infant (as opposed to simply small) firms, whose immediate past performance has been unimpressive but which, if they could achieve a 'take-off' in their growth, would become the successful small or medium size firms of the future" (cited in Bolton Report, p. 190). In view of these criticisms, the problems of infant firms listed in (53) above and the critical observations made by many finance houses themselves, the final judgements made by the E.A.G. seem somewhat lame, even apart from the fact that their research suffered from certain serious gaps. For example, they asserted the belief that "the banks are able to fulfil all viable short-term needs under normal circumstances and are contributing increasingly to easing longer-term difficulties" (p. 93), and that the financial system as a whole was "vital and dynamic" (pp. 70-71): this last on the basis of the striking changes of the past years but without comparative reference to overseas experience.

- (55) Cited in Bolton Report, op cit. p. 189.
- (56) Notably by organisations like the National Research and Development Organisation, and Technical Development Capital.
- (57) This implies that infant firm provision would not distort the market or merely divert capital resources but should assist in filling a distinctive "gap".
- (58) The experience of the American S.B.A. is not entirely reassuring here.
- (59) See Bolton Report, appdx. 5, for an outline of term loan provisions of various kinds for small firms in certain overseas countries.