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International divestment and restructuring decisions (with special reference to the motor industry)

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Note:
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PART I

INTRODUCTION

Divestment and structural change

The world economy has recently been undergoing profound structural change. Economic interdependence between nations increased rapidly during the 1960s and 1970s. Multilateral tariff reductions have liberalised trade in final products. This has given producers a wider range of choices concerning the location from which to source a given market. It is no longer necessary, for example, for a manufacturer to produce in Britain to supply the British market: anywhere within the European Community will do. Moreover, newly industrialising countries which have transferred agricultural labour to the manufacturing sector now achieve high productivity with low-wage labour. This has led to expansion of trade based upon the exploitation of international differences in labour costs. Thus, despite the common external tariff of the European Community, it has become profitable to supply the European market with products manufactured on the other side of the globe in the Asia-Pacific region. The developing countries which have attempted to resist this trend - notably South American countries influenced by the Prebisch philosophy of development - have run into serious debt problems, caused partly by their protection of unprofitable import-substituting manufacturing investments.

Intermediate product trade too has increased as different stages of production within industries have become concentrated in different countries. As a result, there have been increasing opportunities to exploit economies of scale at all stages of the manufacturing industry.

In the early post-war period there was rapid technological innovation, particularly in the United States. The greater political stability of the post-war world encouraged the transfer of technology abroad through foreign direct investment. Nowadays technologies are transferred abroad from innovating countries with increasing rapidity. Foreign direct investment remains an important mode of transfer, but alternative contractual arrangements - licensing, franchising, subcontracting, joint ventures and 'turn key' projects - have become popular as well. As a result, the development and exploitation of new technology is increasingly co-ordinated, right from the start, on a global basis. Multinational enterprises typically play this co-ordinating role.

The integration of national markets into a single world market - in the market economy countries at least - has brought multinationals from different countries into simultaneous competition with each other in a large number of parallel markets. Since the OPEC oil price rises, the onset of the international debt crisis and the deepening of the recession in Europe, competitive forces have locked even the very largest enterprises into a kind of Darwinian struggle for economic survival. The fitness of an enterprise in this struggle is determined, amongst other things, by its ability to co-ordinate technological innovation and plan the sourcing of markets on a global scale. Global strategies enable the company to keep costs low by fully exploiting both cheap labour locations and economies of scale.

Global competition has had a substantial effect not only upon the enterprises themselves but upon the national economies in which they produce. Enterprises have been forced to restructure and rationalise their operations by closing down the smallest and least efficient plants, and divesting operations that are peripheral to their main activities to other firms. Western European countries have been particularly badly hit by plant closures, and so too have some of the mid-Western states of the United States. It is therefore most important for other parties interested in these decisions such as governments and workers' representatives to understand the divestment moves of large enterprises, and their relation to rationalisation and restructuring operations as a whole. This paper makes a small contribution to this issue by explaining the background to recent divestment decisions in the motor industry. The emphasis is on the international aspects of divestment, and in particular on the effects of divestments made by foreign firms.

Review of the literature and plan of the paper

Foreign divestment may be defined as a situation in which a corporation headquartered in a foreign country relinquishes control of the productive activities of a local subsidiary. In this context, productive activities include not only manufacturing but also marketing and distribution.

Early studies of foreign divestment include an analysis by Franko (1971) of factors influencing the survival of international joint ventures, a study of Kitching (1973) of successes and failures amongst United States acquisitions in Europe, and an analysis of United States divestments by Torneden (1975). Business International (1976), Sachdev (1976) and Chopra, Boddewyn and Torneden (1978) present further case study evidence, and survey the strategic issues from the standpoint of the divesting company.

A wave of foreign divestments in Europe, beginning in 1973, emphasised the need to consider more carefully the social and economic impact of divestment on the host country. Van Den Bulcke (1979) examined the case of Belgium and found that during the two years 1975-76 foreign affiliates were responsible for 32 per cent of job losses arising from plant closures and collective dismissals in manufacturing industry - a proportion very similar to their share in total manufacturing employment. However, foreign affiliates were more inclined than their Belgian counterparts to close down smaller plants and to retain large ones, which suggests that foreign affiliates were involved in a more coherent form of rationalisation than were indigenous firms. In a more recent study, however, Van Den Bulcke and Halsberghe (1983) noted that this difference between foreign and indigenous firms has since disappeared. This is confirmed in a study of employment losses in Irish manufacturing industry by McAleese and Counahan (1979), who found no significant differences at all between foreign subsidiaries and indigenous firms. Figures published by the Industry Department for Scotland indicate that this applies in Scotland too. The Scottish experience suggests that branch plants operated in Scotland by British companies are, if anything, more vulnerable to closure than plants operated by foreign companies. One reason could be that the foreign investors have a strong commitment to their Scottish location as a major centre from which to source the entire European market. Their European operations are already rationalised around a Scottish centre, in contrast to British companies whose operations are not initially rationalised, and for whom the Scottish plants are peripheral. When a British firm is forced to rationalise, therefore, the headquarters plant in England is retained and it is the Scottish plant that is closed down.

A number of recent case studies have focused upon the political economy of foreign divestment. Grunberg (1981) has examined Leyland's divestment of the Italian motor manufacturer Innocenti and Litton Industries' closure of its British Imperial Typewriter subsidiary, whilst Hood and Young (1982) and Young, Hood and Hamill (1985) have examined foreign divestments in Scotland by Singer, Hoover, NCR, Honeywell, Goodyear, Timex, Hyster and IBM. More specific studies of the impact of foreign divestment on a local economy are provided by Gaffikin and Nickson (1984) for the West Midlands and Lloyd and Strutt (1983) for the North West.

While all of these studies make important contributions to knowledge, it is difficult to summarise their findings because of the very different approaches adopted by the authors. There is little agreement, for example, on the basic issue of how a divestment is to be defined. Some of the authors concentrate on expropriation, whilst others concentrate on voluntary divestments. Some identify divestment with factory closure, whilst others recognise the importance of divestments effected by selling off a subsidiary as a going concern.

There is still less agreement upon the criteria by which the success or failure of a divestment is to be evaluated. Some authors consider only the point of view of the divesting firm, whilst others concentrate upon national or local interests - as interpreted from their own particular political point of view. When adopting the corporate point of view, some authors implicitly assume that divestment is a reflection of failure, whilst others are also prepared to regard it as a creative response to changing circumstances. It seems, therefore, that some prior clarification of the questions is required if new insights are to be obtained into the divestment process.

The remainder of this paper is organised into three main sections. Part II discusses fundamental issues in the analysis of divestment, and derives some general policy implications. This part represents a self-contained introduction to the subject. Part III considers the nature of rationalisation and restructuring in the motor industry, whilst Part IV presents a case study of the divestment and rationalisation process. Parts III and IV are intended to be read together. Future developments are discussed in Part V.

The case study chosen is the divestment of Chrysler's European operations to Peugeot in 1978. This case has already been discussed by both Grunberg and Hood and Young, although their emphasis is different from the present study. Grunberg focuses upon the negotiations between Chrysler and the British Government in 1975, whilst Hood and Young focus upon Peugeot's closure of a major Scottish factory in 1981.

The object of the case study is to illustrate some of the general points made in Parts II and III. The study does not describe in detail the machinery of the corporate decision-making process. Rather, it is a case study of the way that economic circumstances dictated a particular rational response by the managements of the two companies to changes in trading conditions in their industry. In describing the response as rational, it is assumed that both managements had well-defined objectives, and attempted to choose the appropriate means to fulfil them. It is recognised, however, that managements were responding to the situation as it was perceived at the time, and not as it might now be perceived with the benefit of hindsight. It should be clear, therefore, that this case study is informed by the insights of economic theory rather than by insights gained from the study of organisational behaviour.

PART II

DIVESTMENT: ANALYSIS AND POLICY

Divestment: Success or failure?

There is an important distinction between divestment of ownership and divestment of control. It is well knwon that the acquisition of majority equity ownership in another company is normally sufficient to acquire control of it, and that an increase in equity investment from a majority holding to a 100 per cent holding may be of only marginal consequence. Conversely, a divestment which reduces ownership from 100 per cent to 51 per cent may have little consequence for control, whereas a divestment from 51 per cent to 49 per cent may - if the remaining shares are held by a single owner - cause effective loss of control. In the analysis that follows, the emphasis is upon control. Divestment is identified with any reduction in ownership of a subsidiary which effects a significant or total reduction in control.

The focus of this study is upon voluntary divestment. Involuntary divestment effected by nationalisation or expropriation, or by damage to assets arising from natural causes, is ignored. The impact of expropriation on foreign divestment was quite significant during the 1960s and 1970s in certain developing countries - particularly in Africa - though for the time being the threat of further large-scale expropriations appears to have receded.

Voluntary divestment is of two main kinds. The first is divestment which is a direct response to changed circumstances. In this type of divestment, the firm moves from an initial equilibrium capital structure to a new equilibrium capital structure as a response to changes in its environment. The second type of divestment represents the correction of a previous error. With the benefit of hindsight, management recognises that the initial capital structure was not actually appropriate to the initial circumstances. The capital structure is therefore changed, not because the environment itself has changed, but because management's perception of the situation has changed.

There is a third type of voluntary divestment, which is alluded to below, but which is not considered in detail in this paper. This is divestment stimulated by a change in the time preferences of investors, which leads them to prefer companies generating dividend streams which are high in the short run to those generating streams which are high in the long run. The sudden appearance of a short-term bias in investor preferences may encourage companies to liquidate investments in order to boost current dividend streams.

In practice, managers are involved in a continuous learning process in a continuously changing environment, and for this reason both the first type of "equilibrium adjustment" divestment and the second type of "error correction" divestment normally proceed simultaneously. It is therefore often difficult, in a particular situation, to disentangle one from the other.

The difficulty is particularly acute because when an error has been made, it may have been either one of omission or one of commission. It is an error of omission if the company should have divested earlier but failed to do so, and an error of commission if the company should not have invested earlier but did so. Errors of commission are corrected by putting the original policy into reverse, whereas errors of omission are corrected by putting the policy into effect without further delay. Errors of commission are usually more conspicuous than errors of omission because they involve a sequential reversal of policy. It is likely, though, that in practice errors of omission are just as important. Indeed, they may be more important, for the conspicuous nature of an error of commission means that insecure managers who wish for a quiet life may prefer to "omit" rather than to "commit". It does not follow, therefore, that even if divestment is motivated by error correction, the original error was a mistaken investment; the error may have been not to have made an equilibrium-adjustment through divestment earlier.

Error-correction divestment is closely connected with the issue of whether divestment should be perceived as a business failure. The first and most obvious point is that the correction of an error is not a failure. It is the original error itself that, if anything, represents a failure. However, because the correction of the failure is often what draws

attention to the fact that there has been a failure, and represents the first "public" admission of it, the corrective policy may well become "tainted" by association with the failure.

But do all errors represent failure? To a certain extent: yes. An error must have been avoidable because, by definition, if no better option was available, no mistake could have been made. Hence there must have been a failure to choose the correct option. Some errors may be explainable, however, in the sense that at the time the error was committed, no one could reasonably have foreseen the consequences. Because of natural limitations of foresight, therefore, those looking back on the decision may decide that the outcome was a misfortune and that no one was really to blame. Indeed, recognition of the fact that no one was to blame may make the correction of the error administratively easier, since no loss of face is involved. This is particularly important when those who would otherwise lose face now occupy leading positions within the firm.

Nevertheless it could be objected that - these subtleties notwithstanding - divestment must represent a failure of some kind since its reverse - investment - is normally regarded as a sign of success. This objection is fallacious, however. In a market economy, both the efficient use of resources by a firm, and its effective exploitation of market power, are indicated by a high level of profit. The decision whether to consume profit or invest it essentially reflects the time preferences of the owners of the firm. (In the case of a firm where ownership and control are divorced, it is the preferences of the managers that are relevant.) When those who inherit the consequences of past decisions between consumption and investment analyse those decisions in retrospect, there is a natural tendency to regard investment as the right decision and consumption as the wrong decision. After all, past investment generates a larger stock of inheritable wealth than does past consumption. From this perspective, therefore, divestment is deplored in retrospect because it reduces the stock of wealth inherited by the next generation. It should be noted, however, that this judgement reflects an inter-temporal conflict of interests and is not directly related to the question of the efficiency of production. Policy-makers who deliberately take the long view, and represent today the interests of future generations, may well criticise those who in the past have taken a short-term view. Such criticism, however, is first and foremost a criticism of attitudes and values, and only indirectly a criticism of performance.

The corporate divestment decision

When analysing the determinants of divestment, it is useful to consider whether a decision to divest can be regarded simply as the "reverse" of a decision to invest (Boddewyn 1983a, 1983b). If the analysis is confined to equilibrium-adjustment then the analogy works quite well, as explained below. Where the error-correction motive is concerned, however, the analogy cannot be exact. This is because of a fundamental assymmetry: namely, that a firm cannot divest an asset before it invests in it, although it can invest in it before it divests it. The only exception arises where "short sales" are allowed; in this case a company can sell an asset it does not possess on the basis that it will acquire it later, if necessary, to honour the debt. To avoid complications of this kind, the analysis below focuses upon the equilibrium-adjustment motive for divestment.

There are two main ways of divesting control:

- closure of the facility;
- sale of the facility as a going concern to another company.

It is also useful to distinguish different types of sale:

- sale to a company with which one continues to trade;
- sale to a company with which one plans to have no further connection whatsoever;
- sale to an existing rival; and
- sale to a new company that will become a rival.

Each of these types of divestment has an investment analogue, as indicated in table 1. It is appropriate to consider the determinants of those types of investment, and then in each case to turn the argument around to consider how the same factors affect divestment.

(1) The closure of a facility is the opposite of a "greenfield" investment. Before a greenfield investment is made the land involved is allocated to a quite different use; when closure is effected, the land that was used reverts to an alternative use.

The most obvious motive for building a greenfield facility is that no satisfactory alternative facility is available elsewhere. This may be because the facility is unique or because alternative facilities exist but are defective. If other facilities exist, the defects must be irreversible in the sense that they cannot be remedied except at prohibitive cost.

Turning this around, the circumstances most likely to lead to closure of a facility are either that the facility was unique, but due to a change in circumstances is no longer required, or that the facility is now irreversibly defective relative to other facilities currently available. The most likely defects are summarised below.

(a) The facility may be in the wrong location.

(i) The geographical distribution of customers may have changed, with the result that production is now remote from the centre of the market. A facility supplying consumer goods may find that international differences in population growth and income growth have caused the market to grow fastest in countries that are a long distance away. A facility supplying raw materials, components, semi-processed products, business services or producer durables may find that its downstream customers have relocated, so that rival supplies are now much nearer to them than they were before.

Table 1: Parallels between strategic options in investment and divestment

Investment	Divestment
Establishment of a "greenfield" facility	Closure of a facility
Acquisition as a going concern of:	Sale of the facility as a going concern to:
- a company with which one has previously traded at arm's length;	- a company with which one will trade at arm's length;
- a company with which one has no previous connection;	- a company with which one plans to have no further connection;
- a facility that previously belonged to a rival;	- an existing rival;
- a rival company in its entirety.	- a new company that will become a rival.

(ii) The geographical pattern of input availability may have changed. Since capital is relatively mobile, it is changes in the availability of labour and natural resources that are crucial in this respect. Exhaustion of mineral deposits, deforestation, erosion of top soil, and many other factors can induce the closure of mines, plantations, and other resource-based production facilities. The discovery of new natural resources elsewhere, or technological innovation which makes it feasible to exploit such resources for the first time, can have a similar effect. Improvements in the training of foreign labour can raise productivity at other locations so that the cost advantage of using the domestic labour force is lost.

(iii) Tariff and non-tariff barriers may have altered. Tariffs on many final products were reduced under the General Agreement on Tariffs and Trade, although in many industries where intermediate products are tradeable, the effective rates of protection on the final stages of processing have remained relatively high. Early

stages of processing are therefore more susceptible to international competition than final stages. The recent introduction of "value-added" tariffs has stimulated offshore processing, much of which takes place in newly industrialising countries. In many industries the main obstacles to trade are now non-tariff barriers such as government discrimination against purchasing imports, artifically strict quality controls on imports, and voluntary restraints negotiated with exporting countries. The net effect, however, is that many mature industrialised countries have lost the protection their industries enjoyed in the inter-war and early post-war period.

(iv) Transport costs may have changed. The past 25 years have witnessed significant developments in transport technology, including the innovation of extra-large highly automated bulk carrier ships, the construction of comprehensive motorway networks and the increasing carriage of high-value freight by air. Perhaps the single most important influence on the location of manufacturing industries, however, has been the development of inter-modal transportation using containers. Because of scale economies in handling containers, inter-modal traffic tends to be concentrated upon a few major trunk routes. Manufacturers located in older industrial districts where roads are congested and local ports are too small to handle bulk traffic may be disadvantaged as a result of this development.

(v) Government policies may have changed. Many governments nowadays offer a package of inducements to new investors which include rate rebates, tax holidays, subsidised factory facilities and energy sources, cheap loans - and even exemption from certain local labour laws in the case of some "export-processing zones". These inducements may lure industry away from traditional areas, and encourage manufacturers to become "footloose" - moving their factories around to areas newly designated for industrial development. Unless established firms in mature areas are offered similar subsidies, they suffer competitive cost penalties which may force them to close. Producers in certain countries may also be subject to price controls, production quotas, anti-pollution measures, employment taxes, etc., from which producers in other countries are exempt, and which further penalise their operations.

(b) The facility may have the wrong capital infrastucture.

(i) Technical progress may have rendered the design obsolete. It may be difficult to replace old plant with new on a piecemeal basis. If continuity of production is important then it may be necessary to build an entirely new facility and then close the old one down.

(ii) Changes in relative prices may alter the appropriate input or output mix. If production utilises highly specific dedicated machinery then it may be difficult to adjust the equipment to meet new needs. The cost of retooling or rebuilding may be prohitibive. Thus the new input or output mix must be obtained from a new plant, and the old one closed down.

(iii) New opportunities may arise for exploiting economies of scale. Overall growth of the market, and greater integration of local markets through reductions in transport costs and tariffs, both encourage the replacement of small plants by larger ones. Other things being equal, overall growth encourages the use of a similar number of plants of larger scale, while integration of markets encourages concentration of production upon fewer plants. During the last few years, integration of markets appears to have been more important than overall market growth in eliminating small-scale plants. This is particularly true within the European Community, though must less true for, say, Japan.

(c) The facility may have the wrong management and working practices. In some cases, it may be viable to improve managerial efficiency and labour relations by a change of leadership in the company. A company may be "turned around" by improving self-motivation and incentives at all levels of the organisation. But, in some cases, inefficient traditions may be so entrenched within the company - and perhaps also within the local community from which the employees are drawn - that only wholesale recruitment of a new management and workforce with a different social background will suffice. This is often best done by constructing an entirely new facility in another location and closing the old facility down.

(d) The facility may be the marginal plant in an industry faced with falling demand. During the recent recession overall demand in several major markets has declined. Reductions in demand encourage the closure of high-cost plants. Thus a plant which may be viable in buoyant demand conditions may not be viable in depressed conditions. If management believes that the recession is temporary then the plant may be "moth-balled" and the workforce laid off awaiting recall. If, however, the recession is expected to be permanent, then closure will be effected instead.

(2) Divestment of a facility to a trading partner is the reverse of the acquisition of a facility from a trading partner. An acquisition of this kind is most naturally explained by economies of vertical integration. These economies represent the net economies achieved by replacing arm's length contracts between an upstream and downstream facility by managerial control. Divestment is explained by economies of vertical disintegration. Vertical disintegration involves replacing an intermediate product market which is internal to the firm with a similar market external to the firm. This is effected by spinning off either the upstream or downstream activity as an independent firm.

Disintegration is induced by changes in the environment which either reduce the benefits or increase the costs of internal trade. There are many factors which affect disintegration (see e.g. Casson, 1984) and only some of the most important ones are catalogued here.

(a) The relaxation of government intenference in arm's length trade in the intermediate product encourages disintegration. If, for example, statutory price controls were abolished in the intermediate product market, a firm might become just as willing to buy from, or sell to, an independent firm as to one of its own subsidiaries.

(b) Fiscal harmonisation between countries may eliminate the benefits from transfer pricing, so that in the interests of administrative economy a firm might prefer to deal at arm's length with a facility that was previously a subsidiary. This effect could be produced by the equalisation of the marginal rates of taxation between two countries, or by the abolition of exchange controls which had impeded international capital movements.

(c) A reduction in barriers to entry into either the upstream or downstream activity may render arm's length trade more competitive. A reduction in barriers to entry could occur for several reasons, such as the introduction of a new technology affording lower returns to scale, the expiry of a patent, and so on. The adjustment of the arm's length price towards a competitive level eliminates potential distortion of the downstream input mix, or the upstream output mix, and avoids the consequent waste of resources. When barriers to entry are eliminated at both adjacent stages, the problems of bilateral monopoly in the intermediate product market, and of multiple monopolistic mark-ups of the final output price, are also avoided. Thus in various ways the reduction in barriers to entry promotes arm's length trade.

(d) Improved methods of quality control in upstream production, or improvements in quality testing of inputs at the downstream stage, may reduce the incentive for the downstream producer to monitor production in the upstream plant. Since the problems of confidentiality created by this form of monitoring are often resolved through vertical integration, the reduction of these problems is an incentive to arm's length trade.

(e) The maturing of the technology and the division of labour within the industry means that there is less need for centralised co-ordination of investments at the upstream and downstream stages. This encourages the vertical disintegration of production.

(f) A reduction in the range and diversity of skills within the management team - due, for example, to the retirement of the founder of the company, or the loss of other key employees - may mean that the day-to-day management of both upstream and downstream activities becomes too onerous a task. This encourages the substitution of arm's length negotiations between two smaller management teams for integrated bureaucratic control.

(3) The acquisition of a facility with which one has had no previous connection may be explained as a transfer of managerial resources. The acquiring firm has surplus managerial capacity, whilst the management of the acquisition is under considerable pressure, possibly because of the unexpectedly rapid growth of the company. Another possibility is that the

acquiring company is simply adding greater diversity to its portfolio of assets in order to reduce its risks. It is behaving, in other words, according to the same principles as a mutual fund.

Turning this argument around, the divestment of a facility may be explained by excessive pressure on the managerial resources of the divesting firm. Perhaps the company has had an expected success with one of its subsidiaries, and wishes to divest a slower-growing subsidiary in order to concentrate on making the best of the most promising opportunity. Alternatively, the company may have found that its management skills are much more specific than it at first believed, so that divestment represents the correction of an initial error caused by over-confidence. Another possibility is that the management has overestimated the potential gains from portfolio diversification.

(4) The acquisition of a facility that previously belonged to a rival suggests that the new owner can make better use of the facility than could the rival firm. The main reason for this is that the acquiring firm has a proprietary advantage - such as new technology or new marketing ideas - which can be transferred to the rival firm. This implies, amongst other things, that the deficiencies of the rival are reversible - unlike the deficiencies considered under (1) above.

Putting this argument into reverse indicates that divestment to a rival is most likely to occur when either the divesting firm has lost a proprietary advantage it once possessed, or its rival has acquired an advantage that the divesting firm does not possess. In each case, it suggests that the rival firm is more progressive: its management is more entrepreneurial, its research is more imaginative, its marketing is more aggressive, and so on. Divestment to a rival may therefore be regarded, in the broadest possible terms, as a symptom of entrepreneurial failure.

(5) Acquisition of a rival company in its entirety is most likely to be motivated by a desire to replace competition with monopoly. The converse case - the divestment of a facility to a new company that will become a rival - reduces monopoly power in the industry. It is conceivable that the divesting firm intends to tacitly collude with its new rival, but there can be no guarantee that the rival will take up the offer or, if it does so, that it will wish to continue the arrangement indefinitely. Theory suggests, and experience seems to confirm, that divestment which creates a new rival will normally be undertaken only under duress - for example, under the threat of prosecution for violations of competition law. Since the focus of this paper is on voluntary rather than coercive divestment, this type of divestment will not be considered any further.

A key implication of this analysis is that divestment cannot be considered in isolation from investment. Divestment and investment are quite likely to occur in parallel. The closure of a divested facility, for example, may be associated with greenfield investment in a new facility involving new technology and/or a more appropriate location. The divestment of a facility as a going concern is always paralleled by investment in the same facility by the acquiring firm. In both cases, therefore, divestment is one facet of a process of structural change: investment and divestment are just two sides of the same coin.

The only situation in which divestment is purely one-sided is when final demand is contracting and marginal plants are liquidated without any new plants being built. Many writers on divestment adopt this rather one-sided view of the subject. When the cases they discuss concern recession-induced closure, this is unobjectionable, but in other cases the resulting impression can be misleading.

Divestment policy for governments

The preceding analysis of the determinants of divestment has important implications for policy. To develop the implications, it is useful to consider three issues in turn.

Can the closure of a facility be avoided by encouraging it to be sold as a going concern instead?

If not, can closure be avoided even if no other company wishes to acquire the facility?

If closure cannot be avoided, is it possible to ensure that new investment matches the divestment in such a way that redundant resources are found an alternative use?

The short answer to all these questions is that something can be done on each of these counts, but not sufficient to enable all the problems to be solved. In most cases the appropriate policy is to make markets work better rather than to intervene to override market outcomes altogether.

Disposal as a going concern

By and large, the factors which encourage the closure of a facility are very different from those which encourage its disposal as a going concern. In the preceding analysis the existence of irreversible defects was emphasised as a factor encouraging the closure of a facility. The irreversibility of a defect, however, is not normally an absolute thing, but a matter of degree. Moreover, the degree of irreversibility may differ depending upon who attempts to reverse it. It is sometimes suggested, for example, that inefficient working practices in a British firm which could not be reversed by a British management, might be reversible by a foreign management that operated without certain preconceptions created by the British labour-management system. The hypothesis itself is vague, contentious, and lacks empirical support, but the line of thought it indicates is quite possibly a valid one. Not only may irreversibility be relative, it may also be subjective. This means that different people may perceive the degree of irreversibility to be quite different, independently of their actual ability to deal with it.

It seems sensible to encourage people who are most optimistic about the reversibility of a defect, most confident about their ability to handle it, and most willing to place their own capital at risk, to attempt to set about reversing it. This suggests that policy should be directed towards establishing an efficient capital market in which entire companies and subsidiary operations hived off from their parents, can be sold to the highest bidder. For this purpose, an equity market should have sufficient liquidity to enable takeovers to be promoted, to allow managers of subsidiaries to finance the buy-out of their operations, to allow consortia of local businessmen to salvage branch plant operations divested by larger firms, and so on.

It is often alleged that banks are unwilling to finance operations of this kind, and that capital that should have been channelled into industrial restructuring has gone into, say, land and property development instead. One explanation of such behaviour could be the common banking practice, in some countries, of lending against only certain types of physical collateral. Where radical restructuring is concerned, the current realisable value of physical assets may be very small, and much of the value of the enterprise may stem from the goodwill of consumers and the "human capital" of enterprising managers and research workers. The refusal of banks to lend against the security of such intangible asssets may force facilities to be closed because the realisable value of the physical assets is much less than the total value of the operation that would put them to an alternative use.

From a practical point of view, it is probably better to encourage banks to adopt more flexible lending policies than to create new institutions to lend specifically for restructuring purposes. The difficulty with creating a new institution is that its managers may lack the skills to screen loan applicants effectively. This may encourage people with very dubious projects to apply for funding. The institution may finish up financing not only valid restructuring projects, but also projects which, if correctly assessed, would never be acceptable on commercial grounds. Indeed, if the institution is encouraged to adopt a mixture of both social and commercial criteria then the resulting ambiguities may allow managers to find at least some criteria by which to justify a mistaken decision; as a result a large volume of bad debts can be built up in a very short time. Government interventions may themselves impeded the workings of the capital markets. Many countries - particularly the United States and members of the European Community - have, until recently, adopted fairly strict competition policies which prohibited mergers and takeovers that would significantly increase seller concentration in some markets. This can make it difficult for a large company to acquire a facility which belongs to a less efficient rival and which in the absence of acquisition, will have to be closed down. Some countries impose exchange controls which make it difficult for their domestic companies to make acquisitions overseas. If these companies are potentially strong bidders for overseas assets, but cannot easily

raise money overseas, then competition overseas for the acquisition of assets will be reduced. Some countries also impose restrictions on acquisition by foreign firms of domestic facilities. This, too, reduces the number of potential bidders for facilities that would otherwise have to be closed down.

It may be objected that, contrary to this line of reasoning, the take-over of a company is often the immediate cause of its facilities being closed down. In defence of the argument above, however, it may be suggested that the basic cause of closure in such cases is the under-performance of the company prior to its take-over. Had the company not appeared to have under-performed at the outset, the take-over itself would not have been profitable. The take-over is merely the short-run manifestation of the underlying long-run problem. It is the long-run problem that is the ultimate cause of the divestment.

Avoiding closure of unsaleable facilities

Suppose now that, for one reason or another, sale of the facility is not a viable alternative to closure. Are there policies that can prevent the closure of facilities that cannot be sold? Two main policies are, in fact, available: to subsidise its operation, and to tax its closure.

The classic justification for subsidisation is that there is a divergence between private cost and social cost. Arguments can also be made on grounds of equity, or social justice, but these will not be considered here. Typically, it is suggested that the private savings from closure are greater than the social savings because resources made idle by the closure have a social cost in excess of their private cost. People must still be able to subsist, for example, even though their previous employer pays them nothing.

This argument, however, is considerably weakened where redundancy payments have to be made. Redundancy payments constitute an employment tax on closure, and therefore directly discourage closures which make people redundant. Where redundant workers can gain re-employment quickly, the private cost of redundancy to the employer may considerably exceed the social cost of the transitory idleness of the redundant workers. It is clearly socially inefficient to subsidise operations when there is already an excessive tax on closure.

When redundant workers are likely to remain permanently idle, however, an increase in redundancy payments could be recommended as a possible device for discouraging closures. Other measures, too, could be introduced, such as a requirement that all sites where closures occur should be returned to greenfield status (literally) at the expense of the firm. Measures of this kind have much to recommend them, quite apart from their impact on the closure decision, to those who believe that there is a substantial loss of visual amenity caused by decaying structures or disused sites.

The disadvantage of such measures, however, is that in the long run they tax new investment and employment. This is because the additional costs of eventual closure will be foreseen at the time investment or labour recruitment is contemplated. In the hypothetical case where wage rates and other resource prices are flexible, and always adjust to their correct competitive levels, such taxes would be unobjectionable on efficiency grounds. The incidence of the tax could be passed on, in the aggregate, by the firms, resulting in lower wages, a lower cost of capital, a lower price of land, higher product prices, and so on. At these new wages and prices, projects with low closure costs would be just as viable as before and only projects with high closure costs would be discouraged.

In practice, however, wages tend to be sticky, and are at times maintained at above their competitive levels. The stickiness of wages means that the tax cannot so easily be passed on by firms. The tax therefore discourages new investment and employment. It favours workers who already have jobs, by reducing the risk of closure, but it damages those already unemployed, who have fewer new jobs they can take up.

When wages are fixed too high, and governments are unwilling to impose reductions, the natural approach to employment creation is for governments to subsidise wages. There are many ways of doing this. The important thing in the present context is that wage subsidies should not be confined to facilities facing closure, since this reduces the net reward to firms and their workers from operating efficiently and profitably. The most efficient policy

mix is probably to subsidise the wages of employees in all occupations where, for social or institutional reasons, labour is "overpriced", and to impose cost penalties on closure. It might be possible for the government to recover some of the costs of the wage subsidy by replacing redundancy payments to employees with a redundancy tax paid to the government.

Many policy-makers are reluctant to advocate wage subsidies, either because they believe that trade unions will demand higher wages once labour is made more competitive, or because they feel unable to defend a policy on the grounds that labour is overpriced. Instead, they recommend disguised wage subsidies. The disguise is effected by either subsidising a complementary input - such as energy - or subsidising output, through, say, protectionism. In the case of tradeable goods, these measures can sometimes be defended on the grounds that foreign competitors already receive similar subsidies.

The main problem with indirect subsidies is that their effects are not confined to the labour market. Other markets are affected too, leading to distortion of incentives and allocative inefficiency. Even in the labour market, their effects may be quite different from those anticipated. An energy subsidy, for example, could encourage the substitution of power-assisted machinery for labour; thus while unit costs would be reduced, and industry output increased, employment could actually fall. On economic grounds, therefore it is quite possible that an indirect wage subsidy might be worse than no wage subsidy at all.

Stimulating new investment

Suppose now that no acceptable way of avoiding closure can be found. Is it possible to arrange that new investment and new employment opportunities are created to re-employ the resources made redundant? In the hypothetical case of the perfectly competitive economy, wage and price adjustments are sufficient to guarantee this. Although the resources are re-employed, their owners will, of course, be worse off than before, since re-employment will be achieved only at lower prices. If, on the other hand, wages and prices are sticky, then there is no guarantee that new projects will be forthcoming to take the resources back into employment. If closure is the result of restructuring, then new investment of some kind will normally occur somewhere, but it will not be investment of the same kind in the same place. The resources must be mobile if they are to be re-employed.

In some cases, a large company that is relocating production may arrange for its workers to transfer to the new facility. Likewise, if it is adopting a new technology, it may arrange for existing workers to be retrained to work in the new plant. In many cases, however, labour adjustment to restructuring involves a sequence of knock-on effects, in which, say, worker A is made redundant, A replaces B in another firm, B replaces C, and C takes a job in the new plant which replaces the one in which A used to work. The labour market, however, is far from perfect, and in some cases special measures may be needed to improve geographical and occupational mobility. Redundancy payments, for example, of the kind discussed earlier, may provide workers with sufficient liquidity to search widely for another job, or to finance their own retraining, although if they are very generous they may discourage such adjustment. If, on the other hand, redundancy payments are negligible, and banks are unwilling to provide credit to finance job search, there may be a case for subsidising the search process with public funds. This is, in fact, already done in many countries, by public provision of free employment exchanges, the payment of short-term unemployment benefits at rates above the long-term level, and so on. When very large-scale redundancies in a single locality occur, there may be a case for subsidising the search process with public funds. This is, in fact, already done in many countries, by public provision of free employment exchanges, the payment of short-term unemployment benefits at rates above the long-term level, and so on. When very large-scale redundancies in a single locality occur, there may be a case for additional special measures too.

When restructuring occurs on a global scale rather than a national scale, it is rather far-fetched to suggest that all redundancy problems can be cured by promoting mobility. If the factory closure is in Sheffield, England, and the factory opening to replace it is in Kyoto, Japan, it makes little sense to suggest that Sheffield workers should migrate to Japan. The magnitude and the scope of the structural changes now inducing divestments in the native economies of Europe and in the mid-Western states of the United States has led to a major debate over "Where are the new jobs coming from?"

The short-term answer seems to be that, in many cases, they are not coming from anywhere at all. Many mature economies have not only lost the locational advantages they once enjoyed from proximity to coalfields and other energy sources, and from a supply on indigenous craftsmen trained in traditional industrial skills, but they have also lost the technological leadership on which their earlier prosperity was based. There are no new innovations in the pipeline to generate new products or processes to replace the old. A long-term failure of enterprise and imagination means that new products are no longer originated, tested and developed in these areas to the extent that they used to be. There is no short-term solution to this problem. It is a long-term problem, both for enterprises and governments, which no amount of intelligent short-term intervention can cure.

PART III

THE MOTOR INDUSTRY

Production, management and marketing in the motor industry

The next three sections apply the theory developed in Part II to the motor industry, with particular emphasis on developments in the European motor industry. Considerable effort is made to place current events in an historical perspective. This section considers the influence of technology and product demand on management problems in the motor industry. The next section considers the emergence of pressure to rationalise within the European industry during the 1970s, illustrating the general points using British experience. The final section considers the management structure and rationalisation programme pursued by the European market leader - Ford of Europe.

The motor car is built by the assembly of many diverse components: the internal combustion engine, mechanically engineered transmission and suspension, pressed steel bodies, synthetic rubber tyres, electrical and electronic components, plastic trim, and so on. Each component is produced to fine tolerances to allow spare parts to be interchanged. Mass production was introduced into the motor industry by Henry Ford, who adapted techniques from the Chicago meat-packing trade to generate the moving track assembly line now widely used for mass production in manufacturing industry. Ford also used the techniques of scientific management pioneered by F.W. Taylor - in particular, time and motion study - to determine the optimal speed of the track.

The problem of organising a continuous supply of components was one of a number of factors that encouraged General Motors' President, Alfred P. Sloan, Jr., to apply multi-divisional organisation to his company. Although the multi-divisional concept originated with E.I. du Pont Nemours, a large United States chemical conglomerate, which at the time had a stake in General Motors, its application in General Motors proved extremely influential (see, for example, Chandler, 1962, and Rae, 1965, and the numerous references given therein).

Quite recently, the Japanese have formed "quality circles" amongst their key employees to improve component reliability, and have developed the "just in time" production concept to reduce component inventories by promoting punctuality amongst their suppliers. Many motor manufacturers are now introducting robots to undertake welding, wheel assembly, paint spraying, etc.; the pioneers include Volkswagen at Wolfsburg in the Federal Republic of Germany, and Nissan in Japan.

The variety of components used in the motor industry means that many different types of manufacturing process are found. Body panels, for example, are pressed from sheet steel using high-volume dies which can produce 5-10 million stampings before replacement. Maxcy (1981, page 201) estimates that the presses into which the dies are inserted can produce up to 2 million pressings a year, which means that minimum cost production of body panels requires a rate of output of 2 million units per annum sustained over 2 1/2 to 5 years. For further information on cost structures in the motor industry, see Rhys (1977).

It has been estimated that the minimum efficient scale (m.e.s.) in the casting of engine blocks is 100,000 units per annum, in the machining and assembly of the power train (engine and transmission) 500,000 units per annum, and in final assembly 200,000 units per annum.

The importance of economies of scale means that the profitability of motor production depends crucially upon the intensity of demand for the product. At given prices, the higher the volume of sales the greater the margin of profit on each unit sold. In the early motor industry some of the most sophisticated vehicles were produced in France, but they were usually custom-made and sold only to a limited number of wealthy people.

Henry Ford was one of the first to create a mass market for motor vehicles amongst middle- and low-income families. Demand was particularly strong in rural areas, such as the mid-western states of the United States. In inter-war and early post-war Europe there were two main segments of the motor market: the mass production sector dominated by Citroen, Volkswagen, Fiat and Ford (United Kingdom), and the luxury sector dominated by smaller British and Italian firms.

Within the last 25 years a third segment of the motor vehicle market has emerged. Narrowing after-tax income differentials, higher oil prices, the trend towards hypermarket shopping and the increasing availability of motorways has created a large demand for medium-size five-door vehicles which offer low running costs but provide some differentiation in styling.

The multi-component character of the motor vehicle can be exploited to meet some of the needs of this market. Superficial differentiation of the project can be achieved by substituting one type of component for another in the final assembly process. By developing a standardised range of components, the same basic vehicle can be offered with different sizes of engine, with manual or automatic transmission, with different levels of trim, and with or without power steering, turbochargers, electronic displays, and so on.

The introduction of robots on the assembly line has eliminated many of the delays which were caused by retooling production using manual labour. Thus when robots are used the capacity of the assembly line effectively determines not the efficient output of a single model but the efficient output of the entire range. This has tended to reduce the importance of economies of scale in assembly (see Altshuler et al., 1984). On the other hand, the high capital cost of robots means that the cost penalties of operating the assembly line at below its rated capacity are much greater than before.

Because so many differentiations of the motor vehicle are possible, the choice of model tends to reflect the lifestyle of the owner. This allows skilful marketing to exploit the consumer's social aspirations by suggesting that a particular model will allow him to achieve his desired lifestyle. The versatility of the motor vehicle also calls for marketing skill in explaining to the customer the precise range of functions that any particular model can perform.

One of the crucial issues in marketing is how far the manufacturer should market the model rather than the range. This is related to a wider issue of the advantage of selling a "full line" under a single brand name or "badge". The badge is a symbol of the quality of product: Ford, for example, is widely associated with mechanical reliability, Volkswagen for durability, Volvo for safety, Citroen with technical sophistication, and so on. Customers for motor vehicles progress through a life cycle during which the pattern of their movements and the size of their family change. By marketing the badge rather than the model, the manufacturer can attract customers for life, who will trade up and down the model range, confident that each of the models shares with the others the quality that they value most. When promoting the badge, it is important that the range includes a model at the bottom end with which the young customer can begin. It is less important to have a model in the extreme luxury category, since few customers are likely ever to earn sufficient income to afford one, except perhaps at the very end of their life cycle. On the other hand, although the volume of production may be low, luxury models can carry a high margin of profit, and their sophisticated image may help to raise the sales of other models in the range.

Novelty is a major aspect in attracting customers, and the annual sales of most models peak fairly early during their life. Because of the large number of different components involved, however, it is difficult to introduce an all-new vehicle, and many new models are in fact restyled versions of older models with updated specifications, effected by modifying a few components. R and D is thus an ongoing process in which information from salesmen and from service engineers about deficiencies in the performance of existing components are continuously fed back to prompt further improvements. Likewise, marketing is an ongoing process in which much of the emphasis is placed on explaining to consumers the advantages of the latest specification changes, or drawing their attention to new styling.

The pressure for rationalisation

The cost structure of the motor industry indicates that component production should be concentrated upon a small number of very large plants in order to fully exploit economies of scale. To justify large-scale production it may be necessary for the same components to be used in several different models in the range. If the sales of the range are fairly modest, the producer may buy in the components from a specialist who supplies a number of different firms in the same industry. The specialist producer enjoys economies of scale which he may

be able to pass on to his customers in lower prices. The disadvantage of this arrangement is that economies of vertical integration are lost.

Because of the variety of different components involved, it may be advantageous to produce different components in different locations. Sophisticated components can be produced where skilled labour is abundant, larger and heavier components where raw materials and energy are cheap, and so on. Production of components such as engines and transmissions, which afford substantial economies of scale, should be concentrated on the fewest plants. Components that are difficult or costly to transport should be produced close to the assembly line. The assembly line itself needs to be located somewhere near the "centre of gravity" of the major sources of component supply and the major centres of consumer demand.

In inter-war Europe, economic nationalism encouraged high protective tariffs to stimulate domestic motor production for military and strategic reasons. It was not until the post-war period, with the formation of the European Community and the improvement of infrastructure through motorways and container handling systems, etc. that production could be specialised internationally to fully exploit economies of scale (Foreman-Peck, 1985).

In Britain, the industrial heritage of protectionism was a large number of relatively small plants, most of which survived the war intact. Most of them needed to be enlarged and modernised, or closed down altogether, in favour of new plants on green-field sites. Only the highly integrated operations centred on Ford's Dagenham plant approximated to an efficient scale (although Ford did not buy control of the body-works at Dagenham until the late 1950s).

Restructuring along these lines was, however, inhibited by regional policy, which encouraged investment in declining peripheral regions remote from the major metropolitan markets of Europe. In Britain, a system of industrial development certificates was introduced to restrict investment outside designated development areas. Companies that wished to rationalise by building new factories were often obliged to locate them in areas far away from the rest of their operations (Young with Lowe, 1974). The Regional Employment Premium subsidised payroll costs in designated areas. Moreover, companies that had high-cost plants already located in the regions were under political pressure not to close them down. The designation of development areas became a party political issue, particularly when the areas seeking designation contained marginal parliamentary constituencies. In the early 1970s, for example, when the Scottish National Party was challenging many traditional Labour seats, a substantial budget was available for attracting companies to Scotland and discouraging those already there from closing down.

Employment protection policy also discouraged rationalisation. Government was reluctant to see high-cost production untis closed down. It preferred to avoid bankruptcies and liquidations by arranging the takeover of unprofitable firms. After a takeover or merger, the new management would often find itself preoccupied with the short-run problems of the "lame ducks" it had acquired. The short-run losses incurred by the weaker operating divisions of the company also absorbed funds which could otherwise have been used to finance restructuring and long-term growth.

The British Government's Redundancy Payments Act of 1966 reflects another aspect of employment protection which discouraged rationalisation. It encouraged employers with high-cost plants to run them down through natural wastage rather than to shut them down and make all their employees redundant. While good social reasons can be given for these policies, the pace of rationalisation was almost certainly slowed down as a result.

Generally speaking, the delay in rationalising production led to growing problems in the British motor industry. These were exacerbated by the OPEC oil price rises beginning in 1973, which escalated British wage costs, because the incomes policy in force at the time automatically linked wage rates to the cost of living. In the main competitor country, Japan, however, productivity improvements continued apace and import penetration by their low-price high-quality vehicles reached such a point that several countries, including the United Kingdom, negotiated voluntary export restraints. The British market was particularly vulnerable to such imports because of the absence of non-tariff import barriers of the kind found in France and Italy. It has also been suggested that the British market was particularly vulnerable because of the way that high-cost local manufacturers remained in business

under the Ford "price umbrella" - an umbrella that raised Ford prices in Britain up to 20 per cent above the prices of equivalent Ford models in continental Europe.

The future of rationalisation in Europe: Some lessons from Ford

In 1984, Ford of Europe had the largest share of the European car market (see table 2). Ford is one of the "big six" firms shown in the table which dominate volume car production in Europe. Despite their volume, however, these producers have, in the aggregate, been consistently unprofitable in the last five years (see table 3). The somewhat smaller and more specialised manufacturers such as BMW, Mercedes-Benz, Volvo and Saab have enjoyed a much better record of profitability.

Table 2: Leading car market shares in Europe

Company	Percentage in year					
	1979	1980	1981	1982	1983	1984
Ford	12.0	11.1	12.3	12.4	12.6	13.0
Fiat	10.0	11.8	12.7	12.5	12.3	12.9
VW	12.2	11.8	12.6	11.8	11.7	12.0
Peugeot	17.1	14.6	13.2	12.4	11.8	11.7
General Motors	9.6	8.7	8.4	9.7	11.2	11.2
Renault	13.5	14.9	14.0	14.7	12.8	11.0
Japan (total)	7.3	9.8	9.2	8.9	9.4	9.6
Other	18.3	17.3	17.6	17.6	18.2	18.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ford of Europe.

Table 3: Aggregate profits of Europe's seven largest-volume manufacturers (global operations: US$ billion)

Year	Annual	Cumulative
1980	-1.5	-1.5
1981	-1.7	-3.2
1982	-0.5	-3.7
1983	-0.5	-4.2
1984	-1.5	-5.7

Note: The manufacturers are BL, Fiat, Ford, General Motors, Peugeot, Renault, VAG.

Source: Ford of Europe figures.

The low profitability of volume car production is a reflection of over-capacity in the industry - estimated to be at least 15 per cent. Private manufacturers such as Ford and General Motors blame this situation on the reluctance of state-owned or state-supported manufacturers to elimiante unprofitable operations. Companies such as Fiat, Renault and Peugeot price very aggressively in order to maintain volume, it is alleged, and rely on their status as "national champions" to cover any losses they make with government grants or loans. There are signs, however, that the situation is changing: the top management at Renault has been replaced, for example, and the company's policy of avoiding compulsory redundancies has been abandoned. Nevertheless, for reasons explained below, excess capacity in Europe is unlikely to fall in the foreseeable future.

Ford of Europe is widely recognised in the industry for the sophistication of its marketing and management, and in particular for the way that it has rationalised its European operations. Ford began manufacturing in Europe in 1911. Ford of Europe was formed in 1967 to co-ordinate its various European operations. In 1985, Ford of Europe had 22 manufacturing locations, with major industrial complexes in Britain and the Federal Republic of Germany and large plants in Spain, Belgium and France. It also has research, development and testing facilities in Britain, the Federal Republic of Germany and Belgium, and a national sales company in each of 15 European countries.

Rationalisation of Ford means that many of its plants specialise in producing just a narrow range of components. The company's plants in South Wales, for example, produce only transmissions and related components for use in assembly operations elsewhere. Relative to other manufacturers, Ford is self-sufficient in a wide range of components, and actively promotes sales of Ford components to other manufacturers. The European Power Products Division, for example, sells 1.6 litre and 2.5 litre diesel engines, fast burn-lean burn petrol engines and transmissions to other producers. The Diversified Products Operation is involved in both vertical and conglomerate diversification. Its operations include the processing of raw materials, the manufacture of aluminium radiators and climate-control equipment, and the development of electronic products. In these fields, too, the company plans to develop its role as a supplier of components to other manufacturers.

Despite its relative strength compared to European competitors, the company recognises that its trading position in Europe is far from secure. The demand for cars in Europe grew at only 0.6 per cent per annum in 1980-84, and the company's projected growth for 1985-90 is 1.6 per cent per annum - a slight improvement, but well below the rates anticipated in a number of markets outside of Europe (see table 4). With fairly static demand, and pressure for productivity improvements, the company's European workforce has shrunk from about 140,000 in 1979 to about 100,000 in 1985. Most of the adjustment has been effected by voluntary redundancies and early retirements, without the closure of any of the major facilities. Given the importance of economies of scale at the plant level, however, it is doubtful if further contraction can be effected without a major closure. It is likely, though, that the company would prefer not to implement a closure of this kind. Although the company would never admit it, it would probably prefer to use the threat of closure to negotiate subsidies (or some form of import protection) from European governments or, better still, from the European Community itself.

Table 4: Growth of European car sales (per cent per annum)

Period	Growth rate
1960-69	7.7
1970-79	2.4
1980-84	0.6
1985-90 OECD forecast	0.8
1985-90 Ford forecast	1.6

Source: Ford of Europe figures.

Japanese competition poses a major threat to the European motor industry. The European industry is suffering from Japanese competition not only in Europe itself but in third country markets where, of course, governments are unlikely to intervene to discourage Japanese imports in the way they have done in certain European countries. Ford estimates that Japanese manufacturers have a landed unit cost advantage of over $500 in the Federal Republic of Germany and up to $1,500 in some of Europe's traditional export markets. This is ascribed not to any difference in capital per worker but to differences in the work rate on the shop-floor. Bob Lutz, Chairman of Ford of Europe, claims that in 1984 it took about 72 hours of labour to produce a Ford car in the United Kingdom, 35 hours to produce the same car in the Federal Republic of Germany, and 18-20 hours to produce an equivalent car in Japan. Although there are some differences in the extent of vertical integration between Europe and Japan, it is estimated that, after allowing for this, productivity in Japan is still at least double that in the United Kingdom.

Ford is attempting to introduce a Japanese-style management philosophy into its European operations in a modest sort of way. In 1983 the company commissioned an "insight" team to evaluate the Ford system of product development. The team compared the development of the Mazda 626 and the Ford Sierra - two cars aimed at the same buyers, built in similar volumes and introduced at similar times. It was found that Ford spent more than twice the work-hours on development of their car. The team ascribed this to the fact that Ford's development involved too many narrowly specialised groups who felt themselves to be in direct competition with one another. They have now introduced a Programme Management concept to harmonise the goals of the specialists by introducing greater flexibility into the system.

The company is also looking to the Japanese philosophy to promote more harmonious industrial relations. It cites with approval the way that the threat of import competition in the United States led, five years ago, to a new accord between the United Automobile Workers Union and the manufacturers, and Ford is looking for a similar accord with labour in Europe.

The nature of the Japanese challenge to Europe is, however, changing. Japanese manufacturers are now establishing a manufacturing presence in Europe through either wholly-owned green field investment, joint ventures, or licensing agreements. The crucial issue here is the local content of the assembled vehicle. At the moment this is relatively low, and if it is increased it seems likely that it will be done by subcontracting to local suppliers who supply only the Japanese and are heavily dependent upon them. This certainly appears to be existing practice in Japan. A switch within Europe, therefore, from European-owned to Japanese-owned assembly could have serious implications for existing European component suppliers. Downstream investments by Japanese firms in assembly could eventually lead to upstream divestments by European component manufacturers. If, on the other hand, Japanese manufacturers are willing to modify their component sourcing strategies by patronising established European component producers, then the transfer of Japanese technology to Europe could well make a substantial contribution to overall competitiveness in the industry.

An improvement in European competitiveness would be reflected in increased penetration of overseas markets. The problem of relatively stagnant European demand could then be overcome by an improvement of the export trade. It is doubtful if Europe has the skills to compete with Japan in the volume production of small cars, but in the medium and large luxury categories - which are amongst the most profitable - its potential competitive position is quite strong.

In the past decade, the most profitable European manufacturers have tended to be those with the greatest penetration of the United States market. The high value of the US dollar makes American sales very attractive to European producers, although the costs of meeting United States emission and safety standards are very substantial too. Volkswagen is the only European manufacturer to have penetrated the American small car market in a big way, but several producers of larger cars - BMW, Mercedes-Benz, Volvo, for example - have enjoyed considerable success with larger luxury vehicles. Ford is now trying to emulate this success by establishing a prestige franchise - Merkur - to sell vehicles such as the Sierra XR4Ti to the compact luxury segment of the United States market.

It is evident that rationalisation is an ongoing process, and is likely to remain so for the foreseeable future. Within Europe, Ford is pursuing a number of specific programmes aimed at improving component quality - involving the introduction of lifetime guarantees on certain repairs effected by authorised dealers - and reducing the complexity of assembly sourcing to improve economies of scale. Between 1984 and 1985, Ford has reduced the number of product derivatives offered in Europe from over 2,500 to under 1,500, although the degree of complexity still remains high, since these figures do not include a large number of optional features offered on particular models.

It is also evident, however, that rationalisation can no longer be effected on a purely European scale. The sourcing of the United States market with European vehicles has already been mentioned. The Scandinavian market is already being sourced with small Ford cars produced in Brazil. It is conveivable that European manufacturers will begin to draw upon component suppliers from Brazil, the Republic of Korea and Japan. Thus, even if the European market were to grow faster than anticipated, the pressures for rationalisation would still induce restructuring, and future divestments in the motor industry would still be likely to occur.

PART IV

THE CHRYSLER-PEUGEOT CASE STUDY

Background narrative to Peugeot's acquisition of Chrysler (United Kingdom)

The highlights of the Chrysler/Peugeot story are well known (see, in particular, Young and Hood, 1977; Bhaskar, 1979; Maxcy, 1981; Grunberg, 1981, Chapter 5; Wilks, 1984). Chrysler is one of the 50 largest private manufacturing corporations in the United States in terms of sales, and the third largest United States motor manufacturer, behind General Motors and Ford. In 1960 its two main rivals both had long-established European operations, but Chrysler did not. From about this time, Chrysler headquarters in Detroit pursued a deliberate policy of diversifying into the European motor industry. Forecasts made at the time suggested that the European car market would continue to grow rapidly, but in retrospect these forecasts were grossly over-optimistic. The Chairman of Chrysler, Lynn Townsend, was personally committed to turning Chrysler into a fully-fledged multinational enterprise. Approaches were made to a number of established European firms and this eventually led to acquisitions in Britain, France and Spain. As a late entrant into the European market, Chrysler was unable to negotiate acquisition on favourable terms. It finished up acquiring those companies which its major indigenous competitors had, in many cases, already decided not to acquire.

In 1964 Chrysler took a 30 per cent stake in Rootes Motors, a British family-controlled firm founded in 1898, whose Hillman, Humber and Singer saloons enjoyed a reputation for quality in the medium-large size sector of the market. At the time this minority interest was acquired, Rootes had just entered the small-car market with the launch of the Hillman Imp, a rear-engined car which was a close competitor of the Mini. The Imp was manufactured at a new 1.6 million square foot factory at Linwood, near Paisley on Clydeside, some 250 miles north of the main centre of Rootes operations around Coventry.

Sales of the Imp were disappointing and industrial relations at Linwood were poor. In its first full year of operation, Linwood operated at under half capacity. By 1967 Rootes was losing £10.7 million on a turnover of £171 million (Hood and Young, 1982, page 64). At this time Chrysler increased its stake to 66 per cent of the voting shares. This acquisition of control required the consent of the British Government because of an undertaking given by Chrysler in 1964.

A new family saloon, the Hillman Avenger, was launched from the Ryton Factory in Coventry but the launch of two other models - the Chrysler 180 and the Chrysler Alpine - was switched to Chrysler's French subsidiary, mainly because of labour problems in Britain. Subsequently, production of the 180 was transferred completely to Spain.

At the end of October 1975, the Chairman of the Chrysler Corporation, John R. Riccardo, indicated at a press conference in Detroit that in view of the corporation's adverse financial position it was considering withdrawing from Britain. Riccardo's statement appears to have taken the British Government by surprise. After intensive negotiations, the Government agreed to support Chrysler to the tune of a maximum of £162.5 million between 1976 and 1979, while in return the company committed up to £64 million, agreed to the launch of new models, and signed a planning agreement with the Government (United Kingdom, House of Commons, 1976).

Notwithstanding the consultative arrangements called for by the Planning Agreement, it was announced abruptly on 10 August 1978 that Chrysler's European operations would be acquired by the French motor manufacturer, PSA Peugeot-Citroen. Chrysler would receive US$230 million and a 15 per cent stake in the French company. It also obtained a seat on the supervisory board of PSA. The planning agreement continued in force, and the financial arrangements with the British Government were taken over by the French company with certain minor modifications. However, by the time of the acquisition, the joint union-management consultative committees set up under the planning agreement were practically moribund, due to lack of interest in them within the company.

Altogether, PSA Peugeot-Citroen acquired control of 11 Chrysler European subsidiaries at this time, including a 99.62 per cent stake in Chrysler France and a 46.51 per cent stake in Chrysler España. It also acquired six import subsidiaries and two property subsidiaries in a separate deal shortly afterwards. The Chrysler Europe operation was renamed Talbot at the end of 1978 and in 1980 the management structure of the Peugeot and Talbot operations was unified. Also, in 1980 the name of the Peugeot group was changed to Peugeot SA.

Chrysler's stake in Peugeot was valued on the Chrysler balance sheet at US$323.9 million, as compared to a value on the Paris stock exchange on the date of agreement of US$202 million. However, Chrysler reported that an independent valuation from a leading European investment banking firm valued the stake at above the balance sheet figure.

The European divestment was one of several undertaken by Chrysler about this time. Also, in 1978 Volkswagen acquired a 67 per cent equity stake in Chrysler's Brazilian operation, and Chrysler reduced to 49 per cent its own stake in Chrysler Argentina. In 1979, General Motors agreed to purchase Chrysler's interests in its Columbian subsidiary and to purchase the fixed assets of its Venezuelan subsidiary. Divestments were also undertaken in Peru, Australia and South Africa. By 1980, Mexico was host to the only major Chrysler operation outside North America. The overseas operations divested by Chrysler between 1978 and 1980 had lost the company approximately US$40 million in earnings between 1974 and 1977. Losses had been particularly heavy in France during 1977 because of a combination of cost inflation, falling market share, and government price controls. In place of the divested operations, Chrysler had established a link with Mitsubishi, and set up an office in Tokyo.

Since the divestment, both the Chrysler parent company and the Peugeot group have been in financial difficulties. Both have been committed to heavy investment expenditures to launch new models. Having lost support from their bankers, and of the private capital market in general, both have been obliged to obtain government underwriting for new loans. Chrysler was guaranteed up to US$1.5 billion via a Loan Guarantee Act in 1979. Chrysler has had to make its United States models comply with increasingly exacting pollution and safety standards, and adapt them to provide greater fuel efficiency at the same time. Peugeot has been financially stretched by losses incurred by the Citroen operation which it acquired in 1976. Another major acquisition coming only two years later has compounded the financial difficulties. As a result of these two acquisitions Peugeot has suddenly risen to become one of the six largest motor manufacturers in Europe, and its management has had to face the problems of imposing an overall corporate strategy on a diverse group of enterprises, each with their own independent traditions. Chrysler management, on the other hand, has been liberated from concern over its European operations, and has been able to concentrate on re-establishing its position within the United States domestic market. Operating profits for Peugeot in 1984 suggest that it may now have turned the corner too.

The logic of the divestment decision

The causes of Chrysler's poor performance in Europe are not hard to find. To begin with, Chrysler did not have the same kind of international reputation, marketing skills and technical know-how as did its two main United States rivals. In the 1960s, Chrysler's profitability in the United States rested upon an exciting range of large high-performance vehicles with a sporting image (Iacocca with Novak, 1985). The models were, however, far too large to appeal to the European customer. The relatively staid vehicles produced by Rootes and Simca could not easily be promoted using Chrysler's marketing techniques.

The quality of Chrysler's United States management appears to have begun to deteriorate in the late 1960s and early 1970s. There were some technical innovations, such as electronic ignition. However, new models were less successful than the old ones that they replaced. Chrysler's share of the United States car market fell from 16.1 per cent in 1970 to a mere 8.6 per cent in 1980. The United States management does not appear to have had superior managerial or technical expertise within the motor industry that could usefully be transferred to Europe. Indeed, it was one of the company's European-designed vehicles that helped the company to make substantial progress in the sub-compact segment of the United States market at a time when it was rapidly losing ground in its traditional stronghold, the standard segment of the market. The popularity of the Plymouth Horizon and Dodge Omni allowed the company to increase its share of the sub-compact market from 4.8 per cent to 17.4 per cent

between 1975 and 1978, at a time when its share of the standard market fell from 9.6 per cent to 2.7 per cent.

Chrysler United States had few skills in the management of vertical integration. Compared to its two rivals, Chrysler relied heavily upon independent suppliers for components. In 1978, the company was using over 30,000 independent suppliers and purchased from them substantially all its requirements for batteries, bearings, bumpers, carburettors, passenger compartment interior trim, radiators, glass, steel, tyres and wheels.

Financially, the company was highly geared, and relied extensively on short-term bank loans. This insecure financial structure meant that the company faced a higher cost of capital than its rivals. It also exacerbated many of the company's problems when its trading difficulties became public knowledge during 1978.

In no sense, therefore, did Chrysler United States have skills that were particularly relevant to its European subsidiaries. The company also faced particular difficulties in Britain because of problems that it had inherited from Rootes.

In Britain, Chrysler was affected more seriously by the oil price rise than were its major rivals because its engines were relatively old, and therefore less fuel-efficient, and because Chrysler was weak in the small-car segment of the market to which consumers were switching. These defects in the Chrysler range were in turn the consequence of problems that had begun some ten years earlier.

Chrysler inherited from Rootes the problem that its most modern production facility, Linwood, was bedevilled by poor industrial relations. It also suffered from component supply problems caused by its remoteness from the heart of the United Kingdom engineering industry in the West Midlands. Transport costs were high: engines were cast at Linwood, the cylinder blocks were then taken to Coventry to be bored, and complete engines were then transported back to Linwood for installation before the completed vehicles were shipped south for sale. Chrysler was also committed to producing a vehicle - the Hillman Imp - for which there was very little demand. It was extremely difficult to boost sales of the Imp by cutting prices because its main competitor, the Mini, was itself underpriced because of shortcomings in the British Motor Corporation's cost accounting methods and its marketing strategy.

Political pressure and financial inducements had taken Rootes to Linwood in the first place, and the maintenance of employment at Linwood formed an integral part of the 1975 rescue plan. It was hoped that the Linwood plant would generate its own local supply industries, but this never materialised, possibly because the Government underestimated the volume of demand needed to take advantage of economies of scale in the supply industries.

The failure of the Imp meant that the company could not generate sufficient internal funds to finance the development of new models. It has already been noted that R and D is an ongoing process. A buoyant demand for current models generates finance for further improvements to the range, helping to boost sales even further. If sales of existing models are low, however, then this virtuous circle becomes a vicious one. When R and D has to be cut back, models get older and their sales decline further; eventually the company faces extinction if there are no new models in the pipeline.

Chrysler management appears to have recognised fairly early that rationalisation was required, but the shortage of funds meant that only a very limited programme could be pursued. They followed what must have seemed the obvious strategy of concentrating the production of the few new models they could afford on their French subsidiary, whose productivity was much higher, and turning United Kingdom production into an assembly operation using mainly French components. From the British Government's point of view, of course, this strategy seemed more like adverse discrimination than rationalisation.

It is instructive to compare Chrysler's European operations with those of Ford, because Ford pursued the kind of policy that Chrysler needed to emulate (see section 8 above). Ford, had, however, been much longer established in Europe, and so had more time in which to develop a coherent model range and to rationalise its production. Ford had relied heavily on green-field investments to build up its European operations, and so when the "Ford Europe" division was formed to impose integration, it avoided the problem of dealing with subsidiaries that had previously enjoyed a separate identity (although it did have to buy out certain

minority interests). Ford had also by this time built up an effective dealer network offering a high standard of servicing with a uniform scale of charges. Ford's small cars which, until the development of the Cortina/Taunus, were the basis of its model range, were all highly successful. In particular, the new Escort, introduced in 1980, was designed as a "European" car. The success of these models has generated the finance necessary to support the development of the next. It has also spilled over to other models in the range: part of the success of the Granada, for example, may have been due to the fact that it is the obvious choice for the Cortina owners who wish to trade up to a luxury car.

It was clear by 1978 that Chrysler's financial position was so parlous that it had an urgent need to cease its loss-making European operations and to convert fixed assets into hard cash as quickly as possible. By selling out the entire European operation as a going concern, the company avoided redundancy payments and other closure costs which could have been financially crippling for the parent firm. The sell-out strategy also had substantial tax advantages in the United States. What is not so clear, at first sight, is why Peugeot was so willing to take over Chrysler's European operations.

Peugeot is essentially a family firm that began operating a steel foundry in 1810, commenced producing bicycles in 1885, automobiles in 1889, and in 1965-66 underwent structural reorganisation as part of a programme to become a major European motor producer. In 1976, the company took over the ailing Citroen company, which would otherwise have had to be nationalised (although Peugeot itself received government funds to help it "turn around" its new subsidiary).

It appears that Peugeot planned to consolidate its position in the European market by becoming one of the very biggest producers. Peugeot management believed that only a small number of very large producers could survive in Europe in the long run, and it hoped that by becoming larger it could increase its own chance of survival.

Peugeot management also believed that it possessed substantial managerial expertise that could be transferred to Chrysler's European operations. The performance of the Citroen company had improved remarkably within two years, but although Peugeot management took much of the credit, it seems likely that Citroen was mainly sharing in temporary general revival of European motor sales, and very little of its success was due specifically to Peugeot management.

There was clearly a potential to integrate Chrysler and Peugeot production in France, and in particular to exploit economies of scale in component production by designing new cars which used similar parts. There was also the possibility of integrating the marketing of Chrysler and Peugeot models.

Peugeot's acquisition also made sense from the point of view which asserts that United States multinationals find it more difficult than European firms to adjust to a social and political climate which favours the gradual run-down of an unsuccessful manufacturing facility to precipitate outright closure. There is some evidence that United States managements in general find that a run-down of production through natural wastage in the workforce, etc., is too expensive both in terms of finance and management time, and so prefer divestment to accepting responsibility for closure. They divest to indigenous companies which have greater expertise in raising funds from host governments. These funds are offered in order to "save jobs" and avert redundancies. European governments are more willing to support indigenous firms for such purposes than they are to support foreign firms. This is particularly important in the case of France, with its tradition of government reluctance towards United States multinationals. The Citroen case had already demonstrated Peugeot's skill in negotiating substantial loans from the French Government.

On balance, therefore, it seems that Peugeot's acquisition of Chrysler had more to recommend it than did Chrysler's original investment in Europe. Although Peugeot may have overestimated their management skills, the underlying economic logic was probably sound. The value of Chrysler's European operation was probably higher to Peugeot than it was to Chrysler; though, whether it was worth all that Peugeot paid for it, remains a moot point.

The fact that Peugeot acquired the whole of Chrysler's European operation, rather than just the French part, may indicate the company's willingness to build upon the very limited intra-European integration that Chrysler had achieved. Alternatively, it may simply reflect

Peugeot's desire to strengthen its dealer network in the United Kingdom, and Chrysler's need to divest its European operations for a part-cash payment to meet the liquidity crisis of the parent firm.

The progress of rationalisation since 1975

The business strategies pursued by Chrysler and Peugeot in the few years immediately prior to and immediately following the divestment are examined below under seven headings.

Marketing. Demand for Chrysler vehicles in the United Kingdom contracted sharply between 1975 and 1982. Table 5 shows that the company's share of the market for cars and light vans fell from 8.0 per cent in 1975 to 3.6 per cent in 1982. The ratio of the 1982 market share to the 1975 share is even lower than for BL, for which the corresponding figures are 30.7 per cent and 17.8 per cent. Over the same period, Ford increased their market share from 21.5 per cent to 30.5 per cent, and Vauxhall (a General Motors affiliate) from 8.2 per cent to 11.7 per cent. A number of foreign manufacturers performed extremely well over this period, especially BMW, Volvo and Volkswagen, whilst the Japanese producers consolidated their position. The proportion of the United Kingdom market supplied by vehicles produced abroad increased from 33.1 per cent to 57.7 per cent. These figures include intra-firm imports of finished vehicles by multinational producers such as Ford, General Motors and, of course, Chrysler-Peugeot.

Given the shortage of new models to promote, marketing strategy has tended to concentrate upon mainly cosmetic changes. For example, "limited editions" of a number of established models have been produced, offering additional accessories and trim. Although both the Alpine and Horizon were European cars of the year, the company has had rather limited success in marketing them.

In 1976-77 the Chrysler brand name replaced the Hillman name on the Avenger and Hunter. This may have reflected an attempt to promote the Chrysler identity world-wide, or simply to reverse the bad impression created in the United Kingdom by the earlier attempt to pull out. In retrospect, however, the change seems to have done little to reassure customers who were worried about the future availability of spares, and about the prospective resale value of their vehicles. In any case, the Hillman name had acquired a reputation for quality, which although it became somewhat tarnished in the 1960s, was probably still more valuable than the Chrysler name. Finally, it had the unfortunate consequence that because of the subsequent Peugeot takeover, the names were changed twice within three years.

The Talbot name, revived by Peugeot, is easily pronounced both in French and English. The company considered that it enjoyed a sporting image. However, the historical significance of the name in the early development of the motor car does not seem to have been fully appreciated in Britain. The introduction of the name in fact caused some confusion because the Chrysler Sunbeam (a rear-wheel drive family hatchback) became the Talbot Sunbeam, which could be mistaken for the Sunbeam Talbot produced some 20 years earlier by Rootes. With the benefit of hindsight, it might have been better to have retained the Hillman name throughout the United Kingdom. It is interesting to note that the company has since revived the old Rootes names, Rapier and Minx, for badging Alpine/Solara models produced at Ryton.

About three years after the acquisition, leading Chrysler dealers became Peugeot-Talbot dealers, of whom there are now approximately 500 in the United Kingdom. There has been no effort to integrate Peugeot and Citroen dealerships, presumably because Citroen products are highly distinctive, attract loyal customers, and require special maintenance skills because of their ingenious and unusual engineering. The company has lost many dealerships in the United Kingdom since 1975, through defections to competitive franchises, splitting franchises, and closing down. In 1980, it became clear that the dealership organisation was very weak. Strenuous efforts have been made to improve dealer performance, including the introduction of an "on-the-road" pricing policy and the withdrawal of franchise from dealers who perform badly.

Table 5: Leading manufacturers' shares of the United Kingdom market for cars and light vans, 1975-82

Company	Source of production	Percentage 1975	1982
Ford	Various	21.5	30.5
BL	United Kingdom	30.7	17.8
Vauxhall	Various	8.2	11.7
Datsun	Japan	5.3	6.0
VW Audi NSU	Federal Republic of Germany	4.0	5.9
Renault	France	4.7	4.1
Talbot	Various	8.0	3.6
Volvo/Daf	Sweden (mainly)	1.9	3.3
Fiat	Italy	3.2	2.8
Toyota	Japan	1.7	1.8
Citroen	France	1.8	1.5
BMW	Federal Republic of Germany	0.6	1.5
Fiat licensees' total		0.8	1.5
Lada	USSR	(0.6)	(1.1)
Polski-Fiat	Poland	(0.2)	(0.2)
Zastava	Yugoslavia	(0.0)	(0.2)
Peugeot	France	1.2	1.3
Honda	Japan	0.8	1.0
Mazda	Japan	0.9	1.0
Mercedes-Benz	Federal Republic of Germany	0.5	0.8
Alfa-Romeo	Italy	0.7	0.6
Saab	Sweden	0.6	0.6
Skoda	Czechoslovakia	0.8	0.6
Colt	Japan	0.3	0.6
Daihatsu	Japan	0.0	0.3
Lancia	Italy	0.0	0.3
Hyundai	Republic of Korea	0.0	0.2
Suzuki	Japan	0.0	0.2
Subaru	Japan	0.0	0.2
Others	Various	1.5	0.3
Total		100.0	100.0
Total imports		33.1	57.7

Source: Society of Motor Manufacturers and Traders: The Motor Industry of Great Britain, various issues.

Peugeot-Talbot models do not form an integrated range. In the spectrum from small to large vehicles, the Talbot Samba occupies a similar niche to the new Peugeot 205 (and the old Peugeot 104), while the Talbot Solara and Alpine models occupy a similar niche to the Peugeot 305. The Talbot Horizon, however, has a distinctive place as a short, spacious, and relatively high performance front-wheel drive hatchback, filling the gap between the 205 and the 305. (The Talbot Sunbeam, a small car emanating from the 1975 Rescue Plan, and using many Avenger components, ceased production in 1981.)

The Samba and Solara/Alpine models appear to be sold at a discount relative to their Peugeot counterparts. The current premium for a Peugeot model over its Talbot counterpart is approximately 6 per cent, and this probably reflects the relatively modern engine and transmission, the more sophisticated suspension, and general reputation for higher standards of manufacturing quality control. The Horizon has sold extremely well relative to other vehicles in the Talbot range, and at quite high prices - the 1.5 GL five-speed Horizon was listed in the United Kingdom in July 1984 at £5,715, compared to £5,660 for the Peugeot 305 GR.

The top end of the Peugeot-Talbot range is weak. The ageing Peugeot 604 is being phased out, and its potential successor, the Talbot Tagora, has been a disaster ever since its launch in 1981; it ceased production in 1983. Only the Peugeot 505 has adequate sales. This weakness at the top of the range is somewhat ironic in view of the relative strength of the Rootes group in this niche under its Singer and Humber names.

Scale of production. The poor sales performance means that there has been little opportunity to exploit economies of scale in production. Table 6 reports the outputs of the major models of Chrysler United Kingdom, Chrysler France, Peugeot and Citroen in 1975 and 1982. In 1975 Chrysler had just commenced production of the Alpine, which was highly acclaimed by the motoring press and sold well for the first two years. By 1982, United Kingdom production of the Alpine had fallen to 6,500 units. The other major model, the Hunter, was kept in production only because of an export order for kits, supplied from Ryton to a state-owned assembly plant in the Islamic Republic of Iran; it had been withdrawn from the United Kingdom market in 1979. The Iranian contract is one of the largest ever export contracts in the world motor industry and is very important for Britain's reputation as an exporter to the Middle East; the need to avoid its cancellation was a major factor in the Chrysler rescue of 1975.

The scale economies enjoyed by the French operations are greater than those of the British operations because of the relatively high volume of Samba and Horizon production. The figures for Peugeot are even better: the 104, 305 and 505 all achieved outputs of over 100,000 units in 1982. Citroen produces the best-selling Visa, although the proliferation of the less successful Citroen models has caused problems for the Peugeot group.

It is when these production figures are compared with those of Chrysler's rivals that the true magnitude of the problem is revealed. Table 7 shows that in 1982, 168,000 Escorts were produced by Ford in the United Kingdom, and 281,200 in the Federal Republic of Germany; 352,000 Renault 5s, 284,700 Renault 12s and a staggering 494,800 Volkswagen Golfs were produced in the same year. The scale economies available to these producers far outweigh anything that could have been achieved with Chrysler or Talbot models.

Location of production. Between 1975 and 1982 the number of different models produced by Talbot in Europe fell from eleven to eight. Much of this reduction occurred in 1976 when the Hillman Imp, Humber Sceptre and Sunbeam Rapier were all withdrawn; the Talbot Sunbeam, introduced in 1977, was withdrawn in 1981.

Three of the six new models introduced since 1975 were, until recently, produced only in France or Spain; they are the Samba, Horizon and Tagora. Since 1980, the Horizon has been produced in the United Kingdom as well. Two of the new models were produced in both France and Britain - the Alpine and the Solara - and only one, the Talbot Sunbeam, was produced in Britain alone. Many of the components for the Alpine and Solara came from France, so that the British side of the joint manufacturing operations was little more than assembly.

The policy of concentrating production in France appears to have been followed by both Chrysler and Peugeot. It is reflected in a large volume of intra-firm exports from France to Britain. In 1982, 44 per cent of Talbot registrations in Britain were sourced from France (see table 8). In the same year, less than 0.1 per cent of Talbot registrations in France were sourced from Britain. If intra-firm trade in components is considered as well, the use of French production to source British operations becomes even more marked.

Table 8 shows that in the period 1980-82, both Ford and General Motors also sourced the United Kingdom market extensively from continental Europe, although it must be remembered that their European operations were much more extensive than those of Talbot. What is particularly striking, however, is that between 1980 and 1982 the dramatic reduction in Talbot sales in the United Kingdom was almost entirely accounted for by the contraction in United Kingdom production, consequent mainly on the closure to Linwood in 1981. United Kingdom production was halved, while French imports to the United Kingdom remained practically unchanged. United Kingdom production has now become relatively small within the Peugeot group as a whole (about 100,000 units per annum on average).

Table 6: Production of Chrysler-Peugeot vehicles in the United Kingdom and France, 1975-82

Model	Production of cars and light vans ('000 per annum)	
	1975	1982
Chrysler UK/Talbot UK		
Imp	8.0	-
Avenger	86.0	-
Hunter	136.0	27.2
Alpine	-	6.3
Solara	-	8.4
Horizon	-	14.2
Total	230.0	56.2
Chrysler France/Talbot France		
Simca 1100	71.3	-
Simca 1100	193.2	0.0
Simca 1301	36.1	-
Simca 1501	11.3	-
1307/8	46.7	-
180/2 litre	24.6	-
Samba	-	102.7
Horizon	-	71.3
Alpine	-	10.3
Solara	-	32.1
Tagora	-	3.3
Others	-	14.7
Total	383.2	234.5
Peugeot		
104	114.5	117.9
204	88.2	-
304	93.3	-
305	-	186.5
404	15.8	-
504	239.4	80.7
505	-	145.7
604	10.3	5.7
Total	561.4	536.5
Citroen		
2CV6	106.3	83.1
Dyane-Mehari	107.7	26.0
LNA 11	-	26.6
Ami	47.2	-
Visa	-	206.9
GS	187.8	-
GSA	-	108.8
BX	-	13.5
CX	96.8	57.4
D-DS	0.8	-
SM	0.1	-
Total	546.8	522.3

Source: L'argus de l'automobile, various issues, and Talbot Motors.

Table 7: Production by Chrysler-Talbot's major European competitors

Company and model	Production of cars and light vans ('000 per annum)	
	1975	1982
Ford UK		
Fiesta	-	42.0
Escort	152.5	168.0
Cortina	140.4	54.5
Sierra	-	26.5
Consul		
Capri	36.8	15.7
Granada		
Total	329.6	306.6
Ford (Federal Republic of Germany)		
Escort	215.8	281.2
Others	197.4	237.3
Total	413.1	518.4
Renault		
R5	299.0	352.0
R12	250.4	-
R18	-	284.7
Others	479.7	854.1
Total	1 029.1	1 490.9
Volkswagen		
Golf	419.6	494.8
Others	630.7	625.7
Total	1 050.3	1 120.5

Source: L'argus de l'automobile, various issues.

Table 8: Changes in the sourcing of the United Kingdom market, 1980-82

Country of production	Registrations of cars and light vans (vehicles per annum)	
	1980	1982
Talbot	90 874	56 196
UK	62 876	31 607
France	25 481	24 534
Ireland	1 853	47
Spain	664	6
Others	-	2
Ford	464 706	474 192
UK	247 946	244 140
Federal Republic of Germany	85 091	100 349
Belgium	49 135	66 911
Eire	13 537	10 472
Spain	68 878	52 187
Others	119	133
General Motors	133 078	181 737
UK	82 233	102 573
Federal Republic of Germany	29 147	30 062
Belgium	20 708	48 862
Others	990	276

Source: L'argus de l'automobile, various issues, and Talbot Motors.

Use of common components. Chrysler models, like those of other manufacturers, utilised engines which were interchangeable. Since the Peugeot acquisition there has also been common use of engines between the Talbot and Peugeot models. The Peugeot 205 uses some of the same engines as the Talbot Samba, and the Tagora SX used a V6 engine that is also fitted to the Peugeot 604. The Peugeot 104 coupés share a body shell with the Citroen LNA and the Talbot Samba.

Other examples of standardisation include the use of Avenger and Alpine components in the Talbot Sunbeam, and the use of certain paint colours which are common to Talbot and Peugeot.

Vertical integration. During the 1970s, Chrysler United Kingdom - like its United States parent - was sometimes criticised for relying too heavily upon outside suppliers of components. It was alleged that the company was obliged to pay too high a price for its components, and also had difficulty guaranteeing supplies. However, the minimum economies of scale for producing many components was much higher than Chrysler's output of finished vehicles, so that in many cases it would have been impossible for the company to produce its own components on an efficient scale. Moreover, the company suffered so many disruptions of production in its own plants that it is difficult to see how internal sources of supply could be more reliable than external ones, especially when the company was able to "shop around" among competing suppliers for a number of components. It seems likely, therefore, that reliance on external suppliers was a rational response to the company's inability to exploit economies of scale.

In Europe matters are rather different, however, now that Chrysler operations have been incorporated within the automobile division of Peugeot, because the Peugeot group is both larger and more diversified. It is involved, for example, in the cold-rolling of special steels, in the manufacture of transmissions, cycles, motor cycles, electrical and plastic components and armour-plating.

Even a large diversified company, however, may be unable to take full advantage of scale economies in components, such as large engines for luxury cars. An alternative to relying on outside suppliers is for the company to undertake joint ventures with its competitors to produce these components, or to enter into a specialisation agreement whereby companies can trade or barter components for one another's use. Inter-firm collaboration affords many of the advantages of full integration without some of the costs; it is of growing importance in the world motor industry.

Inter-firm collaboration. Continental European motor producers have for many years been more heavily involved in collaborative arrangements than their British and United States counterparts. Fiat, for example, has at one time or another held financial interests in Citroen and Unic (a commercial vehicle manufacturer) in France and NSU in the Federal Republic of Germany, and has licensed production of its models to Spain, Yugoslavia, Poland and the USSR. In France, state-owned Renault and privately-owned Peugeot have collaborated on a number of ventures in recent years.

Peugeot is a member of the Joint Research Committee with Renault, Volkswagen, Volvo, Fiat and BL, which undertakes research into combustion technology, new materials, computerised engineering and a number of other subjects. Peugeot is involved with Fiat in the development and production of a new one-litre engine for the Fiat Uno and Peugeot 205, and in the production of a new van in Italy. The Peugeot subsidiary, Cycles Peugeot, has an agreement to manufacture motor cycle engines for Honda in Belgium and to assemble a Honda scooter in France for the Belgian market (Automotive Industry Data, 1983). Peugeot and Chrysler also entered into negotiations about industrial collaboration, soon after the acquisition, that explored the possibility of producing small Peugeot cars for the sub-compact market in the United States, but so far there has been little to show for this. A recent development is an agreement to produce Peugeot cars in China.

Peugeot and Renault are involved with Volvo in a joint venture, manufacturing engines at Douvrin in France, and also jointly produce automatic transmissions in France. In 1981, Renault purchased a stake in Karrier Motors, a commercial vehicle manufacturer whose British operation was inherited by Peugeot from Chrysler United Kingdom, and acquired full control from Peugeot in 1983. The sale of commercial vehicle operations by Peugeot to Renault has a precedent in the disposal of the Berliet commercial vehicle subsidiary of Citroen to Renault when Peugeot acquired control of Citroen. It represents the continuation of a policy, beginning with the Renault acquisition of Saviem in the 1950s, by which heavy commercial vehicle production in France has been concentrated upon Renault. (It is worth noting, however, that Peugeot's original intention was to sell Chrysler's truck operations to Daf.)

The fact that Talbot operations are now beginning to be integrated within the operations of a company which is, in turn, heavily involved in inter-firm collaboration with other motor producers is perhaps one of the most hopeful aspects of the current situation. It suggests that any future Talbot model will be able to incorporate much more modern components than any of its predecessors, and that it will be produced more cheaply because of the more effective exploitation of economies of scale. Only skilful design can, of course, guarantee success. However, some of the conditions necessary for success have now been met, even though these conditions alone are not sufficient to guarantee Talbot's future.

Other aspects. Engineering research and styling has been concentrated on the main facility in Paris and the Whitley research centre, near Coventry, has been closed down. The United Kingdom parts operation has been rehoused on a single floor at Tile Hill, Coventry, from an inefficient multi-floor plant in Birmingham. An interesting aspect of this development is that the Citroen United Kingdom parts operation has now been consolidated with that of Peugeot-Talbot. Peugeot has entered into rallying to give its models a more sporting image, and the Peugeot 205 has proved extremely successful in competition.

Future prospects for Peugeot

It has been estimated that there was approximately 15 per cent excess capacity in the Western European motor industry in 1984. Some of this is ageing high-cost plant, kept going in the hope that jobs can be maintained until there is an economic recovery, whilst other is modern highly automated plant, utilised more intensively, but often still with a margin of spare capacity.

The consumer market is highly competitive, particularly in countries such as Belgium which produce very few of their own models. Competititon is less intense in France because of the obstruction of Japanese imports by French customs procedures. British conditions are also special because of the high costs of the only major indigenous producer, BL, and because the demand for right-hand drive rather than left-hand drive vehicles encourages price discrimination against British consumers. The EC Competition Directorate has recently attempted to discourage producers from using their tied retail outlets to enforce discrimination of this kind.

Many major motor producers incurred losses in Europe in 1983, which was an exceptionally difficult year. Table 9 shows that Peugeot has been incurring losses continuously since the acquisition of Chrysler Europe, though its performance in 1983 was significantly better than in 1982. In 1983, the company lost 2,604 million French francs (approximately £250 million). Sales were up over 12 per cent on the previous year, reflecting the successful launch of new models - the Peugeot 205 and the Citroen BX - which enabled the company to increase its share of the French market at the expense of its main rival Renault. Both French companies have, however, been losing ground in Europe to rivals such as Ford. It is also unfortunate for Peugeot in that the impact of its new models has been less than it might have been if the overall market had been more buoyant.

Funding the development of these new models has imposed a considerable burden of debt on the company. Financial restructuring has marginally diluted the interests of the major shareholders (the Peugeot family and their trusts 33.9 per cent; Chrysler Corporation 14.1 per cent and the family-controlled Michelin Tyre Company 9.0 per cent.). Between 1980 and 1983, the company's current liabilities have risen steadily, relative to its total assets, and long-term loans have increased substantially. At the end of 1983, the ratio of long-term loans to assets net of current liabilities was 65 per cent, which is very high, at least by British standards. Accounts payable and bills payable have risen from 6,123 million French francs in 1980 to 13,371 million French francs in 1983. A company in such a shaky financial position would normally find it difficult to increase its credit with suppliers in this way; the company's good standing with its creditors almost certainly reflects their perception that the company's obligations are underwritten by the Government.

As already noted, the group's United Kingdom operation is now somewhat peripheral to its main activities, and indeed the number of production workers in the United Kingdom is currently less than 4,000, and total United Kingdom employees number about 6,300. The reduction in employment has been associated with a substantial increase in productivity at the company's main plant at Ryton and with a notable lack of industrial disputes. In 1984, Ryton workers produced a phenomenal 37 cars per man without the use of robots. Coupled with the recent weakness of sterling, this has led United Kingdom production costs to fall relative to those in France. In 1983, the automobile division, which is dominated by French operations, had a productivity of 8.3 vehicles per employee per year, compared to 8.7 for Volkswagen and 10.9 for Fiat. These figures need to be interpreted with caution because of the different sizes and sophistication of the vehicles being built, and because of different degrees of vertical integration within the companies concerned. Nevertheless, they suggest that productivity in the company's French factories is unimpressive, and it is well known that some of these factories have recently been the scene of serious industrial disputes, especially the Talbot plant at Poissy, near Paris, and the Citroen plant at Aulnay. It has been estimated that in the United Kingdom labour costs are now approximately £200 per car lower than in France.

The future of the company's Stoke plant, near Coventry, remains uncertain because of its heavy dependence on the continuation of the Iranian contract. It is planned to launch a new medium-size car from Ryton early in 1986. Code-named the C26, it is a medium-size family saloon that replaces the Horizon and will compete with the Vauxhall Astra and the BL Maestro. The badging of the car has yet to be decided, although it seems almost certain to be a Peugeot. Badging the car as a Talbot would help the company to break back into the United Kingdom fleet market, where the "high profile" business customers still prefer to nominally buy British. It might also help to raise sales of other vehicles in the Talbot range. Badging the car a Peugeot, on the other hand, would probably produce a better initial response from non-fleet buyers.

Table 9: Income statements and balance sheets for Peugeot, 1980-83 (million French francs)

	1980	1981	1982	1983
Assets (end of year)				
Property, plant and equipment	19 313	21 076	22 944	23 606
Other fixed assets	2 879	3 526	3 886	4 532
Accrued assets	-	-	2 050	2 648
Inventories	16 815	16 054	16 962	18 471
Other current assets	12 634	14 715	12 177	14 384
Total	55 641	55 371	58 019	63 641
Liabilities (end of year)				
Shareholders' equity	12 132	10 178	8 150	5 712
Minority interests	653	594	490	313
Provisions and long-term liabilities	1 824	1 615	2 190	2 356
Long-term loans	9 772	11 590	13 806	15 417
Current liabilities	27 260	31 394	33 381	39 843
Total	51 641	55 371	58 019	63 641
Depreciation	8 841	10 367	12 035	13 255
Accounts receivable and bills receivable (net)	7 056	8 859	7 254	9 555
Accounts payable and bills payable	6 123	9 336	11 067	13 371
Turnover	71 103	72 389	75 263	85 207
Additional revenues	320	379	506	499
Operating expenses	70 081	70 982	75 651	83 314
Operating margin	1 342	1 786	118	2 392
Other costs and revenues	3 995	4 164	4 332	5 518
Share in the results before tax of companies accounted for on the equity method	19	292	318	522
Pre-tax profit	-2 672	-2 086	-3 896	-2 604

Source: Company accounts.

The major obstacle to even further investment in the United Kingdom would appear to be the company's financial dependence on the French Government. So long as this dependence persists, political considerations are likely to prevent any substantial long run "export of jobs" from France to the United Kingdom. It will be interesting to see what marketing and production strategies the company adopts for the Peugeot 305 replacement due to be launched in 1987.

Policy issues faced by the United Kingdom Government

The potential influence of the French Government on Peugeot investment policy illustrates an important policy issue in both foreign investment and foreign divestment, namely, the way that the interests of the company's home country are likely to prevail over those of the host country whenever crucial decisions have to be made. A multinational enterprise is likely to look first to its home government for the exercise of political influence and military strength in defence of its property overseas, as well as for financial support in case of commercial difficulties. It is therefore in the company's long-term interests to demonstrate reciprocity by acting first and foremost as a "good corporate citizen" of the home country, with the interests of the host country being kept firmly in second place. Reliance on the home government for financial support is evident in the case of both Chrysler and Peugeot. It is therefore not unreasonable to suggest that United Kingdom interests may have been prejudiced by a desire to safeguard jobs in the home country, at the expense of those in Britain. Having said this, however, it is difficult to demonstrate that in these particular cases there has been any contraction of employment in Britain in excess of what is likely to have occurred under British management.

Although the British Government disliked the way that Chrysler management disclosed its problems with its United Kingdom operations to its United States shareholders before it informed the British Government, and although it disliked Chrysler's hard-line bargaining tactics, the Government got what it wanted from Chrysler during the 1975 negotiations - namely the preservation of employment at Linwood and the production of new models in the United Kingdom. A purely British solution to the United Kingdom operations had been ruled out as early as 1967, when the Labour Government failed to find acceptable alternatives to the Chrysler acquisition of Rootes. By the time of the divestment in 1978, it was widely appreciated that BL management could not cope with the acquisition of Chrysler, and that Chrysler would not fit into the European operations of either Ford or General Motors. Given Chrysler's financial difficulties, therefore, and the Government's own reluctance to provide further finance, it was forced to admit that there really was "no alternative" to the Peugeot takeover if jobs were to be preserved.

There is no doubt that if Chrysler had pulled out from the United Kingdom without divesting to another company, then plant closures would have resulted in large job losses occurring at short notice. This did not happen, however. Although Peugeot closed the Linwood plant in 1981, employment there had been contracting steadily for a number of years and by the time of the closure the workforce appears to have accepted the outcome as inevitable. The steady run-down of employment under Peugeot management is preferable, from the standpoint of social policy, to precipitate closure, and the scale of the run-down has been unexceptional given the prevailing conditions of world recession.

It is possible that when a foreign company sells off a plant, there may be a capital outflow which temporarily worsens the host country's balance of payments, or weakens the exchange rate. This applies, however, only when funds are raised in the host country to buy out the foreign firm. In the case of the Chrysler divestment, the capital account of the British balance of payments was largely unaffected because the transfer of funds occurred between France and the United States.

It could be argued that it was wrong of Chrysler management to convert into cash, assets whose purchase had been partly subsidised by the United Kingdom Government through the rescue agreement of three years earlier. This argument does not, however, make very good economics if the assets would in fact be better managed by another company. Moreover, Peugeot agreed to take over Chrysler's outstanding commitments under the rescue plan, and in so far as these obligations reduced the market value of Chrysler's United Kingdom assets, the final distribution of rewards may have been quite equitable.

As far as the wider implications of the Chrysler divestment are concerned, therefore, the United Kingdom Government should perhaps count itself lucky that Chrysler managed to find another foreign buyer that was willing, at least in the short run, to continue producing in the United Kingdom.

PART V

CONCLUSIONS

When evaluated carefully, it can be seen that the Chrysler-Peugeot case study illustrates a number of the points made earlier in the paper. Chrysler's initial investment in Europe represents a managerial error of judgement. It was based, implicitly, upon an overvaluation of the company's own technical and marketing strengths, and probably an overestimation of the future growth of the European car market too. Chrysler's divestment in 1978 may be therefore regarded as an error-correcting reversal of a flawed investment policy.

The divestment decision itself may be judged a success from Chrysler's point of view, in the sense that the company was able to find a buyer with sufficient liquidity to take its entire European operations off its hands. The international capital market worked well - although the role of the French Government in supporting the acquisition of the French assets should not be underestimated. The French Government clearly took the view that the maintenance of existing jobs in the French motor industry overcame any objection that the acquisition turned volume car production in France into a Peugeot-Renault duopoly.

The obligation on Chrysler to make redundancy payments seems to have encouraged the company to search for a buyer. The redundancy payments of European-wide closure could have practically bankrupted the parent company. The liability for redundancy payments was lower for Peugeot since by keeping the operations going and running them down only slowly, employment was partially reduced through voluntary quits and retirements instead of redundancy.

The fact that Chrysler divested to a European rival is consistent with the view that the company was unable to make the best possible use of its European facilities because of the poor technology and marketing skills within the company.

Peugeot acquired from Chrysler some facilities which were defective - notably the Linwood plant which was in the wrong location and suffered from endemic poor industrial relations. In accordance with the analysis presented in Part II, this facility was closed down.

Other facilities were in the right location but were producing too wide a range of products on too small a scale - particularly where components were concerned. The facilities needed to be rationalised so that each produced a smaller range of products on a larger scale. Integration within a larger group is one of the remedies prescribed by the theory, and several component manufacturing facilities have indeed continued operations within the framework of the Peugeot group.

Yet other facilities were simply producing the wrong product. The Talbot range of vehicles was ageing and needed replacement. The most promising replacement vehicle forthcoming since the acquisition is now ready, and will be launched from Ryton soon after this paper goes to press. The Ryton plant is in a suitable location, has a workforce with a good productivity record in recent years, and simply lacks the right product. The future of Peugeot's manufacturing operations in the United Kingdom hinges on the sales of this car. The failure of a new volume car began the difficulties of the Rootes group in the 1960s. The failure of the new British Peugeot could signal the end of assembly - and eventually all manufacturing - in the former Rootes plants. Its success, on the other hand, could enable Peugeot to recover the very strong position in the European market that it enjoyed at the time of the Chrysler acquisition.

The Chrysler-Peugeot experience demonstrates that divestment by sale can, under certain circumstances, be a viable alternative to divestment by closure. It also shows, however, that divestment by sale is not a universal panacea for avoiding redundancies. The Linwood plant suffered from irreversible defects and was closed down in spite of the transfer of ownership. Other facilities, however, such as Ryton, have become more profitable under new ownership than they were under the old. Divestment to a rival has permitted, amongst other things, the transfer to the facility of products and management skills that were not available from the original owners.

The Chrysler-Peugeot case also demonstrates the magnitude of rationalisation problems in the motor industry, and the enormous level of funding that rationalisation requires. Peugeot has essentially rationalised on a European basis and, as noted earlier, there is likely to be considerable excess capacity in the European motor industry for some time. It is conceivable that rationalisation on a European basis is no longer sufficient to ensure viability, and that the successful companies of the 1990s will be those that have rationalised on a global scale. It is too early, though, to pass judgement on this issue yet.

The fact that the forces of structural change, and their manifestation in new sources of competition, operate on a global scale, suggests that interventions to avoid redundancies can no longer be applied effectively on a national - let alone a regional - scale. If interventionist programmes are to be effective, they must be conceived and implemented across Europe, the United States and Japan at the very least. Even then, the ability of a supra-national interventionist programme to regulate structural change would be questionable. In the absence of such a programme, it can be argued that policy needs to focus more upon making markets work better at job creation and less upon trying to reverse those instances where market forces lead to redundancies.

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