Regional Incentives and the Quality of Mobile Investment in the Less Favoured Regions of the EC

ASH AMIN, DAVID BRADLEY,
JEREMY HOWELLS, JOHN TOMANEY and CHRIS GENTLE

Centre for Urban and Regional Development Studies,
University of Newcastle upon Tyne, Newcastle upon Tyne NE1 7RU, England

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Biographies

Dr Ash Amin is Senior Lecturer in Geography at the University of Newcastle upon Tyne. He has coordinated projects funded by the ESRC and the European Commission on the development prospects of the less favoured regions in the EC. He is co-editor of *Towards a New Europe* (Edward Elgar, 1991) and co-editor of the *Review of International Political Economy*.

David Bradley is Research Associate in the Centre for Urban and Regional Development Studies at the University of Newcastle upon Tyne. He is a specialist on local economic development policy.

Dr Jeremy Howells is Research Fellow in the Judge Institute of Management Studies at the University of Cambridge. He is an expert in the field of organisational studies, and is co-author of *Globalisation of Production and Technology* (Belhaven, 1993) and *Technology Transfer in Europe: Public and Private Networks* (Belhaven, 1992).

Dr John Tomaney is Lecturer in Geography at the University of Newcastle upon Tyne. His research interest is the development prospects of traditional industrial regions.

Dr Chris Gentle is Economic Analyst at the Henley Centre, London. He is the author of *The Financial Services Industry* (Avebury, 1992).

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Abstract

The renewal of interest in the development potential of inward investment within the less favoured regions (LFRs) has been the outcome of disenchantment with strategies based on small firm entrepreneurship. However, it is also the product of changing analysis of the positive contribution to regional development from new organisational tendencies in large firms, notably the decentralisation of decision-making and production.

This study, based on research commissioned by the Regional Policy Directorate of the European Commission, critically evaluates the latter proposition, and explores the regional policy requirements for attracting and rooting high quality investment in the less favoured regions of the European Community. It reviews new theorisations of large firm behaviour, to draw out the locational and policy requirements of so-called quality investment in the context of LFRs. It goes on to examine whether the 1980s have witnessed a change in the nature and quality of mobile investment in LFRs, through a study of major projects in selected EC regions.

The study concludes that the recent experience of LFRs challenges the text-book analysis of the emerging decentralised corporation. To the extent that evidence of upgrading was discovered, this tended to reflect innovative policy efforts at the regional level, rather than changing corporate practices. It ends with an outline of the EC regional policy reforms and local institutional improvements needed to secure locally embedded projects in Europe's LFRs.

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Additional case studies of Rhône Alpes (France) and Scotland (UK) can be obtained by writing to Dr A. Amin.

CHAPTER 1

Introduction

This report is based on a study investigating how regional incentives may be related to the type and quality of mobile direct investment going into the less favoured regions (LFRs) of the European Community (EC). This study was for the Directorate-General for Regional Policy (DGXVI) of the European Commission, completed in March 1993. The central aim of the research was to identify regional policy priorities and mechanisms relevant to the attraction of quality-based mobile investments into the LFRs and to the maximisation of the value added by mobile investments to host regions. In the light of its empirical findings, a secondary aim of the study was to draft a framework for comprehensive, EC-wide, policy action designed to 'calibrate' the provision of regional incentives to the 'value added' by mobile investments to host regions.

The provision of financial incentives to attract mobile investment into the LFRs of the EC is the responsibility of member states. Despite the allocation of a significant proportion of ERDF funds for the provision of direct financial assistance for firms, decisions regarding the criteria, size and delivery of incentives are left to national and regional agencies. Such fragmentation of effort, coupled with inequalities in the level of subsidy offered between member states, runs the risk of challenging the EC objective of securing a 'level playing field' for achieving greater regional cohesion within the Community. Action at EC level to facilitate a more equitable basis for distributing mobile investment between the LFRs may be required in order to avoid locational decisions made purely on the grounds of the size of funding offered.

However, why after more than a decade of national and EC policy focus on indigenous growth as the key to regional development, should attention return to the benefits of mobile investment? Has the organisational geography of the large multi-locational firm changed, and in a direction which promises more to the LFRs? What new demands are such firms making on host regions, and how should regional policy at both EC and national level respond to any such changes? Independently of such organisational change, what can policy-makers do to maximise the economic impact of inward investment in host LFRs? Widespread doubts are expressed concerning the contribution of branch plants in LFRs

to indigenous development and enhancement of local supply-side conditions. Consequently, there is growing pressure for justification of the lucrative sums of incentives offered to mobile investors to locate in LFRs and greater demand for evidence on the positive benefits of such expenditure on the host economy. These are questions which the study has sought to answer.

Part of the rationale for a new focus on inward investment is provided by studies on the changing nature of the firm, which have begun to distinguish between the locational demands and the local impact of different types of company. A distinction has been found between the cost-sensitive and price-driven company which is attracted to LFRs for financial incentives and cheap labour, and the company which derives its competitive strengths from innovation and product excellence and which seeks locations which offer highly qualified labour and a fertile environment for innovation. A comparison is also made between the traditional, vertically integrated company which locates task specific plants in LFRs that offer few local linkages, the decentralised company which affords greater functional and managerial autonomy to local plants and divisions, and the 'networked' company which relies upon a dense tissue of locally embedded or globally based alliances and buyer–supplier links to derive competitive advantage.

There is an emerging sense that the relationship between corporate structure and territory is more complex than recognised in orthodox studies on the regional benefits of inward investment. It is argued by some that innovation and product quality based companies may be more reliant on locational proximity to suppliers and sources of specialised skills and research capability, in order to respond rapidly to changing market signals. Investments by such 'performance' companies in LFRs, they argue, will have a better local impact on the quality of employment, technology transfer and linkage formation than those of cost-driven companies which might tend to source little other than semi-skilled labour from the local economy. Such a distinction has significant implications for policy efforts to attract mobile investment. First, it might necessitate calibration of financial incentives to new and different firm characteristics and opportunities. Second, while the provision of financial incentives may suffice to satisfy the needs of the latter type of investor, companies may require additional non-monetary incentives, such as the offer of 'hands-on' support from regional development agencies, including bespoke packages to individual investors which meet their infrastructural, skill, services and supply needs.

Information, however, is lacking on the precise characteristics of innovation and quality based companies and their likely demands on LFRs. Much existing literature is based on a stylised model of the decentralised corporation rather than a comprehensive study of real companies. Even more problematic, the literature offers virtually no evidence on the experience and impact of 'performance' company investments within LFRs.

It is proposed here that in the absence of a thorough review of the real organisational geography of different types of company and their territorial demands, policy efforts to attract mobile investment and monitor its contribution to local 'value added' will remain a matter of conjecture and speculation. Such a review is important not only because of the need to ascertain whether and how far company behaviour in LFRs is changing, but also because of the need to find ways in which incentives can be used to extract qualitatively better results from inward investors.

This report provides such a review, and, on the basis of case studies of changing corporate and institutional behaviour in selected EC LFRs, it discusses the scope for raising the quality of mobile investment in such regions. Chapter 2 outlines the new dynamics of mobile corporations in the 1990s and discusses how they might create new challenges and possibilities for LFRs within the EC. More specifically, it seeks to describe the rise of what has become termed the 'performance' company and how this in turn is related to 'quality' plants and investments. The characteristics and attributes of 'performance' and 'quality' corporate activities are analysed in detail, before outlining what these new forms of corporate organisation seek in terms of their locational requirements and the potential benefits they may bring to their local environments. Lastly within this chapter, implications of new corporate dynamics within Europe are considered in relation to LFRs and regional policy.

Chapters 3 and 4 investigate in more detail, using case study research, the role and nature of flagship mobile investment within LFRs since the early 1980s. Chapter 3 examines the role of incentives in the location decision of companies vis-à-vis other locational factors. It then seeks to differentiate the role of incentives by the type of region and sector involved and the size and mode of their delivery. Chapter 4 then analyses in more detail the issue of 'quality' of mobile investment, the central element of the study. It considers the definition of quality on the basis of theoretical arguments developed in Chapter 1, and goes on to assess the actual meanings of the term, on the basis of the study's analysis of flagship projects in the different regions studied.

The case study research involved in-depth analysis of a sample of corporations and institutions within regions offering varying locational characteristics. Four different LFRs were chosen — Brandenburg in eastern Germany, Portugal, Ireland and Scotland. Also studied was the region of Rhône Alpes in France, as a core region that has succeeded in attracting good quality mobile projects in the absence of financial incentives. The aim of the case studies was to provide a detailed analysis of the organisational and locational characteristics of investments considered to be top quality projects, an assessment of their local impact, and an evaluation of the role of the local institutional and policy milieu in influencing quality of investment. Information was collected from documentary sources, expert

interviews, and interviews with a sample of leading corporations of both European and non-European origin as well as a range of institutions and policy bodies concerned with inward investment. While Chapters 3 and 4 report the results of the field-work on a comparative basis, details of each region as a case study in its own right are also available. Owing to space constraints only three have been included at the end of this report, while separate studies on Rhône Alpes and Scotland can be obtained from the authors at the Centre for Urban and Regional Development Studies at Newcastle University.

The penultimate part of the report considers the policy implications of the research. Thus Chapter 5 brings together the findings of the study to consider the scope for calibrating incentives to the quality of investment. Here such questions as whether incentives give value for money, whether there is potential for quality investment in different types of LFR, and whether incentives can capture quality, are considered. The chapter concludes by summarising the issues for policy intervention designed to calibrate incentives to the quality and local 'embeddedness' of mobile investment. Chapter 6 provides the key recommendations arising from the report. These centre on the role of incentives in regional development and the kind of policy action that should be instituted to effectively attract and establish quality investment in the LFRs of the Community.

CHAPTER 2

New Corporate Dynamics and New Possibilities for LFRs

2.1. RISE OF THE 'PERFORMANCE' COMPANY

Although there were significant amounts of Foreign Direct Investment (FDI) during the first half of the century, it was not until the postwar period that overseas direct investment took off (Vaupel and Curhan, 1973). Growth was particularly rapid from the early 1950s right through to the mid 1970s, with a deceleration of growth from 1974 through until 1983. However, after that date there was a further acceleration of FDI right through the rest of the 1980s, evident in high rates of both relative and absolute growth (Julius, 1990, 60–61).

These changes in the absolute and relative growth rates in FDI have also been accompanied by changes in the nature and type of the direct investment going overseas. The early postwar period was dominated by the growth of United States overseas investment (although this had also been important in the 1920s and 1930s) particularly in the United Kingdom and to a lesser extent Germany and the Netherlands. However by the mid 1980s Japan and Germany had become increasingly important sources of outward investment, accounting for 11.7% and 8.4% of outward direct investment in 1985 (c.f. shares of just 0.7% and 1.2% in 1960). By contrast the combined U.S. and U.K. shares of world total FDI had fallen by over half over the same 1960–1985 period, with the US share falling from 47.1 to 35.1% and that of the U.K. from 18.3 to 14.7% (UNCTC, 1988).

More particular, however, has been the changing nature of the *type* of FDI that has occurred over the postwar period. Up until the early 1970s the main focus of FDI derived from two factors: more direct servicing of major overseas markets, and cost factors associated with savings in manufacturing in lower cost areas.

The establishment of overseas branch plants in organisational and managerial terms was largely on a *geographical* (rather than *product*) market basis. Overseas factories were set up in particular countries to serve that specific market and frequently operations focused on secondary manufacture associated with final assembly operations. Exceptions to this pattern were operations involved in more direct extraction and processing of raw materials and/or those operations involved

in producing goods with low value to weight ratios. Several studies examining foreign direct investment over this period confirmed the importance of market size (Blackbourn, 1972, 1974) and cost factors (De Smidt, 1966) in the location decision of enterprises. In addition many of these branch plants were heavily dependent for material and technical inputs from their parent companies and had very little autonomy outside their limited capacity to serve their local indigenous market. Management of overseas operations was very much in the tradition of centralised, hierarchical control, although actually how much control a parent company could bring to bear on its overseas plants varied considerably.

During the latter half of the 1970s and beyond, the character of FDI changed. Increasingly, multinational companies have been moving over to *product-based* rather than geographical market-based organisational structures for their management of worldwide operations, particularly in respect of their manufacturing facilities. Overseas plants are now increasingly responsible for particular products as product groups on a world product mandate (WPM) or continental product mandate (CPM).

In addition parent companies have moved away from more centralised and hierarchical patterns of control to more decentralised, 'heterarchical' systems of management (Hedlund, 1986), which has devolved more power and authority to overseas facilities. Plants now appear to be working on a more cooperative, networked basis, with the former emphasis on domestic 'lead' and overseas 'lag' in terms of the division of research, technical and manufacturing expertise gradually disappearing (or actually being reversed). As such many plants now have leading roles for particular products or technologies for their parent company on a worldwide basis. They have had to develop their own expertise in particular technologies or markets and, as a result, the nature of their operations and their locational requirements has changed. This can be seen across the three main broad types of manufacturing industry that currently dominate FDI:

(1) technologically more advanced sectors (e.g. electronics and pharmaceuticals);
(2) large volume, medium-technology consumer goods industries (e.g. motor vehicles and televisions); and
(3) mass production consumer goods industries supplying branded products (e.g. soft drinks and toilet preparations).

Central to this issue is how far this change has gone and whether it is more generally reflected in the nature of foreign manufacturing investment today.

During the 1960s and 1970s studies investigating the impact of FDI on indigenous economies, led by research in Canada (Government of Canada, 1972) and the UK, coined the term 'branch plant economies'. This was summed up in a seminal paper by John Firn in 1975 that highlighted the problems of external

control and lack of high quality in overseas controlled plants. This was reflected in two areas, in particular the nature of job provision (jobs principally orientated towards female, semi-skilled assembly operations); and lack of investment in research and technology.

In this latter respect Firn (1975) noted, in the context of Scotland, that the region would not be a leader in developing new products, processes and technologies, suggesting that innovation would not lead to a substantial development of new enterprises, with the inevitable conclusion being an increased requirement of regional assistance in the future. This and related research had a far reaching impact on both academics and policy-makers alike. Of issue now is how far recent changes in the nature and organisation of multinational operations have altered this picture of FDI. Here discussion needs to differentiate between *existing* branch-plant investment and *new* or *greenfield* investment.

In the context of existing establishments many studies have highlighted the evolutionary upgrading of overseas plants over time. Plants gradually acquire and develop research and technical skills, often associated with local problem solving and adaptation to local markets. Hakansson (1990) notes recently that, "The spontaneous development of foreign subsidiaries has tended to widen the geographical basis for the creation of firm specific advantages. Foreign manufacturing units, originally set up as mere market outlets, in time acquire their own technical, managerial and marketing expertise. Thus, engineering capabilities acquired to perform routine technical activities — service, maintenance and customization of products to individual buyer needs — often evolve into proper R&D".

In the context of recent greenfield investment there also appears, in certain sectors, to be some trend towards multinationals investing in branch plants with a more strategic, international and technological role and technical and support infrastructure allocated to them from the start. These potential changes at plant level in terms of FDI reflect developments taking place at a corporate level since the oil shock of 1973–4 and the global recession that it induced. Indeed many saw this as a precursor to the long-term decline of the giant multinational and the move away from the long established benefits of vertical integration and market concentration.

One strand of such thinking, based on the theory of flexible specialisation, sees the long-term demise of large, vertically integrated corporations based on mass production systems, replaced by the growth of smaller firms and units operating in a system of vertically disintegrated and decentralised production (see, for example, Piore and Sabel, 1984). Another strand takes a less radical, more evolutionary view of corporation change, emphasising, on the one hand, the rise of the 'networked' firm (see, for example, Hakansson, 1987) in terms of its inter-organisational context, and, on the other, a more decentralised, cooperative form of corporate management at an intra-organisational level.

A number of studies, however, have sought to emphasise that it is as yet premature to announce the demise of the giant multinational corporation (Harrison, 1989; Martinelli and Schoenberger, 1991) and that indeed giant corporations are continuing to grow and prosper ever under the global stagnation of the 1990s (Amin and Dietrich, 1991; Howells and Wood, 1991). Nonetheless, regardless of the perspective taken, major multinationals have been undergoing and responding to change throughout the late 1970s and 1980s. Many major industrial corporations have become involved in more collaborative and joint venture activities and networking with other firms within and outside their particular sector. In addition they have adopted new forms of administrative structures to allow their overseas subsidiaries more flexibility and control of their operations. This has been accompanied by more general moves towards managerial *decentralisation* and the moving of control down towards more focused business units, often associated with the complete removal of managerial/divisional administrative tiers.

Above all such companies have had to become much 'leaner' and 'fitter' to compete in world markets. The continued drive towards improving the speed and success of the innovation process (i.e. the design-to-build cycle); the need to improve product quality as well as the performance of the manufacturing process, through such measures as Just-In-Time (JIT) production; and the acknowledgement that the global corporation needs to manage but also be responsive and flexible to local needs, have all led to fundamental, long-term organisational changes within those companies seeking to implement such strategies. Companies which have succeeded in or are 'well on the road' to adopting such strategies may be termed 'performance' companies.

'Performance' companies, to summarise, operate in rapidly changing, specialized and demanding segments of a particular product market, and are distinguished by a competitive strategy based on product performance, quality and service rather than price. Acute pressure associated with markets of high demand volatility and changeability of products and technical standards, tends to favour an organisational strategy based on integrated manufacture, the break-down of traditional functional and hierarchical divisions between management, product development and production, and the establishment of close and time-saving ties with suppliers. The aim of such a strategy is to maximise on quality, flexibility of response and rapidity of service and delivery without loss of efficiency.

In theory, such 'systemofacture', based on the integration of competencies and capabilities within and across the company's boundaries, is as much a firm-attribute as it is a plant-attribute. The opportunity for plant-based integration is in part an outcome of the availability of time and distance-shrinking advanced communications systems which now allow complex forms of organisational decentralisation without loss of managerial or productive efficiency. But, it may

also be an outcome, in theory at least, of the reduced pressure on 'performance' companies, in contrast with companies whose competitiveness is based on price and cost minimisation, to site individual functions in the most appropriate locations.

2.2. THE 'QUALITY' PLANT

What are the implications, therefore, of the appearance and growth of the 'performance' company for FDI and the role of overseas factories in terms of R&D, 'lead' manufacturing and other 'quality' areas? In particular, has it given rise to what many termed the 'quality' plant, and what features might these plants possess? Clearly for companies adopting a 'performance' strategy, in terms of their worldwide operations, overseas plants and subsidiaries are likely to gain more control over their own operations and, in some cases, develop specialist functional autonomy in parts of the parent company's activities. More specifically this is likely to involve: greater autonomy; more involvement in 'partnership' rather than 'control' relationships with the parent company and sister organisations; and research, technical, design, engineering and support infrastructures for their individual operations.

A key feature here of these attributes is the *evolutionary* or *developmental* nature of plant investment; and this is arguably the key characteristic of what might be termed 'quality' plants. As part of this process plants gain more autonomy, are more proactive in their strategies, and have a more equal, two-way relationship with their group headquarters. Moreover they gain more responsibility not only in their own affairs but also in taking on corporate-wide responsibilities for particular technologies and products. However such changes are not immediate. It should be recognised that such upgrading takes considerable time and resources to undertake. It has also led to companies seeking to concentrate their operations and investments on fewer but larger sites. Branch plants which are not suitable for changes associated with the more demanding performance company attributes are liable to closure (or a lingering 'rationalisation' process leading to eventual closure with no new investment or products going to the plant).

For the 'quality' plants that are appearing overseas either through the upgrading of existing facilities or through new greenfield expansions, multinationals are making substantial investments in their knowledge and operational infrastructure. The identification of such plants is therefore of key interest to policy-makers seeking the long-term development of LFRs.

The 'quality' plant possesses certain distinctive attributes (see Schoenberger, 1991) which, taken together, make it a very attractive growth pole for a LFR.

They are the following:

(1) a wider range of functions and competencies, thus serving to enhance the skill-base and potential entrepreneurial qualities of the region. Positive effects might range from local R&D to the transfer of state-of-the-art skills, knowledge and working practices into the local labour market;
(2) decision-making authority and associated management and entrepreneurship qualities are likely to be more decentralised, since speedy local response to new threats and opportunities is of paramount importance;
(3) a greater propensity to stimulate more extensive and qualitatively better local supplier networks, because the 'quality' plant requires a wider and perhaps more sophisticated array of purchased materials, components and services, and because of its stress on 'partnership', proximity, reliability and flexibility of suppliers; and
(4) a reduced threat of closure and rationalisation resulting from the more strategic position of the 'quality' plant within the corporate hierarchy and the high cost associated with severing and recreating elsewhere networks of established local linkages.

2.3. LOCATIONAL REQUIREMENTS OF 'QUALITY' PLANTS AND KEY LOCATION FACTORS IN THE 1980s

The key question, from the perspective of this study, is whether the 'quality' plant is likely to be located in LFRs (see Morris, 1992, for evidence in support of such a trend in Wales). Inasmuch as the attributes of such a plant are more sophisticated than those of the typical branch-plant of the cost- or price-driven company, so too are the demands placed on host regions. The minimum any region would be expected to offer to qualify for a quality investment include the following:

(1) plentiful supply, at competitive rates, of a wide range of managerial, scientific, technical and manual skills;
(2) adequate health, education, housing and leisure facilities to attract and retain upper-echelon staff;
(3) an educational, training, research and knowledge network capable of underwriting or enhancing the technology and know-how needs of the 'intelligent' branch-investment;
(4) well-developed and sophisticated communications infrastructure to support local inter-firm linkages as well as enable rapid communications with customers, suppliers and other company sites located elsewhere; and

(5) potential to supply both high and low value-added components and services, or sufficient local market opportunities or incentives to attract new suppliers into the host region.

On a priori grounds, therefore, an LFR would have to offer competitive terms in all or some of these five areas in order to direct investment away from the advanced regions, which, by definition, are better equipped to offer the factors necessary for high quality investment. Alternatively, and assuming the absence of punitive diseconomies in the advanced regions associated with shortages in one or more of these areas, an LFR would have to offer strong incentives to compensate for disadvantage in the five areas.

How far the LFR of the 1990s is equipped to meet the above conditions is difficult to ascertain. In the literature, there are only a restricted number of evaluations of the characteristics of projects located in LFRs considered to be of 'quality' or 'flagship' status. These evaluations, however, tend to explore the question of 'quality' from the perspective of the plant or firm, rather than the regional attributes which might have led to a particular type of investment. Furthermore, their methodology, based on case-study evidence, does not allow generalisations concerning the extent to which investors are making qualitatively different demands on host regions than in the past.

What does exist, however, are the results of selected large-scale surveys of location factors attracting mobile investment into the LFRs during the 1980s. These tend to be studies of greenfield investments of a variety of kinds, and are therefore not sensitive to plant-specific, firm-specific or industry-specific location determinants, all of which, of course, have a direct bearing on the definition of 'quality'. However, they do offer a general insight into whether the locational requirements of mobile investors towards LFRs are changing.

The discussion which follows focuses on regional rather than national or Community-wide locational factors. In international investment decisions, it is well-known that the reasons for entering into a particular market area are quite different from those concerning the final location. Table 1, which summarises the findings of a recent study (Bachtler and Clement, 1991) of US investment in Western Europe, illustrates the significance of non-regional factors such as size of market, market growth rates and competitor strategies in the investment decision.

Regional factors considered to be critical or important by investors have been investigated recently in a study funded by the Commission and conducted by the Netherlands Economic Institute (NEI, 1992). Table 2 summarises the results. Unfortunately, the table does not distinguish between advanced and less favoured regions (50% of the sample). Therefore, the study disallows any discussion of the specific attributes of Objective 1 and 2 regions. The factors identified by the majority of investors as critical or important are the following:

TABLE 1. Location factors for US investment in Western Europe: Existing[1] and future[2] investment

	Existing			Future		
	Very important %	Important %	Unimportant %	Very important %	Important %	Unimportant %
Markets[3]	66	26	3	56	39	4
Competitor strategy	29	51	15	30	48	22
Cost factors[4]	27	41	27	32	50	18
Skills factors[5]	18	40	36	17	52	31
Technological factors[6]	17	33	44	17	37	46
Language/culture	15	18	60	11	43	46
Incentives[7]	10	23	60	12	32	55

[1]$N = 93$.
[2]$N = 82$.
[3]Size of market, anticipated market growth, market access.
[4]Production, transport or labour costs.
[5]Availability of qualified labour, training and skills.
[6]Availability R&D infrastructure, such as advanced technology suppliers and research institutes.
[7]Government financial incentives.
Source: Bachtler and Clement (1991).

(1) proximity to markets (50% of the investors);
(2) general availability of labour (47%);
(3) quality of road/rail services (47%);
(4) financial assistance (39%); and
(5) quality of labour (38%).

Other factors, emphasized by about a third of investors, include the availability of land and premises, the availability of skilled labour, the cost of land and premises, and proximity to major airports.

One important conclusion which can be drawn from these results is that, with the exception of labour quality and skills, regional attributes emphasized today remain very similar to those which attracted cost/price-minimising mobile investment into the LFRs during the 1960s and 1970s, namely the availability and cost of labour, land and premises, the quality of infrastructure, and the offer of incentives. This may be particularly pertinent to Objective 1 regions, which, according to the NEI study, continue to be singled out for their cost advantages (labour, corporation tax and incentives). As Table 2 confirms, 'quality' factors such as advanced telecommunications, schools for the children of expatriates, educational facilities and the attractiveness of an area remain a minority demand.

Further insight into the balance between 'cost' and 'quality' attributes of LFRs is provided by Table 3, which summarises the results of a large-scale survey (9000 companies) conducted on behalf of the Commission in 1989 by the IFO-Institute for Economic Research in Munich. The study (CEC, 1990) identifies the most important positive and negative regional influences on the competitiveness of establishments located in the lagging, declining or advanced (selected) regions of the Community. Although the study is not concerned directly with mobile firms, Table 3, in referring to establishments with more than 500 employees (the majority of which can be assumed to be externally owned) provides a useful indicator of factors influencing the economic performance of mobile projects.

It is evident from Table 3 that the strengths of the advanced regions lie in the areas of transport and communications, business services and school facilities. These also appear as strengths of varying importance in the lagging and declining regions, but alongside other factors more traditionally associated with branch-plants, such as the availability of regional incentives and local authority support, a plentiful supply of unskilled labour, and good industrial relations.

Analysis of the negative rankings in Table 3 provides some interesting pointers for future policy action in the LFRs oriented towards building up the infrastructure for 'quality' investment, especially in areas of growing problems in the advanced regions associated with skill shortages, high cost of housing and poor supply of industrial premises. The areas identified for improvement in lagging regions (especially in the non energy-intensive or high-pollution industries) are housing, transport infrastructure, skills and training. Those identified in

TABLE 2. Most important location factors for mobile investment in manufacturing in Europe during the 1980s

	% Companies identifying factor as critical or important to choice of:			
	Country		Region	
	Critical	Important	Critical	Important
Business factors				
Proximity to markets	34	51	19	31
Availability raw materials, components	9	23	12	17
Proximity major customers	17	14	18	6
Availability of site	5	5	17	17
National and local characteristics				
Financial assistance	11	20	19	20
Promotion/attitudes of government etc.	6	19	9	23
Official language/linguistic skills				
Corporate Taxation	6	15	3	–
Labour factors				
Availability general	8	26	15	32
Quality	8	22	9	29
Availability skilled labour	9	19	11	22
Labour relations	6	17	5	6
Labour attitudes	8	14	0	17
Cost factors				
Cost land/premises	5	17	11	18
Cost of labour	11	22	9	17
Infrastructure				
Quality of road/rail services	23	20	15	32
Proximity to port	8	11	6	15
Proximity major airports	9	14	6	31
Quality telecoms	5	12	2	11
Quality of life and personal factors				
Cultural factors	5	17	0	23
Schools for expatriate children	2	11	2	9
Educational facilities	0	6	2	12
Overall attractiveness of area	5	6	6	8

Source: NEI, 1992.

declining regions are leisure facilities and skills, in addition to traditional 'cost' factors such as taxes, industrial relations and incentives.

There is, however, a limit to what might constitute 'new' factors for inward investors. A number of the factors identified earlier for 'quality' investment, such as cultural amenities and the proximate location of suppliers, R&D facilities, and non-financial business services, are not stressed as high ranking regional requirements by firms in the IFO study. Furthermore, other 'quality' factors (such as good higher education facilities, advanced communications and legal or

TABLE 3. Ranking of regional factors[1] in the EC shaping the competitiveness of larger establishments

	Most positive factors		Most negative factors	
	500–999	>1000	500–999	>1000
Lagging				
1	Supply of unskilled labour	Cooperation of LAs	Supply & cost of energy	Local taxes
2	Business culture	Industrial relations	Supply of skilled labour	Supply & cost of waste disposal facilities
3	Industrial relations	Machinery services co's	Supply & cost of waste disposal facilities	Vocational/manager Training facilities
4	Regional incentives		Cost of housing	Supply & cost of energy
5	Banks, ins. co's,[2] lawyers		Transport network	Cost of housing
Declining				
1	Communication system	Banks, ins. co's, lawyers	Local taxes	Local taxes
2	Higher education	Transport network	Supply of skilled labour	Supply & cost of waste disposal facilities
3	Proximity of customers	Higher education	Leisure facilities	Supply of skilled labour
4	Banks, ins. co's, lawyers	Industrial relations	Supply & cost of waste disposal facilities	Regional incentives
5	School facilities	Cooperation of LAs	Cooperation of LAs	Industrial relations
Control (advanced)				
1	Communication system	Communication system	Local taxes	Local taxes
2	Banks, ins. co's, lawyers	Transport network	Supply & cost of waste disposal facilities	Cost of housing
3	Transport network	Industrial relations	Supply of skilled labour	Supply of skilled labour
4	Machinery services co's	School facilities	Cost of housing	Supply & cost of waste disposal facilities
5	School facilities	Banks, ins. co's, lawyers	Cost and supply of industrial sites	Cooperation of LAs

[1]The survey elicited a response on 24 regional factors. Factors which do not appear in the table include proximity of suppliers, advertising and consulting agencies, and cultural amenities.

[2]Ins. co's = insurance companies.

Source: CEC (1990).

financial services) are already ranked highly for their presence by establishments in especially the declining areas, but such regions are not noted for the presence of high quality mobile investment.

Three conclusions can be drawn from the preceding evaluation of locational preference. First, the traditional cost/price-based locational advantages of the LFRs continue to remain high on the list of potential investors. Second, investors appear to require a restricted set of new factors from LFRs, normally associated with 'quality' investment, although there is no evidence to show that their provision will guarantee the latter. The most prominent appear to be 'human capital' factors such as training, higher education, housing and skills, and infrastructural needs such as advanced transport and communications systems. Third, the latter are not a substitute for the former, but an additional requirement of investors, who appear to be demanding more and more from regions irrespective of quality considerations.

2.4. REGIONAL POLICY IMPLICATIONS

It is evident from the preceding section that the 'traditional' location factors continue to play an important role in attracting mobile projects into the LFRs. Prominent among these are regional incentives, offered by governments to compensate for extra costs associated with locating production in the LFRs.

Across the Community, in response to perceived limitations of regional incentives in the 1960s and 1970s, a number of significant reforms have been introduced since the early 1980s to improve the efficiency of regional policy. Effort in the 1980s has focused on introducing greater selectivity in the offer of incentives, and their targeting towards projects which might contribute more to the development potential of host regions. The most significant innovation, in the context of reduced regional budgets across the Community since the early 1980s, has been a clear move towards greater discretionary control over which investments are eligible for support and at what level. In part, this move has been the result of a desire to tailor aid to the needs of the recipients and to reduce avoidable extra expenditure associated with automatic assistance.

Governments, however, have recognised that discretionary schemes can potentially discourage investors because they tend to involve more complex application procedures, longer decision times, evaluation of applications by officials lacking expertise to appraise projects, and the lack of certitude on the part of investors at the level of subsidy to be expected (Allen *et al.*, 1989; Swales, 1989). Accordingly, automatic schemes, which are much more 'visible' and can genuinely be incorporated into the investment decision, have been retained, but with stricter criteria for awards than before. The new criteria include cost-per-job

limits to avoid subsidisation of capital intensive projects, preferential treatment for particular industries, experimentation with absolute ceilings on automatic awards, and orientation of the schemes towards job creation goals.

The reforms have created considerable variety in the type of incentives currently on offer in different member states. However, in terms of frequency of adoption and scale of significance, a small set of incentive types dominate the agenda. The mainstay of most incentive packages in Europe are still capital grants, followed by loan-related schemes, fiscal aids (tax concessions other than accelerated depreciation allowances) and labour-related subsidies (Allen *et al.*, 1989).

The critical question here is whether these policy changes in the 1980s have been able to capture the challenges posed by the new industrial dynamics of the 1990s and beyond. In particular, what are the implications for regional policy, in terms of the creation of more self-managed and product-based (rather than task-based) manufacturing plants?

It was argued earlier (Section 2.2) that quality plants are likely to possess a number of positive attributes which distinguish them sharply from those which characterised the typical LFR branch-plant of the 1960s and 1970s. However to qualify for such 'locally embedded' investment, LFRs would have to be in a position to provide, at competitive standards and costs, a number of the 'non-traditional' factors outlined in Section 2.3.

Before acting to develop these factors, however, the experience of the 1980s in LFRs suggests that policy-makers need to ascertain the degree to which in reality there is a genuine call from investors for 'quality' attributes. The evidence quoted earlier from large-scale surveys of location factors for mobile investment in the 1980s is ambiguous. It appears that 'old' LFR cost/price advantages (notably cost and access factors related to premises, labour, transport infrastructure and financial incentives) continue to remain important location factors. However, there also appears to be a greater demand than in the past for a restricted number of new factors, notably, better communications infrastructure and improvements in the supply of training, education and skills. It is not clear, however, whether the demand for these factors is desired for the location of better quality plants. Furthermore, there does not appear to be any extensive demand for other 'quality' factors such as consolidated local managerial strengths, technical capability and a robust supplier base.

These questions are of crucial importance in helping to define the parameters of new regional policies and strategies for the 1990s and beyond. This issue is considered in more detail in Chapters 5 and 6. Before that, the analysis turns to a more detailed evaluation, through the case-study regions, of the quality of most recent 'flagship' investments and the role played by incentives and other factors in securing such investment.

CHAPTER 3

Role of Incentives in the Location Decision

This chapter seeks to ascertain the importance of incentives (financial and other), as well as other factors such as supply-side conditions and institutional approaches towards mobile investment, in the location decision of selected 'flagship' investment projects in the five case-study regions — Rhône Alpes, Portugal, Brandenburg, Ireland and Scotland.

3.1. PRINCIPAL LOCATION FACTORS

Rhône Alpes, a core region of the European Community, is characterised by an absence of significant financial incentives to attract inward investment. Despite this absence, and despite the region being a relatively high-cost location, Rhône Alpes has attracted a significant level of inward investment. The region's central location within the single market, together with good transport and communications infrastructure are considered important locational advantages (especially for logistics centres). Other significant features are the region's well-developed training system and the existence of some important centres of excellence within the region's universities and research institutes. There is clear evidence (discussed later) that these factors have served to attract some significant R&D-intensive investments. This strong supply-side milieu is the 'asset' cultivated by the region's network of development agencies. The development agencies work on the assumption that the region is attractive to 'performance companies' and, as such, no great priority is accorded to targetting this particular type of firm. The high labour and other costs that are characteristic of the region serve as a disincentive to the location of some cost-oriented activities.

Portugal, in contrast, classified as an Objective 1 region by the Commission (i.e. a 'lagging' region), has the locational advantage of relatively low wage rates (25% of the EC average). The country has reasonably good levels of manufacturing productivity, but the labour market is characterised by a lack of qualified scientists and engineers, and levels of educational attainment including basic literacy and numeracy are modest. These factors have accounted for a 40-fold increase in

inward investment into Portugal since its accession to the EC, but have meant that Portugal has tended to attract investments characterised by high weight-to-volume production or labour-intensive assembly and packaging activities. The poor quality of the physical infrastructure in Portugal has acted as a locational disincentive and, certainly, has served to ensure that most investment is highly concentrated in those areas with reasonable infrastructure.

Brandenburg in eastern Germany is a location whose attributes have changed over a very short period of time. Following the unification of the two Germanies, Brandenburg was the location for a significant level of inward investment (the highest proportion of any of the new Bundesländer). Investment in Brandenburg to date has been largely in the form of acquisitions, often at very low cost, of former East German firms. However, given the dilapidated nature of much of the industry of the former GDR, the effect of takeover by western firms (mainly west German) has been in many ways akin to greenfield investment involving the introduction of new premises, plant and equipment. A key factor in these developments has been the availability of significant financial incentives. Immediately following unification Brandenburg was seen by some companies as a platform to access the new markets of eastern Europe, especially by acquiring the know-how of existing firms. In addition, low wage rates have been seen as raising the possibility of low-cost production within the new Germany. The collapse of the eastern European economies (especially that of Russia) and escalating wage costs has altered the locational attributes of Brandenburg in a short time period. Not only have some planned investments been withdrawn, but some existing plants acquired by western firms have lost their strategic importance to their parents. Nevertheless, the fact that Brandenburg encircles Berlin ensures it remains an attractive location for some investors (especially in the construction and building materials sector). Brandenburg has been afforded financial incentives under the provisions of Regulation 3537/90, which allowed special intervention for the new German Länder (in effect Objective 1 status).

Ireland also is an example of a location whose attributes seem to be changing over time, and now has begun to emerge as a location which attracts a somewhat higher quality of mobile investment. Classified like Portugal for European Regional Development Fund purposes as an Objective 1 region, Ireland has been an important location for inward investment since the 1960s, but especially since its accession to the EC in 1973. The prime advantages of the region as a location have been low production costs and the availability of significant financial incentives, which have offset the costs of transporting goods to the main European markets. For a long period, therefore, Ireland tended to attract routine assembly-type production of a relatively unstable type. Recently, however, the region appears to have developed a range of non-financial attributes which are beginning to act as a location pull. These include: an indigenous knowledge base

in the universities; a medium to high quality supplier base in some sectors; a pool of technically skilled, English-speaking labour (including large numbers of graduates); a cadre of competent and entrepreneurial managers; and expertise and resources in the Industrial Development Authority (IDA) and EOLAS, the science and technology agency, for technology and marketing support.

Finally *Scotland*, though classified as an Objective 2 region (i.e. a declining industrial region), shares some locational attributes with Ireland, including relative peripherality combined with low costs in the European context and the existence of a strong, centrally coordinated institutional framework for economic development. The region, however, provides a relatively lower level of financial incentives than the other LFRs investigated in this study. It also has an English-speaking workforce with some skill strengths and a long tradition of excellence in higher education, which have been important locational advantages for some investments. Indeed, for a great many investments, Ireland and Scotland appear to be locational competitors. A key difference, however, is the existence of a long industrial tradition in Scotland, including some acknowledged sectoral strengths (in engineering for instance). Another is the better quality of the physical infrastructure in Scotland and its direct link to the large U.K. market.

In summary, while in Rhône Alpes the quality of the region's socio-economic and communications infrastructure as a whole constitutes a location incentive, in the LFRs, the availability of financial incentives and lower costs continue to be singled out by investors as important locational determinants. Of emerging significance, however, is the quality of such factors as skills, suppliers and institutional support in regions such as Scotland and Ireland.

3.2. ROLE OF INCENTIVES

Surveys of manufacturing FDI in Europe concur that financial incentives remain an important determinant in the location of international investment (see Section 2.3), among other 'national-level' location factors such as market prospects, quality of infrastructure, cost of education and training of the labour-force, and the macro-economic policies and attitudes of host governments. This section evaluates the role that financial incentives, among other location factors, have played in attracting inward investment into the case-study regions.

In the case of Rhône Alpes significant investment incentives were not available. The relevance of investment incentives was specifically excluded from the location decision process by two companies interviewed, on the grounds that the investments were strategically important and 'long-term'. It was felt, therefore, that the location should not be influenced by the availability of incentives. The non-financial locational advantages of the region were considered to outweigh the financial incentives available elsewhere.

The Portuguese government has been able to offer very substantial levels of financial incentive to attract inward investment; however, one view was that incentives could have been lower in value owing to the central importance of low costs, especially wages, as a location factor. Indeed one company — Blaupunkt, which assembles car radios — stated that low labour costs made Portugal a suitable location for its assembly operation regardless of the availability of incentives. In the case of the three other corporations, however, the availability of incentives was seen as essential to the investment decision. When considered against other factors incentives were of least importance to companies seeking a unique locational attribute such as raw materials (e.g. forestry for pulp manufacture).

In the case of Brandenburg most of the inward investment came in the form of acquisitions by 'western' firms of former state-owned enterprises in the hands of the Treuhandanstadt. The price of the companies, therefore, was a major factor affecting the location decision. In addition, direct capital grants were available to firms from the government of Brandenburg. These were available at a rate of up to 33% of the total cost of investment. All of the companies investigated had received the maximum level of grant. However, two out of the three companies investigated — ABB and Readymix Concrete (RMC) — admitted that the availability of grants had played only a minor role in the investment decision, with other factors, notably the availability of strategically important assets at below market values, of greater significance. One plant, a cement works owned by RMC, stated that access to raw materials (an important limestone deposit near to Berlin) was of much greater importance than the availability of incentives.

In the case of Ireland a significant investment incentive was the very low 10% rate corporation tax, which marked out Ireland from its competitors, and played a critical role in the final location decision of all the companies investigated. Despite this, however, a recent review of Irish industrial policy commissioned by the Minister of Industry and Commerce has proposed the phasing out of this incentive (Culliton, 1992) on the grounds that other factors will be able to compensate for its loss. Also important was the availability of direct capital grants of up to 45% of total investment costs. A significant development, however, was the declining average size of these grants during the 1980s.

In Scotland, the existence of regional incentives was described as critical to the final location decision by all of the firms investigated. All the firms stated that they would not have located in Scotland in the absence of financial support. In two cases, Healthcare International (HCI) and Compaq, the Netherlands had been selected as a possible location choice but was rejected following the withdrawal of regional investment incentives. In addition, in the case of HCI, regional investment incentives were used to lever in private venture capital which would not otherwise have been forthcoming. The case study of a pulp and paper mill that had located in Scotland in order to obtain forestry supplies, confirmed (as in

Brandenburg) that incentives were of least importance to companies attracted by a unique locational attribute. It is interesting that such an argument was not put forward by electronics companies, suggesting that they do not consider the skills and supply-base of 'Silicon Glen' a unique locational attribute.

A significant proportion of our case-study firms had received indirect financial (i.e. non-capital grants) incentives. For instance, in the case of Brandenburg, the ability to acquire, as part of the assets of companies, large tracts of land at low cost was a major location incentive. For firms near to Berlin speculative land holdings hold out the possibility of large financial gains in the future. In Portugal, by contrast, training subventions were important incentives — much of the grant aided training was in-house and task-specific, thus training measures could, perhaps, be regarded as a direct production subsidy.

It is apparent that financial incentives remain of crucial importance in directing flows of investment into the LFRs. However, there is evidence that unnecessarily generous levels of grant may be being awarded in some instances. Notably in the case of Brandenburg and Portugal, firms admitted that they had received levels of incentives in excess of that needed to secure the investment.

3.3. OTHER LOCATION INCENTIVES

It is clear that in Rhône Alpes the human, physical and knowledge infrastructure acts as an important locational attribute. Although it possesses promotional organisations, the region is not geared up to the attraction of inward investment in the same way as the LFRs. Economic development policy centrally is concerned with supporting the very strong indigenous economy which is characterised by a high level of innovation and inter-firm integration. It is this general environment that attracts firms to Rhône Alpes rather than specific inward investment strategies. Nevertheless, the region is characterised by an array of complementary promotional bodies which have significant private sector support and play an important role in identifying and meeting the needs of potential investors. These organisations tend not to be concerned with wider regional development goals (e.g. the promotion of linkages between inward investors and indigenous firms) partly because the region is not seen as having specific problems in this area. For the case-study firms, the efficiency of these agencies was a significant regional attribute.

For most firms Portugal was considered essentially a low-cost production location, but for some firms natural resource attributes were more important. The role of institutions in Portugal appeared to be contradictory. The fastidious and cumbersome *modus operandi* of key institutions in Portugal alienated one investor. On the other hand, the agencies also have shown considerable flexibility regarding

the achievement of agreed targets such as local-content levels. This contradiction underlies the difficulties faced by agencies in some LFRs in trying to increase the quality of inward investment without turning it away.

In Brandenburg, the significance of non-financial incentives appears to have declined. In the immediate aftermath of unification such incentives were a major inducement. In particular, the know-how of the region's firms, especially in relation to eastern European markets, was a key location factor. However, with the decline of these markets, the salience of this factor has diminished. As regards the role of institutions, there is no evidence that the performance of agencies has significantly affected the location decisions of firms. Brandenburg has seen the growth of a number of new institutions often headed by western Germans (referred to as *Wessi*) rather than by Brandenburgers. These new organisations have been eager to meet the needs of inward investors, apparently at all costs. However, there is little evidence that they have made any impact in influencing investor practices.

The existence of well-organised and highly competent development agencies, notably the Irish Industrial Development Authority (IDA), appears to be a significant location factor in Ireland. The IDA's pro-active approach, which includes identifying potential investors before they have thought of establishing a new plant, was remarked upon by investors. In addition, the 'one-stop shop' approach of the IDA has been seen as important. There is also evidence that other non-financial attributes, notably the knowledge pool in the universities, the availability of graduate skills and, in some sectors, the emergence of supplier industries, may be emerging as location factors in their own right. The creation of this milieu, together with a range of 'soft' financial measures (such as support for quality assurance, technology or marketing initiatives) may be underpinning a significant improvement in the quality of mobile investment in Ireland, especially through the upgrading of existing plants as a result of winning new rounds of investment. However, the poor quality of Ireland's physical infrastructure has acted as a locational disincentive and has led to the spatial concentration of investment, especially in the Dublin area, despite somewhat lower levels of capital support.

Although sharing with Ireland the problem of geographic peripherality, Scotland has a higher standard of infrastructure and this seems to put it at an advantage for certain types of investment. The existence of a strong, centralised, 'one-stop' approach to industrial promotion — in the form of Scottish Enterprise (formerly the Scottish Development Agency) — appears to have been a positive locational attribute over a long period. Recent changes to the institutional structure in Scotland may alter this with the creation of a new network of locally-based development agencies. It is also noteworthy that some investors in Ireland who had also considered Scotland as a location judged the institutional environment

in Ireland to be better. It was argued that the IDA seemed a more genuinely autonomous agency with real decision-making powers, whereas Scottish Enterprise appeared more constrained in its decision-making powers. In the case of one company this had been a factor, although not a decisive one, in the choice of Ireland as a location.

While Brandenburg and Portugal were regarded as essentially low-cost locations by firms interviewed, the experience of Scotland and, particularly, Ireland, suggests that some LFRs are able to offer a range of non-financial attributes, in the form of a strengthened supply-side milieu. Our evidence points to the key role of strong and autonomous development agencies in supporting these improvements.

The evidence of this study broadly confirms previous studies in emphasising the important, if not critical, role played by incentives in determining the final choice location. However, the precise role played by incentives varies by type of production facility and type of region. Five main conclusions can be drawn with respect to the locational needs of 'flagship' investments into LFRs in recent years. First, plants with few 'organic' links with the host region (especially assembly operations) tend to be unequivocal about the importance of financial incentives in determining their investment location. Second, by contrast, the availability of financial incentives is a less important location factor for plants with significant local linkages (particularly in terms of reliance on indigenous raw materials). Such plants tend to be less concerned with obtaining a high level of investment incentives, although they frequently received incentives. Third, in low-cost locations such as Brandenburg and Portugal, the provision of incentives remains crucially important to the attraction of investment, but there is some evidence that unnecessarily large levels of incentives have been disbursed to some companies. Fourth, there is evidence that some LFRs, for example Ireland and Scotland, are able to offer a range of a non-financial incentives (including support for technological and other developments, provision of know-how, high grade skills, etc.) which enter the locational decision-making choice. Finally, these latter forms of support appear to be of special significance in gaining additional rounds of investment once investors are established in a region.

The next chapter discusses the case-study findings related to the quality of 'flagship' investments.

CHAPTER 4

Quality of 'Flagship' Projects

In each case-study region, with the help of regional agencies and academic experts, a handful of 'flagship' mobile investment projects were identified. This in most cases amounted to world-renowned companies. Interviews were then conducted with the companies to ascertain whether their investments could be considered as quality-driven and locally 'embedded'. A number of measures were devised to capture the four sets of 'quality' attributes outlined in Section 2.2. These included information on:

(1) local representation of higher order corporate functions (e.g. proportion of total employed in finance, marketing, sales and other strategic functions);
(2) areas of decision-making autonomy within plants (e.g. investment decisions up to a certain level);
(3) extent of on-site R&D (number of employees, expenditure, type);
(4) investment intensity (capital investment/employees);
(5) levels and intensity of training (expenditure or hours of training per operative);
(6) quality of labour (skills profile; wages); and
(7) local supplier linkages (level of purchases within the region, quality and nature of local supplies).

Other potentially useful indicators including export intensity (exports/turnover), expansion potential (average annual increase in investment or employees) and regional value added (turnover minus costs) were eliminated from the survey because firms were not willing to divulge the relevant information.

4.1. MANAGEMENT FUNCTIONS AND DECISION-MAKING AUTONOMY

The picture that emerges from the different companies is varied, and in some respects disappointing, as shown below.

While Rhône Alpes generally has a record of attracting investments with a scientific/knowledge orientation (a recent example of which is the decision

of Rhône Poulenc to locate a 1000 person R&D centre at Décines), the two manufacturing plants investigated for this study had a limited range of strategic functions, lacking activities such as marketing and sales. Moreover, the factories were characterised by limited levels of managerial decision-making over areas such as purchasing (partly reflecting the global purchasing policies of their parents).

Investments in Portugal exhibited a strong bias toward final assembly and packaging activities, and the absence of top and middle order management activities.

Enterprises in Brandenburg, prior to being taken over, were typically characterised by a high degree of internalisation and a wide range of management functions, including strategic ones, such as research, investment, marketing and sales. While originally such functions were of interest to western investors, the collapse of traditional markets for eastern German goods reduced the significance of these strategic functions for the new parent companies. Consequently, there is much evidence of a general run-down of strategic functions in Brandenburg, although in the case of the cement works, owned by Readymix Concrete, the plant had actually gained new functions (including a technical department) and more managerial authority. Previously it had been part of a Kombinate group where such functions had been centralised elsewhere.

In Ireland, the tendency — in all four plants visited — appeared to be in the opposite direction, with evidence that plants were making gains in both the range of functions and in levels of management autonomy, although none of the plants visited had marketing or sales departments. Each of the plants, over a period of time, had been awarded either continental or world product mandates by their parent companies. Although integrated into wider corporate networks, in two cases plants contained functions of strategic importance to the corporation as a whole. In the case of one engineering plant — Garrett Ireland (owned by Allied Signal) — the original plant had acquired an important foundry which significantly increased the status of the plant in the corporate hierarchy. More generally, there is evidence of the emergence of an Irish management cadre, which presses for greater operating autonomy. Typically, the Irish managers are strongly committed to the success of their plant, which often involves upgrading of the status of the plant over time.

In the Scottish case the picture on corporate functions and plant autonomy differed according to sector. The electronics sector, which has a large presence in Scotland and has been a target sector for the development agencies, was characterised by a limited range of corporate functions and constrained management autonomy. Some plants, however, do appear to have continental or world product mandates. On the other hand, investments in the medical and health-care and pulp and paper industries appeared to have an extensive range of corporate functions, including marketing and sales activities.

In short, the plants investigated had a constrained range of management

functions. This observation applies with equal force to the firms in Rhône Alpes as it does to firms in Portugal. Where there is evidence of a wider range of corporate functions associated with particular plants, this appears to be the outcome of a long-term process of upgrading.

4.2. INNOVATION CAPACITY

In principle, the R&D intensity of a given investment should be easy to measure by dividing turnover by R&D related revenue expenditure. In practice not all firms were able to provide this data, so that numbers employed in R&D work had to serve as a proxy measure. Although these measures are relatively easy to obtain they need to be treated with caution as definitions of what constitutes R&D differed markedly between firms and regions. Thus, the quality of R&D performance in each plant was assessed more impressionistically. Few regions appear to measure the growth and decline of R&D performance of overseas firms either quantitatively or qualitatively. An important exception to this trend, however, is Ireland where regular surveys are undertaken.

Rhône Alpes has been the focus of investment with a strong R&D content. Often this investment appears to have been attracted by the desire for proximity to the scientific excellence of the region's universities. An example of this is the recent establishment of a large R&D centre at Décines by Rhône Poulenc which was visited as part of this study. The two plants selected for study as 'flagship' investments in Rhône Alpes did not have large R&D departments. At best only 10% of the workforce was employed in R&D with the emphasis on development rather than research. Thus, the R&D departments of the inward investors added little to the region's innovation capacity. However, this was not regarded as a significant issue for local institutions in a region with a strong research infrastructure of its own.

The Portuguese plants visited were characterised by an absence of, or poor levels of, R&D. There is evidence that more recent investments have been characterised by relatively higher levels of R&D in terms of numbers employed, but activity remains heavily biased toward process development (engineers rather than scientists).

Brandenburg was generally characterised by the large-scale run-down (in terms of reductions in numbers employed) of R&D departments of firms acquired by western investors. A significant erosion of the region's innovation capacity had occurred in a short period. In the case of the ABB investment, a large R&D department had been closed and the engineering department was also under threat (along with other strategic functions). An exception to this broad picture was the case of the Readymix cement works which had acquired some significant process-oriented R&D.

In Ireland a recent study by EOLAS, the science and technology agency, suggested that significant increases had occurred in the expenditure of overseas companies on R&D. In addition, Ireland has recently succeeded in attracting some large-scale product research activity. For instance, General Semiconductor has recently relocated a large R&D centre from Arizona to Macroom, Co. Cork. However, the EOLAS survey found that generally research is process-oriented although in the companies we visited we found evidence of Irish plants beginning to provide corporate-wide R&D services, especially in IT areas. A case in point was Garrett (Allied Signal), which after extensive negotiations with its parent had won a key computing service activity. Indeed, in one important case, that of Lotus, a pool of relatively low-cost graduate computing skills in Ireland had been a location factor for the firm concerned. A further feature of Ireland was the apparent growth in links between overseas firms and Irish universities. In general, there is evidence that the R&D capability of overseas firms in Ireland is beginning to improve, but this improvement has occurred over a long period and has been supported by a range of 'soft' policy measures and extra finance provided by the IDA and EOLAS.

In Scotland the picture on R&D was mixed. In the electronics sector, research evidence, confirmed by the plant visits undertaken for this study, indicates low levels of R&D (in terms of expenditure, numbers employed and type of activity) and tends to confirm the traditional branch-plant character of this sector in Scotland. By contrast, establishments in the medical services and pulp and paper sector which were visited were found to fund relatively high levels of R&D. These two establishments were also characterised by a greater level of plant autonomy in other strategic areas. In the case of Health Care International a key declared locational attribute was the existence of a pool of (English-speaking) medical graduates and research strengths in Scottish universities.

The innovation capacity of firms visited as part of this study was limited at best, but of greater significance were links between plants and local universities and research institutes, especially in Rhône Alpes and Ireland. Again these links appear to have been established over time. There is some evidence that the growth of such links in Scotland and Ireland has been facilitated, at least in part, by development agencies.

4.3. TRAINING INTENSITY

Cross-national differences in training performance are notoriously difficult to measure, and researchers have found it extremely difficult to compare and contrast training levels between regions and investors. Measurement in this survey concentrated on the volume of training. There was insufficient data available

on the level, quality and effectiveness of training, to allow reliable comparisons between regions.

Plants visited in Rhône Alpes were characterised by a high level of training (measured in terms of training budget and number of training days per operative per year). In addition, much of this training was 'off-the-job'. This training effort reflected the automated nature of the production process at each plant. Attached to the Hewlett Packard plant visited was the company's European training centre which tended to underpin the training efforts of the plant itself.

By contrast, in Portugal the level of training was limited (in terms of both budget and training days) and tended to be on-the-job. Given that this training effort was heavily supported by public (often ESF) monies, it seems to be the case that large amounts of public funds are being used as wage-cost subsidies.

In Brandenburg, investors had inherited workforces with a high level of training, but often in out-moded skills. Some training was being undertaken in order to bring these in line with more modern production and working practices. However, a significant part of the publicly-supported training initiatives appeared to have social policy goals (e.g. reduction of unemployment figures). For instance, ABB was receiving a subvention from the state government to train unemployed workers in welding skills within the training department of its plant at Cottbus, although the firm itself had no plans to employ these workers.

Recent pronouncements on Irish industrial policy (Culliton, 1992) have suggested that there is significant room for improvement in training. It is significant that the Irish authorities do not measure the training performance of overseas plants in the same way as they do R&D performance. However, the plants visited for this study were characterised generally by a high level of training. Particularly important appeared to be initiatives (especially for supervisory grades) related to moves toward total quality management systems. The involvement of Regional Technology Colleges in this effort appeared to signal the gradual up-grading of the training infrastructure in Ireland.

While the UK has also been characterised by a debate on the failings of its training system, in Scotland there was a comparatively high level of training including significant off-the-job training at the plants visited. All of the plants had relatively large training budgets. The provision of bespoke training packages by Local Enterprise Companies (LEC) for inward investors was a feature of Scotland. For instance, Dumbartonshire LEC was providing training in specialist medical skills for HCI. For the authorities in Scotland the provision of such packages is a means of offering additional inducements to firms that are otherwise attracted by higher levels of direct subsidy available in southern Europe.

The training demands of firms differed significantly, although there is evidence that generally such demands may be becoming more stringent. The level of training in Rhône Alpes was considerable. In Ireland and Scotland awareness

of the situation has led to reorganisation of the training system, although the immediate effects of this are unclear.

4.4. QUALITY OF LABOUR

Attempts to quantify differences in labour quality are similarly confounded by the difficulties of cross-plant, let alone cross-regional, comparison, given the absence of uniform measures. For instance, a study for the European Commission in 1989 suggested that Portugal had higher levels of qualified labour than the U.K., which contrasts starkly with our case-study findings. Information provided by firms, therefore, had to be supplemented by more qualitative impressions in order for comparisons to be made.

Rhône Alpes was characterised by a range of plant types. In the case of the Décines research centre the labour profile, unsurprisingly, was heavily skewed toward higher grades. In the other two plants visited the situation varied. In one plant, owned by Hewlett Packard, manual occupations amounted to as low as 40% of total employment, with significant proportions of administrative, technical and some R&D staff. In the plant owned by Lever, however, manual occupations comprised 85% of the workforce (even if highly trained). This illustrates that even in a 'core' region the labour profile of plants varies widely.

The occupational structure of the Portuguese plants was heavily skewed toward semi-skilled assembly work. Also significant was that top management jobs tended to go to expatriates rather than the indigenous population, despite the large size of the Portuguese managerial labour market.

In Brandenburg the skill profile and proportion of managerial, administrative, technical and other non-manual grades of plants prior to their acquisition was high. Although the more rapid run-down of the production workforce may, in the short-term, lead to a relative growth in these grades, the overall absolute trend is for the continued degradation of the occupational structure. Also, as in Portugal, strategic management positions in plants in Brandenburg tended to be filled by expatriates, in this case western Germans.

In Ireland, by contrast, there is evidence that some improvement has occurred in the labour profile of overseas plants over time. As noted earlier, in the case of Lotus, the existence of a pool of graduate software skills was a significant locational pull factor and the firm had established a 100 strong software development team. In other plants visited the occupational structure remained heavily skewed toward manual grades, but all had been characterised by steady improvements in the numbers of non-manual (notably technical) staff. In contrast to Portugal and Brandenburg, a key feature of the plants — and of that of Ireland more generally — is the presence of Irish managers in key management positions. This appears to be a key factor in explaining the improving quality of overseas

investment in Ireland, as Irish managers have fought tenaciously for further rounds of investment for their plants.

In Scotland the labour profile differed by sector. In electronics the workforce structure was heavily skewed toward semi-skilled manual occupations. By contrast, in establishments in the other sectors, the labour profile was more diverse, in part accounted for by the different nature of the processes and by the wider range of strategic functions attached to each facility. A significant feature of the Scottish plants was the presence of Scots as managers in key positions, constituting, as in Ireland, a positive factor.

In general, the occupational profile of the plants visited in the majority of instances bore more resemblance to the archetypal branch-plant than to the so-called 'performance company'.

4.5. LOCAL CONTENT AND SUPPLIER LINKAGES

The degree of local supply content and local linkage formation is perhaps the key indicator of the embeddedness of an investment in its host region. A variety of measures of local content are employed in different regions. One measure is value added (revenues less expenditure), but this measure gives no direct measure of the extent of local supplier linkages. In other cases, total expenditure within a region is used as a proxy for local content but this can include such items as wage costs, taxes and even interest on loans and, as such, gives only a limited indication of the extent of local multipliers. The most accurate indicator is the proportion of total expenditure on materials and services spent within a region, although the majority of firms examined were unable (or unwilling) to provide this information. When such information was made available, companies were generally reluctant to give specific information on the value distribution of purchases. In addition, it was not always clear whether local expenditures referred to expenditure on goods produced within the region or was a simple evaluation of 'warehoused' goods. Despite these limitations, this section attempts to offer an evaluation of the levels of local content and patterns of local purchasing in each region.

Rhône Alpes as a region is characterised by a high level of local productive integration, including the existence of several clusters of firms in related product markets. These clusters of firms are often closely linked to the region's strengths in universities and research institutes. These are core strengths of the regional economy in some key respects. The inward investors examined for this study, however, had few linkages with the local economy. Hewlett Packard, for instance, sourced only non-strategic, low value inputs locally, while strategic, high value components were procured on a global scale. The plants however did have important links with universities in the region.

In Portugal significant local content was achieved by a pulp manufacturer which used locally produced eucalyptus trees. With this exception, the plants in Portugal which were surveyed were characterised by low levels of local content and had few local linkages. In some cases the production process amounted to little more than the assembly and packaging of imported components. Even in the case of the pulp plant, originally it had been agreed to establish a paper plant next to the pulp facility as part of the aid package; however, the company in question had not done so and appeared to have no intention of doing so in the future. The anticipated arrival of AutoEuropa, the biggest investment ever in Portugal, has prompted a new concern with local linkages and the setting up of a linkage development initiative. As yet there appears to be little evidence of significant increases in local purchase agreements.

In Brandenburg, prior to acquisition by western firms, the plants investigated made significant purchases from other firms in eastern Germany, although links at the level of Brandenburg itself were somewhat less developed. Research evidence suggests that these traditional purchasing arrangements have been rapidly run-down, a broad trend confirmed by our plant visits. However among our sample, some plants, for instance a chemical plant owned by BASF, were able to produce figures showing relatively high levels of local purchasing, but further investigation revealed this to reflect largely the putting-out of low level services to firms set up by ex-BASF workers. In the case of the ABB engineering plant, the operation had been turned from a highly self-contained production facility into an assembler of components imported from a western sister plant. The one exception was the Readymix cement works, which used locally produced raw materials and distributed its finished product to concrete stations within a 100 km radius.

The Irish plants visited for this study generally had low levels of local content. One pharmaceutical plant owned by Rhône Poulenc imported 80% of its raw materials from a sister plant in Germany, although a pharmaceutical plant owned by Yamamouchi purchased over 50% of its raw materials in Ireland. Garrett (owned by Allied Signal), although occupying a strategically important place in the value-chain, made few local purchases. In the case of Lotus' software and disk duplication facility, there was significant local purchasing, in this case software manuals from the Irish printing and packaging industry. Indeed there is evidence that the existence of a printing industry which meets international quality standards (together with graduate software skills) is emerging as a location factor in Ireland. The IDA operates some linkage development initiatives which have led to modest improvements in the level of Irish purchases by overseas companies. The IDA conducts a regular 'Survey of Irish Economy Expenditures' which indicates some improvement in local purchasing.

In Scotland, local content and local purchasing was limited in the electronics sector. Despite a heavy promotional focus on this sector and a significant

concentration of investment in Silicon Glen, research evidence suggests a low level of integration. The firms investigated in this study had very few forward or backward linkages. By contrast, a pulp and paper plant owned by Caledonian Paper had a very high level of local content (e.g. through purchases of local forestry products).

The extent of local purchasing was surprisingly disappointing overall. Equally surprising is the degree to which regional development agencies do not typically monitor such activity, a notable exception being Ireland. Despite the generally low levels of local purchasing the case of the Irish software industry illustrates the potential importance in embedding firms in the regional economy.

Five main conclusions regarding the quality of flagship investments in the LFRs can be drawn from the evidence discussed above. First, development agencies generally undertake little monitoring of the quality of mobile investment over time (an important exception is Ireland where surveys of local expenditure and R&D performance are conducted), thus exacerbating the problem of obtaining comparable quantitative measures of quality across the regions.

Second, significant variations in the quality of investment can be detected (on the basis of more qualitative assessments). These differences cut across the traditional Objective 1/Objective 2 division. Ireland and Scotland are characterised by a higher quality of inward investment than Portugal and Brandenburg. Some plants in Ireland and Scotland were of equivalent quality to those studied in Rhône Alpes. Third, the improvement in Scotland and especially Ireland has taken place over time and appeared to be related to the provision of 'after-care' services and finance designed to upgrade investments. Fourth, important variations in the embeddedness of the investments can be related to sectoral differences. The least embedded investments were in the so-called 'hi-tech' sectors, notably electronics. These investments tended to lack strategic functions and made few local purchases. This was true even in Scotland where some plants were characterised by better labour profiles and product mandates. Fifth, the most embedded plants tended to be those which were linked to a genuine (i.e. non-financial) locational advantage of the region. This could be the knowledge-base, a skilled workforce, a supply industry or even a raw material source.

It is apparent that the majority of plants visited in the course of this study fall short of meeting the standards of the 'performance company' outlined in Sections 2.1 and 2.2. Few contained strategic functions, on-site R&D or extensive local linkages. It is apparent that, in some sectors at least, firms are still able to disaggregate labour intensive parts of the production process and to locate these in low-cost regions. However, measured against the characteristics of the archetypal branch plant of the 1960s, some plants showed signs of an improvement. This was particularly the case in Scotland and Ireland where, over time, incremental changes have occurred in the range of functions and level of innovation capacity. In a small number of cases, moreover, firms have become embedded in the

regional economy through increased material and service purchases. Our analysis, however, would highlight the extent to which this improvement in quality has occurred over time and has often been encouraged by pro-active regional development agencies.

Further details on three of the regions are contained at the end of the report. The next two chapters discuss the policy implications of the findings of the regional case studies and outline the areas in which action is required in order to bring incentives in line with quality considerations.

CHAPTER 5

Potential for Calibrating Regional Incentives to Quality of Mobile Investment

5.1 INCENTIVES: VALUE FOR MONEY?

There has been much criticism of financial incentives which attract inward investment projects that offer limited benefits to host regions beyond the direct number of jobs created. A common criticism has been that incentives tend to work in favour of investors seeking ways of reducing investment or labour costs rather than looking to host regions for skills, know-how and supplies. Such a use of incentives, it is argued, fails to help stimulate upgrading of supply-side factors in the longer-term interest of securing self-sustaining growth in a region.

The criticism, however, has not resulted in a reduction or radical restructuring of regional policy support for inward investors, other than perhaps a greater premium on job creation targets and on discretionary forms of award allocation. It is likely that the growing competition between regions to attract inward investors has actually contributed to an increase in levels of incentives on offer as well as relaxation of expectations over regional benefits, as regions have sought to demonstrate their ability to capture large or 'flagship' projects in the face of industrial decline and rising unemployment. Thus, underlying the commitment to incentives lie doubts relating to both the level of subsidy necessary to draw investment into the LFRs, as well as the role of incentives in attracting projects which are capable of raising a region's development potential.

As far as the first doubt is concerned, an evaluation by Cambridge Economic Consultants of the efficiency of regional incentives in the Community (PA/CEC, 1989) concludes that even in countries with a low aggregate spending on incentives (such as Belgium, France, and, until 1988, Spain) six to seven of every ten assisted investments are likely to have gone ahead without regional aid. In the 'high spend' countries such as Italy and Portugal, three out of ten investors said they would have gone ahead without regional aid. These results tend to suggest that the incidence of 'deadweight' in the disbursement of grants continues to remain a significant drain on public resources, although less so in the context of regions in which the size of the incentive package constitutes a major locational factor.

Evidence from incentive evaluation studies in the U.K. confirms the incidence of 'deadweight' in regional assistance. 'Deadweight' assistance has been found to be particularly acute in the case of firms qualifying for automatic awards (69% of the sample in a study by Allen *et al.*, 1986, and 53% in a study by Robinson *et al.*, 1987). It has also been found to be worryingly high among discretionary schemes, accounting for 23–40% of the recipients of U.K. Regional Selective Assistance (RSA). While such evidence suggests the need for stricter evaluation procedures of the real need of firms for financial assistance, the danger of over-stringency in award decisions should also be borne in mind. For example, the Allen study found that 50% of the companies which failed to obtain RSA abandoned or changed the size and timing of the project.

The results of the present study allow further qualification on the role of financial incentives. Overall, in the regions offering a variety of locational attributes (particularly skilled labour) over and above financial incentives (i.e. Ireland and Scotland), incentives were found to play a less central role than in those regions in which the minimisation of plant-level production costs was the driving locational objective (Portugal and Brandenburg). Significantly, however, the majority of investors in all four LFRs generally considered incentives to be of sufficient importance to deter an investment in their absence. The investors who were most unequivocal on this point were those with plants reliant on few 'organic' links with the host region, those in a position to play-off two or more regions over the size of incentives on offer, and those for whom incentives served to compensate for locational disadvantages, especially geographical peripherality.

Among the minority of companies for whom incentives were of secondary importance in the investment cost consideration, two factors appear to be particularly significant. The first was the greater importance of location factors not directly related to minimisation of plant-level production costs (e.g. accessibility of raw materials in the cases of the cement works in Brandenburg and the Portuguese and Scottish pulp plants; availability of specialised skills in the Scottish electronics industry and the Irish software industry). The second was the existence of institutional support for sectors of relative specialisation within a region's economy, a factor which appears to have encouraged investors to appraise non-financial locational factors more seriously in the investment decision.

Four policy implications are raised by these observations. First, incentives continue to remain an important factor for drawing mobile investment into the LFRs. A blanket decision to remove regional incentives would run the risk of deterring a sizeable volume of investment into the LFRs. Second, however, it is evident that a generous and indiscriminate policy stance towards incentives might encourage projects with limited interest in the skills, know-how and supply structures of a region, and also encourage projects in need of sustained capital

support in order to ensure long-term presence in the region. Third, in the case of inter-regional competition for investment based on the size of the incentive package, the evidence suggests that firms might be securing a level of support well in excess of that necessary to make a project in a given LFR more viable than in a core region or an LFR outside the EC. Finally, policy-makers need to note that incentives are of particular significance for production-cost minimising projects, as well as regions offering few locational advantages other than cost factors.

Thus, if prudently targeted and set alongside other locational considerations in an investment decision, incentives could continue to attract inward investments which have a contribution to make to the economic development prospects of the recipient LFR. The next section summarises, on the basis of evidence of best practice, the quality standards which can be realistically expected in different LFR contexts.

5.2. COMPOSITION OF 'QUALITY' IN DIFFERENT LFR CONTEXTS

In Ireland and Scotland, examples were found of plants occupying a relatively strategic position in the corporate division of labour and drawing upon local resources. Though such plants generally continued to lack control over investment and procurement strategy as well as product development capability, they did possess process development capability, modest representation of scientific, technical and engineering personnel and staff with higher degrees, a continental or global mandate over given products, and local autonomy over non-strategic decisions. They were noted for their recruitment of higher-level skills, graduates and management personnel from the local labour market and local educational establishments, as well as the commitment of local managers to the region especially in terms of winning intra-corporate bids for new investments. They were not noted in general, however, for their local content ratios, their business with indigenous firms, or the local purchase or high value-added inputs and services, although there were some exceptions, notably in Ireland.

In contrast, in both Portugal and Brandenburg, the definition of 'flagship' project did not readily extend to qualitative aspects of investments. The establishments were production or assembly-oriented, specialising in tasks often duplicated elsewhere, with limited local R&D capability, skill variability and management autonomy. Closely integrated into the governance structures and global value chain of their parent organisations, they were found to provide little stimulus to the local supplier, skills or knowledge-base. In both groupings, the definition of good quality has fallen far short of the ideal type of 'performance' plant described in Chapter 2. This suggests that either such a plant is not appropriate for an LFR context (owing to supply-side weaknesses) or that the transition to such a form of corporate organisation is still a matter of text-book speculation.

On the basis of existing experience it can be concluded that attempts to raise the quality of mobile investment need to recognise the limits of what might be realistically achieved and to differentiate between regional groupings. The least economically advanced LFRs are generally those weakest in terms of both training and physical infrastructure as well as the quality of the local resource base. They generally cannot be expected to attract inward investment of the same 'quality' as that in the relatively advanced LFRs.

'Best practice' in *least advanced LFRs* would require targeting investments with a selection of the following attributes:

(1) new products, particularly those with a long product life, but related to industries of local specialisation (to prevent closure and encourage local linkages);
(2) functional and task heterogeneity;
(3) middle management, technical and manual skills;
(4) quality control and process development capability; and
(5) operational decision-making autonomy.

Policy action to secure the above standards could assist in achieving a qualitative improvement in the operational and management status of establishments within such LFRs. Such improvements could be achieved without forcing inward investors to locate activities demanding of skills, competencies and supplier structures which are lacking or of poor quality.

'Best practice' in the case of the *relatively advanced LFRs*, might seek the following goals:

(1) product mandate (i.e. sole rights over particular products);
(2) process (and product) development capability (to secure local R&D capacity);
(3) functional and task heterogeneity;
(4) upper-echelon management, technical and scientific skills;
(5) strategic decision-making autonomy; and
(6) specialisation in products that complement the industrial base of the region (to maximise links with local suppliers).

Any effort, therefore, designed to secure better quality mobile investment in LFRs, needs to be calibrated to the quality of supply-side conditions. These 'conditions', it must be noted transcend traditional divisions between Objective 1 and Objective 2 regions. Ireland's apparent success in gaining inward investments of a quality at least comparable with those we examined in Scotland is illustrative of what an Objective 1 region can achieve with a pro-active, sectorally targeted, inward investment strategy that is complemented by a strategy to upgrade related skills, communications and supplies.

5.3. INFLUENCES ON QUALITY DIFFERENCES BETWEEN REGIONS

The least industrialised regions of the EC generally have a less developed industrial skills base, less advanced educational opportunities and supplier networks, and thus are less capable of supporting knowledge-intensive and supply-intensive investment. These regions generally have a number of cost advantages, in particular low industrial wage levels. With the assistance of financial incentives, such regions have thus attracted inward investments that are typically cost-driven. It must be accepted that until the quality of supply-side conditions is raised to the level of the more industrialised regions, these regions will be unable to attract inward investments of a high 'quality'.

The results of this study confirm that selective, quality-conscious, coordinated and staged support provided by agencies in Ireland and Scotland has made a difference in terms of the standards expected from investors, while their efforts to upgrade (often sectorally specific) training provision, research and educational standards, and supplier quality have helped to maximise investor awareness of local potential. The implications of this finding is that all LFRs need to focus their attention on developing the institutions for delivering quick and appropriate support for firm-specific and generic supply-side requirements.

The study has also revealed that there may be considerable benefit from the orientation of sector-based promotion strategies towards existing local industrial strengths which investors could draw upon, rather than focusing attention on the market or technological status of a finished product. For instance, in Scotland, inward investment in a high-tech sector such as the electronics industry, despite substantial and sustained efforts of the development agencies, has yielded poor results in terms of supplier linkages, technology transfer, innovation capability and upper-echelon skill formation, while those in traditional sectors such as pulp and paper have yielded more positive local effects. The Culliton review of Irish industrial policy made a similar point in stressing 'the greatest emphasis in promotion of new foreign industry has been on the so-called 'high-tech' sector and on pharmaceuticals. It is arguable that neither sector built on pre-existing Irish strengths or natural advantages. From this perspective the disappointing linkages that have resulted with pharmaceuticals and electronics are not surprising' (Culliton, 1992: 74).

Another factor of enormous significance in influencing the quality of investment, emerging from the analysis of projects located in Ireland and to some extent also in Scotland, was, as theorised in Chapter 2, *in situ* upgrading of a plant achieved over a period of time. It was discovered particularly in the case of Ireland that generally the initial investment possessed few characteristics of the 'quality' plant. Instead, such achievements as broadening of product range, attainment of a product mandate, investment in research and technical facilities, enlargement

of the range of functions and tasks, and expansion in floorspace and employees, were often the result of annual improvements in plant performance and the efforts of local managers (often of indigenous origin) to win new resources and new responsibilities from central management. Upgrading, however, it was discovered, was also the result of 'after-care' support from local development agencies, a form of help which served not only to improve plant competitiveness, but also to strengthen the hand of local managers in negotiations with the parent firm.

The policy implication of this particular finding is that if improvements in the quality of an establishment might be expected once the venture can be shown to be a financial and managerial success, then incentives need to be made available subsequent to start-up. This is a conclusion increasingly recognised within the literature on the developmental role of mobile investment in LFRs (see Young *et al.*, 1993).

5.4. ROLE OF FINANCIAL INCENTIVES AND OTHER FORMS OF SUPPORT IN SECURING QUALITY

The preceding discussion tends to suggest that action to secure good quality investment exceeds financial considerations. Incentives alone, regardless of how they are applied, have not been sufficient for maximising the regional impact of inward investment. To varying degrees, regional agencies in all LFRs studied claimed to calibrate incentives to quality factors such as training, R&D intensity and local content. In all four LFRs, however, there appeared to be no direct relationship between the terms on paper for financial support and the actual quality of inward investment.

Especially in Brandenburg and Portugal, it was apparent that the eligibility criteria for given incentive thresholds were applied in such a way that it was possible to maximise the permissible awards to 'prestige' foreign companies. The level of incentives awarded was found to be influenced to a significant degree by the characteristics of the *firm* and its products rather than the characteristics of the *plant*, such as its managerial or skill profile, its local purchasing plans, and the functional activities of the plant. It was felt by development agencies that without offering the best financial package in the inter-regional competition for investment, the firms would not have located in the region. Significantly such 'playing off' by investors of regions was discovered in a number of cases to be between less favoured regions within the EC.

It was also found that while institutions in all the regions claimed to monitor quality, there was a varying degree of success in regulating investor behaviour. In order to maintain 'good' relations with foreign investors some regions showed considerable flexibility in initial contractual agreements on quality targets. Such

behaviour poses a serious threat to the attainment of incentive-related quality targets, and it is important that compliance of contract agreements is accepted by all LFRs. Otherwise, investors will continue to be provided with the opportunity of not only playing off regions over the level of support received, but also of undermining individual attempts to secure quality by threatening to locate within the less regulated regions. Given the difficulty in obtaining parity of action across the Community through voluntary agreements, the European Commission itself may need to consider the option of applying non-compliance penalties to regional agencies.

The experience of Ireland and Scotland suggests that a coordinated and institutionally pro-active regional strategy towards mobile investment (in addition to financial incentives) can play an important role in maximising regional value added from an investment. Table 4 summarises the aspects of 'good institutional practice' which appear to have achieved some success in upgrading the quality of inward investment.

TABLE 4. Elements of 'good' institutional practice towards mobile investment

- Identification of a small number of strategic sectors in order to promote clustering and the build-up of related agglomeration economies, building where possible on existing industrial strengths.
- One-stop provision of incentives and other forms of assistance in order to facilitate the speed of transactions.
- Understanding the needs of firms, establishing a relationship of trust with them and support for local managers in their attempts to upgrade the status of the plant (financial and technical).
- Sector-specific research to identify strengths and weaknesses in the region's resource base of relevance to mobile investors.
- 'After-care' support to match investor needs to regional strengths.
- Provision of financial and other assistance to potential suppliers to upgrade product quality and delivery practices.
- Provision of indirect support in the form of infrastructural improvements that can help secure a firm within a region, and also improve the wider supply-side characteristics of the region (port infrastructure, telecoms supply, generic skills training, etc).
- Regular monitoring of the purchasing, R&D and training performance of investors.

It is unlikely, however, that tighter implementation of incentives and institutional pro-activity are sufficient to attract high quality investment or maximise its contribution to a host region. The type of project a region can expect depends upon the *quality of supply-side resources* it can offer. Case-study research in the Rhône Alpes revealed only too clearly that so well-developed are the region's supplier networks, logistics and research and educational base, that high quality, research-intensive, mobile investment has been attracted in the

absence of incentives and a relatively low key institutional strategy towards inward investment. It is the general health of the region's 'entrepreneurial milieu', rather than any one specific factor, which has served to attract such investment.

The 'entrepreneurial milieu' in the LFRs is clearly less capable on its own of supporting quality projects. However, the experience of Rhône Alpes suggests that in LFRs, there will be little incentive to firms to locate advanced and strategic operations, without a commitment in the region to upgrade transport and communications networks, and to develop a critical mass of state-of-the-art industrial know-how, technological capability and skills. Thus, in order to be more effective, incentives need to be complemented by improvements to a region's scientific, educational and logistics infrastructure.

5.5. POLICY ISSUES

Arising out of the preceding discussion there are a number of policy issues which are germane to a discussion of whether regional incentives may be harnessed to the quality of mobile investment. First, generous and indiscriminately applied financial incentives tend to attract production cost minimising plants which offer limited scope for contributing to regional multipliers (although it has to be recognised that supply-side impoverished LFRs might succeed in attracting only such investment). Second, inter-regional competition for inward investment in the Community, based on the size of financial incentives and other subsidies (tax concessions, rent and rate concessions, provision of subsidised land and property, training grants, etc.), has tended to result in a level of support well in excess of that necessary to compensate for extra costs attached to locating in an LFR, and it has also greatly reduced the power of regions to negotiate over 'quality'.

Third, the potential for improving the quality of mobile investment varies between the most advanced and the least advanced LFRs. The difference is largely a function of the quality of existing supply-side conditions. There is also some evidence to suggest that the approach of institutions to mobile investors and the zeal and local commitment of plant managers can significantly increase the potential of even the least favoured regions to upgrade the quality of existing inward investments.

Fourth, in all LFRs, inward investors should be expected to contribute to the improvement of the region's managerial, scientific and technical capabilities through their direct employment practices and local purchasing strategies. Even in the least advanced LFRs, inward investors should demonstrate a clear capacity to raise the region's middle management, technical and manual skill profile, and to develop substantial supplier linkages with indigenous firms. In these regions it is unlikely, initially at least, that investments will have the capacity to develop

new products. Consideration in such cases should be given to the 'product life' expectancy of the plants' outputs.

Fifth, within any one region, the quality of investment can vary between projects. Such variance may be due to sectoral reasons, the position of a plant in the corporate hierarchy, or the behaviour of local management. This implies that there is scope for calibrating financial incentives against individual quality targets at the start of an investment as an effective way of encouraging better quality projects. Improvements to plant quality, however, are often the outcome of longer-term attempts by local managers to upgrade plant status in the corporate hierarchy. Thus, sixth, in addition to initial efforts to calibrate incentives to quality, policy support is justified at later stages in the life of an investment.

Finally, reliance on direct financial and non-financial incentives alone is not likely to be sufficient to attract good quality investment or promote upgrading, notably within the least advanced regions, because of investor resistance regarding the quality of local suppliers, human resources, and physical, social and communications infrastructure. By implication, therefore, regions should be encouraged to integrate their strategies towards mobile investment within a wider framework of longer-term, sustained improvement to the quality of supply-side inputs. Where such improvements are slow to implement, regions at the very least should focus upon attracting industries with requirements which match the existing resources of the region (skills, suppliers, raw materials, etc.).

CHAPTER 6

Policy Recommendations

In the light of the policy issues raised in the preceding section, it can be concluded that there does remain scope for calibrating regional incentives to the quality of mobile investment, in pursuit of maximising regional value added. It would be incorrect to infer that the disappointing results of the case studies as regards the quality of recent 'flagship' investments within the LFRs studied implies that little can be done to secure better regional impacts from mobile investors. It could be argued that poor quality at present is partly the result of investor ability to obtain disproportionately high levels of incentive in a context of minimal leverage on the part of regional institutions to ensure compliance with quality standards. Thus, appropriate reforms to the terms on which incentives are provided might go some way towards securing greater regional value added from investors. Such reforms, however, should not exceed the limit beyond which they might discourage investors from the LFRs.

In contrast to current policy practice, it is suggested that a four-pronged approach be adopted towards mobile investment within EC regional policy. First, provision should be made to support plant upgradings in the course of the life of an investment, in the form of either a subsidy on expenditure or access to services provided by regional institutions. Second, there is a need to substantially lower the total amount of direct incentive entitlement set for different regional groupings. In addition, the major proportion of an award should be tied as far as possible to compliance with quality targets achieved at the start or during the life of an investment. Third, support in the form of subsidised training programmes or infrastructure improvements should be seen as 'additional' and costed separately from direct award calculations in order to provide greater visibility of public expenditure as well as monitor the benefits of such support for the region as a whole. Fourth, policy towards mobile investment should become an integral part of, rather than separated from, regional development programmes seeking to improve indigenous potential. A case for these recommendations is made in the sections below.

6.1. DIRECT INCENTIVES

The case-study analysis clearly demonstrated that the best quality investments (i.e. those most deeply embedded into the local economy) were typically those that required least in terms of financial support. However, there was also clear evidence that incentives in the form of grants and tax concessions offered to firms prior to a location decision need to be retained in order to encourage investors into the LFRs. There nevertheless remains the need to reduce the current level of deadweight expenditure, and also to avoid short-term, cost-based, investment projects drawn to the LFRs by high capital subsidies. There is a strong case, therefore, that levels of capital subsidy (automatic and discretionary) to attract inward investment into LFRs should be reduced substantially below current levels. The case-study evidence clearly demonstrated that the size of financial incentives was important in deciding between LFRs, rather than in the decision to locate in an LFR.

The objective of harnessing incentives as closely as possible to investment qualities of wider benefit to a region should become a policy priority. Thus, the automatic award which is made available to all investors, irrespective of quality considerations should constitute only a small proportion of the suggested lowered EC maxima for Objective 1 and Objective 2 regions. Remaining awards, thus, should be discretionary, and pinned to quality targets.

As regards the modalities of the 'quality-based' awards, in principle, it is desirable that standardised and quickly applicable procedures be established, allowing incentive quotas or bands to be set for individual quality factors. This would overcome the difficulty that regional agencies have had both in defining quality and, subsequently, in securing quality-related agreements. It would also help avoid excessive variability in standards and their application between the regions. It is important, however, that the procedures adopted do not force individual regions or companies to comply with unrealistic targets, thus some flexibility over the mix of quality criteria is recommended.

The research conducted in the course of this study has succeeded in identifying and justifying selected quality criteria, but more work is required to move towards a standardised system of incentive entitlement with the appropriate flexibilities built into it. Following more detailed research to identify quantifiable criteria and test the potential effectiveness of calibrating levels of support to individual criteria, it is anticipated that it would be possible to construct a 'quality matrix' which weighted different criteria and took into account different levels of regional development. Such a matrix, if combined with measurable and unambiguous quality performance indicators, could provide the basis in the future for calibrating and limiting levels of incentives to the potential of inward investors to raise regional value added.

However, in the meantime, LFRs should be strongly encouraged to consider the benefits of providing relatively higher levels of support to inward investments that contain key quality characteristics. Following the indicators and measures of 'quality' outlined in Section 5.2, in the most advanced LFRs discretionary awards should be utilised, as far as possible, to attract investments likely to have the potential to contribute to the build-up and improvement of a region's knowledge, research and skill-base, its management and entrepreneurial capability, and the quality of its business services and supplier firms. In the least advanced regions, incentives should be utilised to help ensure that projects are not task-specific, are complementary with existing regional industrial strengths, and possess a level of local managerial autonomy especially over recruitment and purchasing. Close attention also needs to be paid to the closure or expansion potential of plants. The discretionary award decision might therefore place rather less emphasis on R&D and strategic decision-making autonomy, but focus more on the need to attract inward investment with long-term potential to upgrade the skill levels of the region and integrate inward investment into the region's industrial base.

The discretionary awards should be offered not only at the start of a project, but especially in the course of the life of an investment, when plans to upgrade the status of a plant are being considered by a company. The offer of incentives might indeed play a decisive role in tipping the balance in favour of the assisted plant within the wider corporate hierarchy. In addition to capital investment subsidies, assistance at this stage could be provided in ways which might also benefit other firms in the local economy (e.g. grants for skills training courses, grants to improve the quality standards of existing and potential local suppliers). Neither start-up nor upgrading related incentives should amount to totals which exceed the maxima set by the Commission for direct incentives in different types of LFR. Differentials between different types of LFR should therefore remain, and in each type of region the quota set aside for discretionary awards should be the same.

Finally, the discretionary mode of awarding incentives is considered helpful because it allows regional agencies to assess the level of gap funding and, theoretically at least, award just the amount required by an investor to tip the balance between competing locations. Thus, discretionary awards might be expected to reduce levels of deadweight. It is however accepted that any discretionary system of awards is dependent on the ability of the appraiser and is reliant on their judgement.

6.2. 'ADDITIONAL' SUPPORT

The scope for providing 'additional', non-monetary incentives by individual regions should remain. However, any additional incentives over and above agreed maximum levels of support should be closely 'tied' to wider development

objectives within a region and should come in the form of support enhancing a region's supply-side infrastructure. These could consist of skill development programmes, telecommunications improvements, port facilities, and so on, designed to directly benefit the inward investor, but also further the wide economic development potential of the LFR. It is such 'additional' support which, in the longer term, should form the basis upon which regions should seek to attract mobile investment projects (i.e. the quality of generic supply-side infrastructure).

An LFR's decision to support such infrastructure 'projects' should be weighed evenly against its other proposed infrastructural projects. Any 'additional' direct support for inward investor activities (e.g. company-tailored training courses) should be provided at a level of support equal to that available to comparable projects undertaken by indigenous companies and appraised against the same support criteria.

More resources should be made available for LFRs to develop programmes that are targeted at activities which attempt to anchor mobile investments in the local milieu. These might include:

(1) provision of financial and technical assistance to potential suppliers to upgrade product quality and delivery;
(2) after-care support to match investor needs to regional strengths (including a linkage development programme); and
(3) financial and technical support to assist local managers of inward investment in particular to support attempts to upgrade their plant.

Whilst such initiatives appear to have achieved some success (e.g. in Ireland), the cost-effectiveness of such measures would clearly need to be closely examined before a substantial re-allocation of Commission funds was considered.

6.3. ROLE OF REGIONAL AGENCIES AND EUROPEAN COMMISSION

It should remain the responsibility of the European Commission to set the maxima for award entitlements within the different LFR groupings as well as the ceilings for both discretionary and automatic awards. It could threaten to impose penalties on regions for failing to ensure that agreed quality targets have been met in relation to initiatives involving EC funds (by requesting that initial agreements and periodic evaluations be automatically transmitted to the Commission). Such monitoring would undoubtedly involve greater administrative procedures and time-lags at both central and local level and would be very difficult to carry out effectively. Such monitoring however, may be valuable in ensuring that regions take steps towards harnessing incentives to 'quality', even if in practice the level

of incentive provided to a project cannot be realistically expected to be applied evenly and fairly for all projects across the whole Community.

In advance of systematic further research to develop quality-based standard procedures, it is considered impracticable that the Commission seek to impose hard and fast rules on definitions of quality, or to allocate quotas for individual quality factors. This should be the joint responsibility of regional agencies involved in attracting inward investment and those whose task is to develop a broader regional industrial strategy. Thus, it should be the task of the regions to develop a framework of objectives and rules concerning the allocation of awards; to decide on who should receive funding as well as the amount to be granted (below permitted ceilings); to implement periodic evaluations of compliance; and to communicate details of grants awarded, as well as evaluation reports to the Commission. Regional objectives and rules, however, would need to be approved by the Commission and fit within the framework of guidelines provided by the Commission for individual regional groupings.

6.4. CONCLUSION: COMBINING POLICY ON MOBILE INVESTMENT WITH OTHER REGIONAL DEVELOPMENT PRIORITIES

Improvements to quality will occur, first, when firms are confident that regions are capable of enhancing the supply-side infrastructure to support and embed investment, and, second, when regional agencies develop a pro-active approach that seeks to match local capabilities to the demands of mobile projects. It has been argued, therefore, that reforms to the structure of incentives alone will not suffice to secure quality and local embeddedness.

The obvious implication of this observation is the need to formulate regional policies towards mobile investment as an integral component of wider and long-term regional economic strategies. The framework for such an approach exists already in the shape of the Community Support Frameworks, which is the mechanism set in place by the Commission for adjudicating over regional submissions for multi-annual funding. In coupling inward investment strategy at a regional level to CSF-level representation, regions would be forced to consider the wider milieu which supports investor needs as well as to bridge the gap between investor needs and regional development priorities.

An implementation procedure could involve linking regional bids for discretionary awards for mobile investment to CSF five-year expenditure plans put forward by the LFRs. The LFRs could be expected to calculate, within limits set by the Commission, the proportion of their budget devoted for industrial development to be allocated to inward investors. Such a procedure might encourage regional authorities to consider the significance of inward investment in the context of the cash priorities of other pressing demands (e.g. support for

SMEs), and to consider also how mobile projects might be effectively integrated into the regional economy.

There are five potential advantages attached to this strategy. First, by fixing for every region a budget for incentives over a five-year period, LFRs may be less inclined to out-bid each other for particular inward investment projects, as this would deplete resources for other potential investors and infrastructural projects. Second, it would be a way of ensuring that regions at least develop a strategy for a more pro-active and selective approach to mobile investment, and one which is tied to the region's wider economic priorities. Third, the obligation to provide CSF bids would give the Commission an opportunity to assess whether a region's strategy towards mobile investment genuinely seeks to maximise the economic impact of the latter on the region. The current requirements for the evaluation of projects in receipt of structural funds provides limited scope in most cases owing to the poor quality of evaluation. Fourth, the availability of detailed development plans from the LFRs spelling out the sectors and strategies for attracting mobile investment, would provide the Commission with a unique opportunity to develop an overview of possibilities across Europe, and thereby help integrate individual CSFs into a coordinated approach which minimises duplication of effort and expenditure. Fifth, it would put pressure on individual LFRs to focus on their distinctive industrial and sectoral strengths as a means for deriving regional competitive advantage.

The great challenge posed by strategy is the need for LFRs to develop an appropriate institutional basis for implementing a pro-active strategy towards mobile investment and integrating it within a wide regional development plan. In reality, not many regions are well placed to upgrade their institutional structures and capabilities. However, the central role to be played by regional upgrading in maximising the benefits for the local economy from inward investors seems to be increasingly accepted.

CHAPTER 7

Portugal

7.1. INTRODUCTION

Portugal was selected as an example of an Objective 1 region with a comparative advantage of offering relatively low wages rates (25% of the EC average), but a geographically peripheral location relative to the core regions of the European Community (EC).

Notwithstanding the latter, since the accession of Portugal to the EC in January 1986 the amount of inward investment has increased significantly from 24.5 billion Portuguese Escudos (PTEs) to 1265.0 billion PTEs in 1991. By far the largest mobile investment secured to date had been the Ford–VW joint venture (AutoEuropa) to develop a major new automotive plant which is to produce up to 190,000 vehicles per annum by 1995–6. The total estimated eligible cost of this project will be 416 billion PTEs.

7.2. REGIONAL INCENTIVES AND INSTITUTIONS IN PORTUGAL

The main regional incentive in Portugal is centred on the SIBR (*Sistema de Incentivos de Base Regional*). The SIBR package is composed of three elements: an industrial policy component where the rate of award varies between 20 and 45% of the eligible award, according to the importance of the project to the Portuguese economy; a location component set at 15% of eligible expenditure, plus a further 10% when the project is within an 'integrated action zone' for regional development; and an employment component worth either 300,000 Portuguese Escudos (PTEs) or 600,000 PTEs (depending on skill levels) amounting to a ceiling of 10% of eligible cost of the investment. The maximum award a firm can receive is 75% of eligible capital expenditure. The maximum total award may only exceed 250m PTEs in exceptional cases and only with ministerial approval.

SIBR is financed by the Ministry of Planning (*Ministerio de Plano e do Administracao do Territorio*), and by the European Regional Development Fund (30 and 70% respectively). After a project has been successful in its application

for grant support, a formal contract noting the obligations of the applicant is drawn up between the firm and the Institute for Small and Medium-Sized Firms, IAPMEI (*Instituto do Apoio as Pequenas e Medias Empresas e ao Investimento*), which administers the grant.

There are three other regional development programmes. First, there is SIFIT (*Sistema de Incentivos Financeiros no Turismo*), designed to attract inward investment into tourism-related projects. Second, there is SIPE (*Sistemo de Incentivos ao Potencial Endogeno*), which provides assistance for the improvement of the research, business, and consultancy environment. This programme aims to provide assistance principally to indigenous industries. Both these schemes were introduced along with SIBR to form an integrated part of the regional development package. Third, PEDIP (specific programme for the development of Portuguese industry) was established in 1988 with support from the EC with an annual budget of 450m ECU from 1988 and 1992. The prime objective of this development programme is to reinforce the innovation and technological capacity of Portuguese industry and to encourage the modernisation of industrial enterprises by increasing quality and efficiency standards. In this way, it aims to provide an environment to attract mobile investment. Table 5 outlines the four areas of support covered by PEDIP.

TABLE 5. Types of project supported by PEDIP

Type of project	Maximum support ECU	Per project %
Investment in purchasing and developing technology	440,000	60%
Investment in innovation and modernisation	1,470,000	45%
Investment in quality management and environmental protection	440,000	65%
Case by case investment in equipment	106,000	30%

Source: Project Survey.

In principle, the package of regional incentives in Portugal seeks to create an integrated set of grants which embeds mobile investment within the nation's economic priorities as well as relate the volume of grants offered to the quality of investment.

The institutional structure surrounding mobile investment in Portugal is strongly centralised. Policy towards inward investment and the strategic orientation of the Portuguese economy is formulated by the Ministry of Planning and the Ministry of Industry. The task of other agencies is principally administrative or executive. In contrast with the majority of other EC member states, there is a distinct absence of strong development agencies at the local level.

ICEP (*Instituto do Comercio Externo de Portugal*), funded by the Ministry of

Planning, is the agency charged with the attraction of mobile investment. It has the following responsibilities:

(1) to market Portugal as an inward investment location, through its network of overseas branches;
(2) to arrange initial meetings, and inform potential inward investors of the support available;
(3) to prepare contacts between the state and the inward investor; and
(4) to promote opportunities for industrial cooperation between Portuguese and foreign businesses.

In undertaking these responsibilities ICEP has a two-fold strategy: to broaden the range of countries investing in Portugal, and to extend the sectoral focus for attracting inward investment, especially in information technology, biotechnology, and ceramics. However, as shown in the next section, mobile investment has been highly heterogeneous in its sectoral composition, suggesting that the policy to target has been unsuccessful.

Once an investor has expressed an interest in locating in Portugal, the project is then passed on to IAPMEI for a decision on the level of grant support. IAPMEI, which is funded and controlled by the Ministry of Industry, then becomes responsible for awarding and administering the grant. The level of entitlement is calibrated against the following measures: local content; capital investment; training; research and development; export orientation; technological content (related to the grant component on contribution to the Portuguese economy); and the number of jobs and wage levels (related to the employment component of SIBR). It is not known whether measurable indicators of these quality criteria are applied. From this analysis IAPMEI recommends the level of award which should be made to the project. There appears to be little follow-up of the degree to which initially agreed quality standards are subsequently met.

TABLE 6. The agencies involved in regional development in Portugal

Institution	Remit
Ministry of Industry	Policy for industrial development in Portugal.
Ministry of Planning	Policy for strategic regional development in Portugal.
IAPMEI	Appraisal and negotiation of grants for inward investors.
ICEP (The Portuguese Foreign Trade Institute)	Promotion of Portuguese trade promoting Portugal as an inward investment location.
CCR (The Regional Coordinating Commission)	To coordinate regional development and inward investment in Portugal.
DGDR (Director General of Regional Development	Overseas regional development in Portugal.
IEFP (Department for Employment and Training)	Training of labour force and other human resources related issues.

Source: Project Survey.

Other central government organisations are also involved in the decision on the size of the grant to be awarded: DGDR, the General Directorate for Regional Development (*Direccao Geral do Desenvolvimento Regional*); and the Department for Employment and Training, IEFP (*Instituto de Emprego e Formacoa Profissional*). After the grant decision, some of the five regional Coordination Committees, CCR (*Comissao de Coordenacao Regional*) are consulted on the best location in their region. In practice, the CCRs have minimal influence, and indeed the heavy concentration of foreign investment in the Setubal peninsula further suggests this to be the case.

Portugal, thus, is characterised by a centralised and, as shown in Table 6, a somewhat fragmented and overlapping set of institutions involved with inward investment.

7.3. RECENT INWARD INVESTMENT TRENDS

During the 1980s inward investment in Portugal grew nearly 60-fold. In 1980 direct foreign investment was only PTEs 6.2 billion. It climbed slowly to PTEs 61.6 billion in 1987, and then soared to PTEs 353.8 billion in 1989, and by 1990 it totalled PTEs 509 billion. In recent years this trend has continued with a number of major investments locating in Portugal. The largest of these investments is the AutoEuropa plant in the Setubal peninsula which is expected to total PTEs 416 billion. However, the estimated number of jobs created under approved projects shows a recent decline, from 23,326 in 1990 to 8988 in 1991.

Table 7, which identifies the major inward investments into Portugal in the period 1980–89, shows the preponderance of investors from other EC countries and an apparent preference for greenfield developments. There were however a

TABLE 7. Major inward investors in Portugal 1980–1989

Company	Mode of entry	Sector
Ciba-Geigy (Swit)	Acquisition	Chemicals
Unilever (U.K.)	Acquisition	Detergents
ICI (U.K.)	Acquisition	Chemicals
Alcatel (Fra)	Greenfield	Electrical Equip.
Philips (Neth)	Greenfield	Electrical Equip.
Seimens (Ger)	Greenfield	Electrical Equip.
TI (U.S.A.)	Greenfield	Electrical Equip.
Nestle (Swit)	Greenfield	Food
RJ Reynolds (U.S.A.)	Greenfield	Food
RTZ (U.K.)	Greenfield	Mining
Arjo-Wiggins (Fra)	Greenfield	Paper
Yoshida (Jp)	Greenfield	Textiles

Source: Economist Intelligence Unit (1991).

TABLE 8. The major inward investments in Portugal 1990–1992

Company	Investment (ECU m)	Entry	Sector
Ford–VW (Ger)	2700	Greenfield	Cars
Continental (Ger)	165	Expansion	Tyres
Ford (U.S.A.)	134	Greenfield	Car radios
Neste (Fin)	84	Expansion	Chemicals
Proguigel (Bra)	78	Greenfield	Automotive
Delco Remi (U.S.A.)	56	Greenfield	Automotive
Samsung (Kor)	29	Greenfield	VCRs
Valmet (Fin)	25	Greenfield	Tractors
Pepsico (U.S.A.)	12	Acquisition	Food

Source: Ferrao (1992).

significant number of aquisitions by foreign investors during the 1980s. The fact that outside chemicals none appear in the table in part reflects the relatively modest size of most Portuguese producers.

Table 8 shows that into the 1990s there has been a growth in the proportion of investors from outside the EC. Both tables reveal that the investment is heavily concentrated in the engineering and transport industries, although the salience of the food and pharmaceuticals industries is also significant (see also Simoes, 1992).

7.4. THE QUALITY OF FLAGSHIP MOBILE INVESTMENT IN PORTUGAL

This section offers an evaluation of the location factors and the quality of selected recent flagship mobile investments. The discussion is based on a survey of four companies: AutoEuropa, a planned vehicle joint venture between Ford and Volkswagen; Delco Remi, a components subsidiary of General Motors; Blaupunkt, an electrical domestic goods manufacturer, part of Robert Bosch; and Celbi, a paper pulp manufacturer owned by the Swedish Stora Group. Table 9 provides measurements of quality of the investments.

7.4.1. The location decision and the role of regional incentives

The prime reason behind the location of all the companies investigated was the availability of a relatively cheap workforce. The offer of a substantial level of incentives towards the capital costs of the project as part of the package of financial support was an important influence on the location of three of the four firms we investigated.

In the case of AutoEuropa, the search for a site for the investment began with an in-house appraisal of production costs in all 12 EC member states and in two

TABLE 9. Measures of quality of mobile investments

	Total investment (ECU)	Total grant (ECU) % of total investment	Training grants %	Regional value added[1]	Size of plant (no. of employees) full capacity	Main product	Major market	Comments
AutoEuropa (Ford–VW) Est. 1991	2.7 bn	40%	90%	45%	5000	Multi-purpose vehicle (people carrier)	Europe (U.S.A.)	Greenfield investment Largest ever FDI project 95% of units exported About 1/3 of Portugal's total exports
Delco Remi (GM) Est. 1990	56.1 m	38.6%	100%	22%	550	Electronic ignition	Worldwide	Greenfield site World market mandate
						ABS braking systems		Located in tax-free zone Part of global purchasing network
								Division of ACG Components subsidiary of GM
Blaupunkt (Bosch) Est. 1990	25 m	–	0%	0%	1500	Car radios	Worldwide	Expansion of existing Grundig site
Celbi (Stora Group) Est. 1967	93 m	–	95%	20%	740	Paper pulp	Worldwide (Sweden)	Greenfield site

[1]Regional value added is defined as the value added to a product within Portugal. It is only a crude measure of local content, amounting to the difference between sales and costs.

Source: Project Survey.

Eastern European locations. From this review a shortlist of three countries — Czechoslovakia, Spain, and Portugal — was made by executive management in Ford of Europe, subsequently narrowed down to a choice between sites in Spain and Portugal. According to representatives of Ford, the Spanish Government insisted that the investment should be located at Seville, southern Spain, a constraint which led AutoEuropa to favour Portugal. The stated advantages of Portugal over Spain were the following: IAPMEI did not attempt to intervene in the locational decision; incentives, especially in Setubal, were substantially above those available in Spain; wage rates were a third lower than in Spain; union militancy was insignificant; and Portugal did not have a major presence of either Ford or VW.

The other case-study companies followed similar site-selection procedures, with two exceptions. First, Delco Remi and Blaupunkt considered Portugal within a global context, and in competition with other newly industrialised countries (NICs). For example, both have split production capacity between Portugal and Singapore and Mexico respectively. Second, Blaupunkt invested in Portugal specifically to reduce labour costs, to the extent that the initial investment decision had not taken into account incentives, and the project was considered to be viable on labour cost savings alone. The company made an application for grants after production started.

Essentially, these case studies suggest that inward investors have located in Portugal to benefit from the relatively low wages. As wage rates gradually converge with the European Community average, the relative locational advantage of Portugal, vis-à-vis other European regions and other NIC locations, may diminish.

Although the example of Blaupunkt illustrates that Portugal can prove a cost-effective location even without grant support, overall the locational decision appears to be strongly influenced by the regional incentive package. The other three companies claimed they would not have located in Portugal without the incentives they were offered.

In making the location decision, it was financial support rather than the support of development agencies that was critical. Nonetheless, there was a consensus that the agencies ensured that an attractive package of grant support was provided and the companies actually appreciated the hands-off approach of the Portuguese agencies (despite the various hoops stipulated on paper). The record of agencies in ensuring that targets agreed before an investment are met appears modest. For example, at Celbi the government subsidy which was given before Portugal entered the EC stipulated that the company would also build a paper plant along with the original pulping plant to increase regional value added. Several years after the initial investment — and after a change of ownership — the paper mill is still to be built, and so far there has been no clawback of subsidy.

The Portuguese authorities' institutional focus on large projects, in particular AutoEuropa, is believed to have created the problem of diverting funds away from other potential investors or from indigenous industry. It is believed that several government-approved investment projects had their support withdrawn because funds were no longer available due to the displacement effects of AutoEuropa. In total, local experts suggested that up to 60 projects could have been displaced.

7.4.2. Local content and supplier linkages

The evidence of the corporate case studies suggests that the local content of goods produced by mobile investment is relatively modest. In the case of three of the manufacturing plants the local content (defined in this case study as the regional value added, which is turnover minus costs in Portugal, including labour costs, supplier expenditure and depreciation costs) ranged from a minimal level (Blaupunkt) to 45% (AutoEuropa). However, in the case of AutoEuropa, analysis of local content was based on the premise that an engine plant would be located at the site. This must be considered unlikely since one of the prime reasons behind the joint venture is believed to have been to absorb the spare capacity in Ford's existing European engine production.

In contrast, the Celbi plant revealed a high level of local content. The plant is involved principally in pulping wood to produce short-fibre pulp. The local content is 95% and reflects purchases of timber from local forests.

In assessing the scale of assistance for individual investment projects, IAPMEI does attempt to evaluate the local content of a project. Recently, the automotive sector has been identified by IAPMEI as a generator of economic development coinciding with the rise in automotive mobile investment entering Portugal, and it anticipates that component manufacturing along the auto-supply chain could be established in Portugal. Much is expected from the AutoEuropa investment, which could create a sizeable level of final demand for an indigenous automotive components industry. IAPMEI has established a special team which is charged with the task of encouraging Ford–VW to source components in Portugal, and thus increase local content.

However, this initiative has yet to achieve significant success. First, AutoEuropa considers that currently the majority of potential Portuguese suppliers do not have the capacity nor the quality of components to meet the strict criteria set down by the company. Second, Ford–VW have negotiated with existing suppliers — the majority of which are northern European — to establish plants on the production site, in particular for the supply of low value bulky components. For example, the decision of Continental (a German tyre manufacturer) to invest in Portugal is believed, in part, to have been influenced by a deal to supply AutoEuropa. In this particular case, the arrival of Continental has coincided with the closure of both

of Portugal's indigenous tyre producers. This illustrates that raising local content through inward investment can provide a threat as well as an opportunity for existing local industry in the same product market.

Third, within the auto-components industry itself, Portugal is increasingly being used as a low-cost worldwide production site. In the case of Delco Remi, production is part of the global supply of electronic ignitions for assembly plants in Germany, Austria, and Brazil. Local content in this case, at 20–25% of value added, remains significantly below the 40% agreed in the incentives contract. The agreed figure may prove difficult to achieve since the company had an explicit policy of purchasing 60–70% of the materials and components either from other divisions within the group or via global purchasing agreements.

The local content issue, is further clouded by the measure adopted by companies. Local content for many companies is defined as regional value added, that is, the value added to a product or part of a product within a given region. The European Commission, in contrast, recognises the importance of local supply, as well as the fact that often suppliers themselves rely on low levels of local input. Thus it has stipulated that a supplier can only be considered local if at least 40% of the product value is produced within the region.

The use of local content to measure the contribution of mobile investments to a host region allows for large variations. At best local content includes the value of local supplies and components as a percentage of the total value of total supplies and component purchases; at worst, it includes all expenditure including labour and depreciation costs, which makes it virtually impossible to identify the contribution of local supply linkages.

Finally, it was observed that each of the manufacturing plants in Portugal were linked into global purchasing networks of their parent groups, especially for high value added components. This clearly mitigates against the development of strong local supply links for high value added components in Portugal.

7.4.3. Decision-making autonomy and quality of corporate functions

In each of the corporate case studies it was found that the range of tasks performed was limited. The establishments have responsibility for the production of a particular component, commodity or task (e.g. AutoEuropa is a final assembly site). In general, the principal task was the final assembly of components. For example, in both Delco Remi and Blaupunkt the vast majority of staff were engaged in merely the assembly and packaging of automotive components.

Although it is expected that the level of skills will be of a higher level of sophistication in the AutoEuropa plant, generally it appears that mobile investments have typically not substantially added to the skill profile of the

Portuguese workforce, and overall wage rates are close to the industry and overall national average.

The plants visited had little autonomy in terms of financial control and the functions of purchasing, product strategy, investment, and sales and marketing. These functions were largely controlled by the divisional or head office. The recent nature of the investments mitigates against a full discussion of the potential for change in the degree of corporate autonomy in the course of time. The senior executives at the plants we visited were expatriates from the parent company. In the case of Celbi, the plant had seen few changes in its position in the corporate hierarchy since production began in the late 1960s. AutoEuropa expressed an intention to increase 'local' management once production had reached full capacity in 1996, although the exact changes in management functions were not specified.

Overall, the plants of the flagship companies investigated had little decision-making authority or well-developed corporate functions.

7.4.4. The quality of labour, skills and training

All four case-study plants have generated a significant number of jobs, in particular the AutoEuropa plant, which expects to employ up to 5000 once full production is reached in 1996. In this case, the multiplier effects on the local economy in a context of relative job shortage and limited wage expenditure are likely to be significant.

The vast majority of the employees are recruited from the local labour market. However, the degree of local recruitment is strongly related to the grade of the job, with almost 100% of manual operatives coming from the local labour market (within 35 km of the plant). Middle management at three of the four companies was largely composed of Portuguese employees who were recruited on a national basis. Most senior executives, however, were foreign nationals from the parent company.

The skill profile in all the establishments investigated was heavily skewed toward operative tasks, notably the final assembly of components. The training spend of the case studies was very high, particularly in Delco Remi and AutoEuropa. For example, the total training spend at AutoEuropa was budgeted to be ECU 215m. A large proportion — 90% at AutoEuropa and 100% at Delco Remi — of these training costs were paid for 70% by the European Social Fund (ESF) and the remainder by the Portuguese government. The objectives of training schemes were relatively limited. Often training was 'on-the-job' and geared towards semi-skilled tasks, and in practice appeared to constitute a further subsidy to production costs.

7.4.5. Innovation capability

Each of the investments investigated was found to have some form of on-site R&D. Both Celbi and Delco Remi employed Portuguese engineers and scientists to undertake work involving not only production and process refinement, but also product refinement. The AutoEuropa plant also plans to employ 10 engineers out of its total staff count of 5000 on process and product refinement.

In general, however, the range of R&D activities was limited and plant technology generally was imported from parent companies. Moreover, there was little evidence that substantial technological transfer had taken place between inward investors and local suppliers. In particular, as stated in the discussion on supplier linkages, the mobile investments only procured relatively low-value, low-technology components from indigenous industry. The overall innovation capabilities of the mobile investments we investigated were extremely limited.

7.4.6. Synthesis

The plants investigated fell into two broad groups: high weight-to-volume production (for example, Celbi); and labour intensive, high throughput assembly and packaging plants (for example, AutoEuropa, Delco Remi, Blaupunkt). As such they appeared to be representative of mobile investment more generally in Portugal.

High on the list of location factors was the search for low labour costs which, in the case of Blaupunkt, was sufficient to secure the investment without incorporating incentives into the financial calculation of the project. Should wage rates converge within the EC average, Portugal will face a major challenge in retaining existing investment and attracting further investment.

Local supplier linkages we found to be relatively modest and of poor quality. With the exception of Celbi, the manufacturing establishments purchase only bulky, low value items and components from the local economy. High value added, strategic components were procured on a European or worldwide basis depending on the cost of the item by the parent company. Thus, the IAPMEI programmes to increase local linkages appear to have had limited success.

Management absence in strategic areas such as procurement, marketing, product strategy, and investment suggests little establishment autonomy. In general, parent companies were found to retain tight control over the operation of their Portuguese plants. Key management positions were filled by expatriates.

Little is demanded from the local workforce in the way of skills and experience. The wages paid at the plants are often greater than the local average, but very much below that of the home country of the company. In contrast, the low

level of innovation capability in the three manufacturing plants suggests that the potential for upgrading the status of the plants is modest.

In conclusion, the case-study evidence reveals that very large sums of public money have been spent on attracting investment which is generally poorly integrated in the local economy. Recognition that in some cases (e.g. Delco Remi and Blaupunkt) tasks in Portugal are duplicated elsewhere, suggests that the threat of closure remains, especially if wage costs in Portugal begin to rise towards the EC average.

7.5. CONCLUSION

In theory regional development agencies have a clearly defined typology of 'quality' criteria against which regional incentives are calibrated. IAPMEI has also sought to increase local supplier content by including this within a set of criteria used to calibrate the level of support to capital investment. It has also tried to encourage new supply links between inward investors and indigenous Portuguese companies as well as joint ventures between indigenous companies and established foreign suppliers of investing firms. Finally, it evaluates the impact of the investment on the Portuguese economy, and its employment effects.

The question which has to be answered is why quality standards remain so low, despite the criteria set down on paper. It appears that in practice, the authorities adopted a very flexible attitude towards compliance with pre-established targets, especially in the case of major multinational companies. Thus, there is considerable scope for awarding maximum grants to large investments, such as the Ford–VW joint venture. An added problem is that the procedures for non-compliance appear to be ineffective, thus allowing investors to declare good intentions at the start of the investment in the knowledge that few penalties exist for failure to comply. Thus, in the case of Portugal, attempts to raise the quality of new mobile investments appear to have been largely ineffective. To some extent this is understandable, given the concern of the authorities that strict quality criteria would discourage much potential inward investment.

Any quality expectation needs to be circumspect. The case-study companies stressed the lack of highly skilled personnel in Portugal, and the inconveniences resulting from underdeveloped infrastructure, especially the telecommunications network. What is required in Portugal is an upgrading of the indigenous skills base and infrastructure, to attract higher quality mobile investment. Of paramount importance is education and training to enhance the human resources and skills profiles available in Portugal. The availability of trained workers to operate sophisticated machinery was perceived to be relatively scarce in Portugal. To an even greater extent there was perceived to be a lack of the technical and scientific research skills required for high level research and development activities.

There is also a pressing need to enhance indigenous entrepreneurship in order to increase local content. In particular this may be achieved by tying together indigenous economic strategy to that related to mobile investment. In this way Portugal would be able to strengthen the clusters of competitive advantage which exist in some areas around industries such as cork, marble and ceramics.

In order to maximise the benefits of inward investment on the local economy, regional incentives should be more closely linked to the allocation of structural funds for the development of indigenous firms, human resources, transport infrastructure, telecommunications infrastructure, and so on.

CHAPTER 8

Ireland

8.1. INTRODUCTION

Ireland, like Portugal, is defined as an Objective 1 region for the purposes of European Community regional policy. However, Ireland is very different from Portugal with respect to inward investment standards. Ireland was selected for study because it has a long history of mobile investment, a coordinated and strategic institutional approach to such investment, and an apparently higher level of achievement as regards quality standards, especially in recent years. Since the 1950s Ireland has adopted an internationally-oriented industrial development strategy. There have been three main elements to this strategy: the use of grants and tax reliefs to encourage manufactured exports; the attraction of overseas industry; and the dismantling of protection in return for enhanced market access abroad. New investment by foreign-owned multinational companies has been the main source of industrial growth in Ireland from the 1960s.

Although Ireland continues to follow this broad policy direction, a shift has recently occurred within industrial policy, with greater emphasis being attached to extending and deepening the contribution of overseas industry to the Irish economy, and less emphasis on the attraction of further rounds of new investment. This shift is the outcome of a long-running debate within Ireland about the contribution of overseas industry to economic development. Notably, the weakness of linkages between the foreign-owned and indigenous sectors emerged as a matter of concern in the early 1980s. There was a growing feeling that Ireland was a 'dual economy', with an externally-controlled branch-plant sector and a poorly performing indigenous sector. Mobile investment, it was believed, was not stimulating the development of the indigenous sector. The view that Ireland was not getting the best from inward investment prompted a debate on the future direction of Irish industrial policy that began in the early 1980s and has continued in one form or another since (see Telesis, 1982; NESC, 1982; Department of Industry and Commerce, 1984, 1986; Culliton, 1992).

By the mid to late 1980s, therefore, the Irish Industrial Development Authority (IDA) had begun to insist on parent company guarantees and performance

clauses. It was also shifting attention more toward indigenous industry and offering grants below the maxima. The allowable maxima on grants for expansion projects by foreign or indigenous firms was reduced from 45% of capital costs (or 60% in designated areas) to 25% in 1987. This change helped to reduce the average capital grant to all industry from 29.4% of fixed assets in 1986 to 22.6% in 1988 (Fitzpatrick and Storey, 1991). In addition, Ireland is noted for its low ceiling on corporation tax, set at 10%.

The latest instalment of the debate on Irish industrial policy has come in the form of the very recent *Report of the Industrial Policy Review Group* (Culliton, 1992) which calls for a further 'decisive shift' of financial support to indigenous companies. Interestingly, the report employs a broad definition of 'indigenous' to include 'foreign industrial projects which locate core business functions in Ireland' (Culliton, 1992, p. 67). It urges a further move away from grants to equity (recommending stakes of up to 50 or 60% in some cases) in industrial support programmes as a means to break what it termed 'an unhealthy dependency mentality on the part of many industrialists' (1992, p. 71).

Furthermore, while acknowledging efforts to improve linkages between the overseas and indigenous sectors, Culliton notes:

> . . . the greatest emphasis in the promotion of new foreign industry has been on the so-called 'hi-tech' sector and on pharmaceuticals. It is arguable that neither sector built on pre-existing Irish strengths or natural advantages. From this perspective the disappointing linkages that have resulted with pharmaceuticals and electronics are not surprising (1992, p. 74).

Culliton thus advocates an industrial policy that builds on local sectoral strengths to create industrial clusters of related and reinforcing industries through a policy of identifying niches and segments, that is, selective targeting of support towards existing strengths.

Culliton has made specific objection to the low rate of corporation tax, noting that the 10% regime 'has been the single most effective tool for inducing foreign investment', but reiterates the criticism of the earlier Telesis Report that it militates against the location of higher cost functions in Ireland but not the declaration of high levels of profit, concluding unequivocally:

> It has clearly not acted as a spur to the development of the indigenous sector to anything like the same extent as for the foreign sector . . . No indication should be given of any continuation of the 10% corporation tax rate beyond 2010; the range of activities to which it applies should not be extended (Culliton, 1992, p. 40).

In the light of such active debate on incentives and the quality and impact of mobile investment in Ireland, the Irish study has much to offer in a review of how EC policy towards mobile investment might be altered.

8.2. REGIONAL INCENTIVES AND THE INSTITUTIONS OF ECONOMIC DEVELOPMENT IN IRELAND

All of the major Irish incentives are awarded by the Industrial Development Authority, which has capital grant schemes for new industry and major expansions, small industries, international services, process and product development, and enterprise development. The IDA also provides interest rebates, loan guarantees and equity finance, as well as grants for management development, feasibility studies, and employment and training. In addition, as noted earlier, fiscal measures form an important incentive in the Irish case. A 10% rate of corporation tax is available until 2010 to manufacturing companies and international service companies locating in Ireland.

The most important of the IDA's programmes is the New Industry Programme. New Industry Grants are discretionary and project-related, with rates negotiable up to 60% of eligible costs in Designated Areas (most of western Ireland and parts of the south east) and up to 45% elsewhere. Capital grants for expansions cannot exceed 25% of the cost of fixed assets purchased. Two other important IDA programmes are the Small Industries Programme and the International Services Programme.

To be eligible for support under the New Industry Programme, projects must either:

(1) produce for sale on the world market;
(2) produce products of an advanced technological nature for supply to internationally trading or skilled sub-supply firms within Ireland; or
(3) manufacture products for sectors of the Irish market which are subject to international competition.

The IDA has substantial discretion under the New Industry Programme in relation to eligibility and rate considerations to concentrate assistance on viable, high value added, export-oriented projects. Factors such as the location of an investment, level of value added, ability of projects to provide jobs quickly, skill content, long-term growth potential, significance of the technology in providing stimulus to other sectors, and the extent to which the project embodies R&D and marketing functions, are cited by the IDA as affecting the rate at which support is awarded.

Recently, the IDA has emphasised the need to maximise the extent to which overseas companies locate key functions in Ireland (administration, marketing, purchasing, R&D) in order to promote the emergence of 'stand-alone operations' (i.e. operations with significant autonomy from the parent company).

Indeed policy statements have tended to emphasise the need to move away from capital grant support to other (so-called 'softer') measures such as support for technology and marketing. Table 10 illustrates a number of significant changes in expenditure on industrial development in Ireland during the 1980s. First, it

TABLE 10. The distribution of the Irish industry budget (%) 1985–1991

	1985	1986	1987	1988	1989	1990	1991
Capital	61.4	59.4	57.7	54.0	52.9	52.7	47.3
Marketing	11.0	11.7	12.7	14.4	11.4	12.7	14.3
Science & Technology	10.8	11.1	12.9	12.9	16.8	17.3	20.1
Training	10.6	10.5	8.3	7.2	6.5	5.7	7.3
Other	6.3	7.3	8.4	11.5	12.4	11.6	11.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Department of Industry and Commerce. Cited in O'Malley *et al.* (1992).

illustrates a significant decline in the share of the budget going to support capital investment (capital grants and factory construction). Second, it reveals a decline in the share of the budget going to training. Third, the relative share of the science and technology budget has almost doubled, and this has meant a significant increase in the absolute level of spending on science and technology in real terms. Fourth, there has been a significant increase in the share of the budget for marketing initiatives (although in practice the absolute level of spending increased only marginally). Finally, other non-fixed asset expenditures such as employment grants and equity have also had a substantially increasing budget share (O'Malley *et al.*, 1992, pp. 30–31).

As regards the institutional capacity to influence the direction and impact of mobile investment, the activities of two organisations matter most: the IDA (overseas promotions, pharmaceuticals and health-care and National Linkage Programme departments), and the Science and Technology Agency EOLAS (strategy department). Two aspects of the IDA's present activities should be stressed: first, the degree of fine-grained sectoral targeting that the agency employs; and second, the extent to which the organisation has increasingly adopted a 'hands-on' approach to company development. An early example of sectoral targeting was the identification of the pharmaceuticals sector in the late 1970s. This sector was targeted because its high value, low bulk character was considered ideal for production in the European periphery.

Recently targeted sectors have included aerospace engineering, international services, and computer services. The IDA stands out for the focused nature of its targeting. For instance, one sector targeted for promotion is the 'computer data-communications networking segment'. The IDA argues that a sectoral focus allows the organisation to develop a high level of knowledge and expertise of the particular requirements of firms in that sector. Also, it allows the development of strengths in supplier firms in the chosen sectors, which in time will become a location incentive in itself.

IDA policy has been complemented by measures taken by the state itself. Notably, the decisions taken by the Irish government during the 1980s to increase

the size of the tertiary education sector through the creation of new universities (e.g. Dublin City University and Limerick City University) and new Regional Technology Colleges, were seen as an important area of competitive advantage for Ireland. Specific decisions were taken to develop the skills base in what were considered to be important emerging areas of economic activity. Thus, decisions taken to nurture specialist skills in areas of anticipated high demand, such as information technology and teaching English as a foreign language, underpinned the targeting of the international services sector, although in reality high levels of emigration in the 1980s meant that much of this human capital was exported.

Attempts by the IDA in the early 1980s to target investment projects which incorporated R&D began to be successful, but concern has remained that these tended to remain 'high technology enclaves'. Although EOLAS, the Science and Technology Agency, expanded its role during the 1980s, some officials there felt there was little attempt by the IDA to link their inward investment promotion activities to the state's broader science and technology programme. However, there is a general perception at EOLAS and the IDA that coordination has greatly improved in the late 1980s and early 1990s, with the IDA's major R&D programmes being conducted in concert with the activities of EOLAS.

EOLAS is the outcome of the merger of two separate institutions — the National Board of Science and Technology, and the Irish Standards Institute. The creation of EOLAS reflected a new concern with enhancing the technological capacity of Irish industry. One key aspect of this concern has been to help Irish firms to meet international product and process standards (see below). Much of the work EOLAS does in providing advice on technological and, increasingly, environmental issues is revenue generating, contributing around 40% of the agency's resources. EOLAS has even begun to sell this expertise internationally, even to U.S. parent companies of Irish branch-plants. This brings in additional revenues, but is also seen as further helping to confirm Ireland's role as a location for advanced technology activities in the international market place.

8.3. TRENDS IN INWARD INVESTMENT

By 1988, foreign firms accounted for 44% of manufacturing employment, 55% of manufacturing output and 75% of manufactured exports. Employment in foreign-owned manufacturing grew almost continuously in the 1960s and 1970s and reached a peak of 88,400 in 1980. Thereafter, such employment fell to 78,700 in 1987. This was a lower rate of decline than in the indigenous sector, but still amounted to a cumulative decline of 11% over seven consecutive years.

The weaker employment record of foreign-owned industry in 1980–87 reflected a reduction in job gains arising from new foreign investment after 1981. This,

in turn, partly reflected the fact that new American investment stagnated in the early 1980s. Also, Ireland began to face growing competition from other low-cost locations in Europe.

In addition, it emerged from analyses that employment in longer established foreign plants in Ireland tended to decline following an initial period of growth. For example, employment in foreign-owned manufacturing firms established before 1969 fell by 12% between 1973 and 1980 while overall industrial employment in Ireland was increasing at the fastest rate in the EC. Thus, overall employment growth in foreign-owned industry was being sustained only by the continuing inflow of new first-time investors. As the stock of older foreign-owned plants inevitably increased, so the inflow of new investment had to increase in order to maintain growth in employment.

After 1987, manufacturing investment in Ireland grew significantly. For example, American manufacturing investment into Ireland rose annually from $195 million in 1987 to an estimated $439 million in 1990, with a forecasted $527 million in 1991, at current prices (U.S. Department of Commerce figures cited by O'Malley *et al.*, 1992). In addition, Ireland has received manufacturing investment from new sources such as Japan and other Far Eastern countries. Thus, employment in foreign-owned industry (excluding Shannon Development and Udaras na Gaeltacht areas) increased again across all sectors from 78,700 in 1987 to 87,972 in 1991–92. A number of major investments were announced in 1992.

The focus on attracting plants incorporating strategic functions reflects the growing concern within Ireland to both deepen and extend the contribution of overseas industry to the Irish economy and to obtain better value for money from industrial policy for the Irish tax-payer. The second *Review of Industrial Performance* (Department of Industry and Commerce, 1990) reported that average grants paid as a percentage of fixed asset investment declined after 1986, from more than 38% in that year to 30.1% in 1989. In the case of overseas industry the same figures were 33.7 and 29.9%. The Department of Industry and Commerce announced its intention to reduce the average cost per job grant for overseas industry by 75% of prevailing levels by 1994.

In recent years there has been a considerable reduction in the average grant cost per job *created and sustained* in the overseas industry sector in subsequent periods. Table 11 reveals that following an increase between 1980–86 and 1981–87, a firm

TABLE 11. The average grant cost per job created and sustained (£ Constant 1990 Prices)

	1980–86	1981–87	1982–88	1983–89	1984–90
Overseas industry	24,898	27,636	26,206	22,507	19,336
All industry	20,026	20,906	19,280	16,124	14,271

Source: Department of Industry and Commerce. Extracted from O'Malley *et al.* (1992).

downward trend was established. In fact this downward trend was also established for all categories of indigenous industry. The trend suggests that Ireland has obtained a significant improvement in value for money from grant assistance in the late 1980s/early 1990s.

It was noted earlier that employment in foreign-owned firms declined in the early 1980s. Nevertheless, the output of many foreign-owned firms continued to grow strongly during this period. However, independent analysis indicates that growth has occurred at a very high rate in a small number of sectors, each of which had relatively low levels of linkage with the local economy (O'Malley *et al.*, 1992). Successive surveys have shown 'Irish economy expenditures' are a lower proportion of the value of output in foreign-owned industry than in indigenous industry, and this is especially true of the targeted high growth sectors.

It is in response to this observation that systematic efforts have been made to develop more extensive linkages between indigenous and foreign-owned industry. The most comprehensive expression of this trend is the National Linkage Programme (NLP) established in 1985 and operated by the IDA. This seeks to enlist the support of overseas companies and to strengthen the responsiveness of indigenous firms to the market opportunities to which the presence of overseas firms can give rise.

The IDA estimates that in the first three years of the NLP programme I£130 million worth of new sales to overseas companies was generated, of which I£27 million was won by the firms included in the development programme and the rest by larger established firms. The 70 firms participating in the programme during this period saw their sales increase by 70% (Kennedy, 1991). In addition, of the companies participating in the first three years of the programme, the number with formal quality control systems increased from 15 to 85%. The IDA established a separate Electronics Linkages Programme during 1991.

The focus on improving research and development by coordinating the activities and programmes of EOLAS and the IDA appears to have borne fruit in the late 1980s. According to a survey by EOLAS, overseas companies in Ireland increased their expenditure by 57% in real terms between 1988 and 1990, with overseas companies spending I£74m on in-house research and development projects. Recent evidence suggests that many firms are increasing their collaborative R&D and other links with Irish universities, and moving more R&D to Ireland. For instance, in 1991, General Semiconductor Inc., now part of the French Schneider group, decided to transfer its entire R&D activities from Arizona to Macroom, Co. Cork. The decision was said to be influenced by the quality of research work carried out under the contract for General Semiconductor by the National Microelectronics Research Centre at Cork. The IDA has supported a new I£5 million centre for in-house R&D for Schering-Plough in the Wicklow mountains. Schering is also sponsoring research in genetic engineering projects at

Trinity College Dublin. Indeed, key Irish universities (such as University College Dublin, University College Galway, and Dublin and Limerick City Universities) have all developed acknowledged strengths in pharmaceuticals. At the end of the 1980s the Irish government established a National Biotechnology Programme which complemented the IDA's promotional activity in this sector.

Despite these positive trends, officials of both the IDA and EOLAS acknowledge that product and basic R&D are much more difficult to stimulate than process development. Indeed, the EOLAS survey referred to above revealed a bias toward process rather than product development facilities.

8.4. THE QUALITY OF MOBILE INVESTMENTS IN IRELAND

Four corporations were chosen as examples of the range of inward investment impacts in Ireland. Two were from pharmaceuticals, Yamanouchi and Rhône Poulenc (Natrapharm, Ireland), one from computer services, Lotus, and one from engineering, Allied Signal (Garrett, Ireland). Two investors came from the US (Lotus and Allied Signal), one from Japan (Yamanouchi) and one from France (Rhône Poulenc). The investments reflect also the spectrum of inward investment phases in Ireland (see Table 12).

Lotus and Yamanouchi are located in County Dublin (East region), whilst Rhône Poulenc and Allied Signal are situated further afield from this core area, in the south east region of Ireland near Waterford. Neither of the regions are in the Designated Areas (DAs) of Ireland, which gain up to 60% of grants to cover fixed asset investment, but in the Non-Designated Areas (NDAs) which still receive significant support of 45%.

8.4.1. The location decision and the role of regional incentives

The IDA's targeted approach to inward investment, and the general reputation of the organisation internationally, was a factor in the location decision of at least three of the companies studied. The IDA's highly pro-active approach to potential inward investors and its "one-stop shop" approach was mentioned positively by three of the investors. Furthermore, in terms of planning permission even complex planning applications have been speedily dealt with (under 6 months), and firms have generally located in their preferred locations. For pharmaceutical firms, in particular, the factor which marked out the IDA from its competitors was that it provided major locational advantages.

Other factors at a macro level were also considered important. These included the availability of a highly trained and skilled workforce, not only at a university

TABLE 12. Characteristics of case-study companies

Company	Date of arrival	Number of employees (1992)	Current plant size (000s sq ft)	Change of ownership	Products	R&D technical support
Rhône Poulenc (Natrapharm)	1967	60	42	Hadensa (1967–1981) Nattermaum (1981–1987) Rhône Poulenc (1987–)	Semi-solid pharmaceutical products (secondary production)	2–3 Quality control and technical staff
Allied Signal (Garrett)	1979	345	147 (82 + 65)	—	Foundry and production of automotive turbochargers	9 R&D process development workers
Lotus	1982	300	110	—	Production of packaged software	20 in Unix development group
Yamanouchi	1987	150	43 acres	—	Production of bulk pharmaceutical intermediaries (primary production)	5–10 in technical division

Source: Project Survey.

level but also in terms of more general tertiary training. English being the main language of Ireland was also seen as an important additional factor, particularly for US and Japanese investors. An important factor for Yamanouchi, for instance, was access to graduate skills in pharmaceuticals, while Lotus was a major employer of graduate IT skills. Allied Signal and Rhône Poulenc, on the other hand, were users of Waterford Technical College for the training of quality control staff. Indeed, a manager from Allied Signal had been appointed to the board of the college.

For each of the companies Ireland was seen increasingly as a provider of high quality labour, and in the case of Yamanouchi and Lotus in particular this had significantly affected the location decision. For instance, a competitor location for Lotus' software development facility had been Switzerland, and for the Yamanouchi plant the Netherlands had been a possible location.

Factors at a more micro level have been much less significant. Infrastructure is still generally poor, apart from the major exception of telecommunications where charges are low and where digital technologies (ISDN) make Ireland an attractive location for heavy telecommunication users. Road, rail and sea links are still poorly developed and generally slow, and although substantial improvements and investments have been made (often with support from the ERDF), Ireland is still very much on the periphery of Europe. The availability of plentiful supplies of water has been an important factor for chemical companies, as has been the availability of industrial sites and premises.

All companies had received the maximum grant aid, which in most cases was 45% on all capital investment (depending on the time of the investment and grant levels) or 25% in the case of expansions. In addition, there were gains on an *ad hoc* basis (such as grants for management training).

Company representatives tended to down-play the critical importance of capital grants in the location decision, stressing instead the significance of the 10% corporation tax. It seems possible, however, that this down-playing of the importance of the capital investment grants reflected the 'additional' nature of the tax arrangement which tended to mark out Ireland from most other EC countries. Indeed, one manager from Yamanouchi commented that the 10% tax level was the final 'cherry' in the decision to move to Ireland, with all the other aids and incentives providing an important foundation for this.

All the companies interviewed expressed concern that the 10% corporation tax level would be phased out by 2010 as recommended by Culliton (1992). This was seen as detrimental not only to further expansion in their activity in Ireland but more particularly was seen as a major loss in terms of attracting new investors into Ireland.

It was also apparent from the case-study establishments that investment incentives and aid packages were highly important in supporting ongoing

investments in the plant. Again, all managers noted that they applied 'for all that was available', and these incentives were seen as important in supporting the managers' discussion with headquarters for gaining further expansion. Hence some of the 'softer' packages such as the training grants, or free environmental or technical audits from EOLAS, could be important in confirming to the parent company that the government was interested in ongoing support of the company's operations in Ireland.

8.4.2. Local content and supply linkages

Each of the companies expressed their commitment to expanding their local (i.e. Irish) supplier base, and for two local purchasing was high (over 50% of expenditure on supply inputs). In some areas, companies felt that a critical mass had been created in the national supplies base, with, for example, Lotus quoting the build-up of a specialist printing and packaging industry over the last ten years which supplies the computer and software industry located in Ireland.

However, expansion of local supplies was starting from a very low base. One plant (Rhône Poulenc) received 80% of its basic chemical raw materials from a sister plant in Germany. Allied Signal estimated its annual local purchases to be about 7% of value added. Typically, key components and materials were purchased and sourced centrally by the parent company, and in these areas local plants had no autonomy in selecting suppliers. In addition, 'head' companies were concerned to improve the quality of their supplies and components. Those companies in the future not moving onto international quality (ISO) standards or in the longer term adapting more novel practices such as Electronic Data Interchange (EDI), may face difficulties. Indeed, Allied Signal had already developed the technical basis for EDI and was reviewing its supplier base in this light.

Each of the companies was following an established trend in seeking to cut their supplier base. More laggard local companies not meeting these challenges seem likely to be dropped by such plants, and the local supply base may actually start to fall.

Similarly, official data on Irish supplies to foreign multinational plants may be overstated, since most plant managers put down as an Irish source those materials that are supplied by Irish merchants or suppliers, but actually are purchased by them from abroad. A case in point is Allied Signal, which had doubled its 'local' purchases in 1991, but ascribed this to the purchase of new machinery that had largely been imported. Against this, though, managers seemed to be genuinely interested and committed into expanding their local supplies network, as long as the volume and quality standards can be met by local suppliers.

8.4.3. The upgrading of decision-making and corporate functions

One of the most prominent conclusions from the Irish case study on inward investments is that, above all, these should not be seen in a *static* context. All of the establishments had undergone considerable change and development, and these *dynamic* qualities were marked, even over quite short time horizons. All but one plant exhibited the clear features of a 'high quality investment', and even this plant (Rhône Poulenc) was in many respects well above average in a high technology industry experiencing continued growth and prosperity. Three of the plants employed significant numbers of scientific, technical and engineering personnel and staff with university or higher degrees.

Perhaps the most striking improvements in the quality of investment have occurred at Lotus and Allied Signal. Lotus began life in 1985 as a disk duplication plant employing 50 workers. It has since grown to a workforce of over 300. Of these 180 were engaged in the manufacture of disks, but some 100 were involved in software translation and localisation activities. A further 20 staff were involved in a specialist product design team conducting work for the Lotus corporation worldwide.

Allied Signal's plant in Waterford grew steadily throughout the 1980s. The plant began by producing turbo-chargers for the automotive industry in 1979. This activity was doubled in size when the plant was given responsibility for an extended range of products in 1986. In the following year a separate facility was established to provide forgings for the aerospace industry. When the equivalent US operation was later closed, the plant gained worldwide responsibility for the production of these forgings and a strategic role in the corporate network.

By 1992, Allied Signal employed 345 people in Waterford, including a small R&D process unit. A significant recent development was the establishment of a 30-person software development unit providing a corporate-wide service. Plant management reported how they had made a strong pitch with their corporate HQ for this work, illustrating how the work could be done cost-effectively in Ireland using over-night computer-time in the U.S.

Table 13 highlights the main improvements that have occurred in the plants that were visited. A number of general points emerge, as listed below.

(1) All the plants were successful in broadening their product range. Most began with producing a single product or product line which could be susceptible to a down-turn or change. A number of plants have gained continental (i.e. sole production rights for North America or Europe) or world product mandates (CPM and WPM) for their products. This not only makes the plants less uncertain of their future, but indicates strategic investment by their parent companies, and increased autonomy in the development of these products.

TABLE 13. Upgrading in initial investment

Company	Product changes	Plant expansion/ relocation	Expansion of research or technical activity
Rhône Poulenc (Natrapharm)	• 1984: expansion to produce all semi-solid products and suppositories for the company worldwide i.e. Worldwide Product Mandate (WPM) • 1986: started production with liquid filling	• 1985: move to new larger premises	• upgrade in quality control
Allied Signal (Garrett)	• 1979–82: single product • 1982: gained another major product • now has WPM or Continental Product Mandate (CPM) for these products • diversification from auto into aerospace products	• 1986: increased floorspace from 46,000 to 82,000 square feet • 1987: new additional plant, 1 mile from existing unit, 65,000 square feet	• new R&D process development unit • 30-person software development unit
Lotus	• 1985: production of software packages for EC market (CPM)		• 1986: 'Translation' unit moved from UK to Dublin • 1990: Unix development group (employing 20)
Yamanouchi	• started in 1986 with bulk production of famotidine • 1988: started production of calcium anagonist, nicaripine	• total area expansion from 25 to 43 acres • new warehouse • plans to become a secondary production facility	• new pilot plant facility • process development unit

Source: Project Survey.

(2) With the growth in products and product autonomy has come investment in research and technical facilities. All establishments have experienced some development, within most cases substantial investment mainly related to *process* development capabilities. In the longer term, product development activity may also be attracted, as has already occurred in one plant.
(3) With these 'upgrades' has come expansion in floorspace and employees. This, by definition, can be a 'lumpy' process given in some cases the cramped nature of initial sites requiring expansion. In the case of Allied Signal this has meant the establishment of a totally new plant, one mile away from the original unit.
(4) Although not shown in Table 13, all the plants have introduced training programmes and have been involved in 'quality programmes' covering manufacture (e.g. defects), supplies and the environment.

An impressive feature of the Irish plants was their commitment to quality production and supply. All the plants were adapting to ISO 9000 standards or their equivalent. It was significant that they were supported in this by EOLAS, the agency responsible for national standards. Indeed, all of the companies commented on the relative importance of the activities of EOLAS (compared to that of the IDA). Like the IDA, EOLAS was seen as a highly competent and useful organisation. The growing importance of the activities of EOLAS for the companies investigated mirrored the growing importance of technology-related initiatives in the Irish economy. The commitment by EOLAS to ensuring that all Irish companies reach ISO 9000 standards is clearly working in the case of the four case-study companies. At least one plant, by virtue of the support given to it by EOLAS, had become the first plant in its corporation to achieve ISO 9000 standards; according to local managers this had enhanced significantly the plant's reputation in the corporate network.

8.4.4. Synthesis

Each of the plants visited for this case study contains positive 'quality' attributes. Significantly, however, with the possible exception of Yamanouchi, the original inward investment tended to create branch-plants of lower quality. Each have made further investments and upgraded staffing and skill levels. The explanations for this process of achieving quality through evolutionary change are, of course, specific to each company. However, two key issues stand out.

First, a key element in the success and growth of the case-study plants was that local managers were Irish (compare with Portugal) and were committed to supporting their national economy and in securing the long-term future and growth of their individual plants. They felt they had to compete effectively with

other plants worldwide to gain additional products, investment and resources for their plants, and all strove hard to do this. In addition, they were committed to supporting and helping local suppliers. This observation confirms research conducted by Whickham (1989) in the 1980s. Of note also is the extent to which some managers had become important figures in their local business communities. The plant manager of Allied Signal was president of the Waterford Chamber of Commerce and a prominent figure in a range of business support activities.

The second key quality factor seemed to be the range of after-care support available to local managers, in terms of ongoing support from the IDA and, increasingly, EOLAS. The support was in the form of access to possible further finance and general advice and practical expertise (for instance, in relation to improved quality control or environmental auditing techniques). The provision of this after-care has had the dual effect of improving the competitiveness of the plant and also strengthening the hand of local managers in the battle for intra-corporate investment resources. The success of managers at Allied Signal in winning a strategically important production activity for the Irish plant is clear evidence of this.

8.5. CONCLUSION

The shift in institutional focus to the development of the indigenous sector (which has improved its performance dramatically since the late 1980s) and the increased emphasis on deepening the contribution of overseas industry to the Irish economy, has appeared to pay dividends in the last few years. It also appears that this period has been characterised by improved value for money in grant expenditures.

Financial support has remained central in the effort to attract new investment, although there is evidence that this has been disbursed more discriminately to attract better quality investments. The key incentive — and one that marks Ireland out from other locations — is the 10% rate of corporation tax. Increasingly, however, the IDA has operated a 'hands-on' industrial policy, which could be described as a 'micro-*dirigisme*', designed to upgrade the performance of industry in Ireland including that of overseas industry. A range of 'softer' incentives have been introduced with the aim of upgrading existing investments. The measures have formed an increased proportion of the industrial promotion budget. A particularly important aspect of this shift has been a greater emphasis on technology policy and an increased role for EOLAS.

Ireland has been able to offer more than simply financial benefits. A key location incentive has been a highly skilled and, in the European context, low-cost workforce, including a large stock of graduates. The decision to expand higher education, especially in areas where Ireland was targeting inward investment, can

be seen as crucial. Also important, has been the development of some important supplier industries in certain sectors, although the significance of these should not be over-stated. Increasingly, therefore, Ireland marks itself out as a low-cost location which can provide 'high quality inputs'. Ireland itself has upgraded during the 1980s.

The case studies provide some confirmation of these trends. Improvement in the 'quality' of the investments has occurred over time. The most evident upgrading has been the achievement of ISO 9000 accreditation by all the firms investigated. This development has been closely related to the policies of the development agencies, the existence of 'soft' support and, specifically, the increased role of EOLAS. The role which ISO 9000 accreditation played in enhancing the status of the plant in the perception of corporate HQ appeared, in at least one case, to have been a factor in winning further investment.

Only in the case of Lotus, however, had the investments led to the development of significant local linkages. Lotus' purchases of print and package materials (in the form of computer manuals) has provided significant business for Irish industry. Although only one example, it serves to illustrate that the pro-active development of local linkages by the IDA has a dual benefit. As well as providing business for the important Irish paper and printing industry and significant job multipliers, it appears also to have generated a new location factor. ISO 9000 standard suppliers of computer manuals may prove to be a powerful draw to further investment.

The IDA's strategy has been that of a sectorally-targeted and customised approach to industrial promotion. This approach was adopted originally because it allowed the development of a critical mass of knowledge about particular sectors. Lately, more emphasis has been given to building on established Irish strengths and the promotion of industrial clusters. Clearly this necessitates a sectoral approach and there is evidence that this approach is paying off.

There appear to be two key further explanations for quality related developments in Ireland. First, there has been the after-care provided by the IDA and, lately, EOLAS. The second key factor appears to be the presence of Irish management. Commitment to the success of the plant on the part of these managers is strong and related to a sense in which they are contributing to wider goals of regional (or national) development. The achievement of increased managerial autonomy has been seen almost as an end in itself, and the regional development benefits of this attitude of mind on the part of Irish managers are probably significant.

The general lesson from the Irish study is that for small open economies, especially those on the European periphery, the overall package of financial and fiscal incentives remain crucial to the effort to win mobile investment. However, for the IDA the opening of the plant is often just the beginning of a process of increasing the contribution of a given plant to the economic welfare of Ireland.

The increasing importance of second-phase 'softer' forms of financial and other support appears to have played a key role in ensuring that the quality of investments improves over time.

CHAPTER 9

Brandenburg

9.1. INTRODUCTION

Brandenburg is one of five new Bundesländer created in 1990 from the former German Democratic Republic (GDR). The region encircles the city of Berlin and has a long border with Poland. The main urban centres include Potsdam, Frankfurt/Oder, Eisenhüttenstadt and Cottbus. Brandenburg was selected for study because it was known to have particularly severe problems of structural adjustment, while, at the same time, it has been the focus of significant inward investment since German unification.

Firms have received substantial financial incentives to invest in Germany. The major part of this investment has flowed into Brandenburg, usually in the form of takeovers of former East German enterprises. What is not clear, however, is the use that has been made of the incentives, notably in terms of post-takeover restructuring, which has been so extensive that the investment can effectively be considered as new. This regional case study draws upon evidence from three corporate case studies and interviews with the agencies responsible for the economic regeneration of Brandenburg.

The legacy of forty years of centrally planned economic development in the former GDR has created a possibly unique regional development challenge in the European Community. GDR industrial policy led to the radical transformation of the pre-existing craft production system in ways intended to achieve very large economies of scale, but which tended to militate against economic cohesion at the regional level. In 1989 the industrial sector of the GDR consisted of 126 centrally coordinated *Kombinate* (vertically and horizontally integrated giant industrial complexes), each with 20–40 plants and an average employment of more than 20,000 employees spread over a wide geographical area. The level of integration of the *Kombinate* into the local economy was marginal, with inter-regional linkages superceding local ones (Grabher, 1992).

9.2. REGIONAL INCENTIVES AND THE STRUCTURE OF ECONOMIC DEVELOPMENT INSTITUTIONS IN BRANDENBURG

A number of instruments have been developed by the Federal government in order to re-establish a market economy in the new Bundesländer, building in the main on efforts to attract external investment into these regions. At unification the investment Allowance Scheme (*Investitionszulage*) available for projects in the west German less favoured areas, and supported with DM5 billion of federal funds, was extended to cover eastern Germany, although it is being phased out in west Germany. In the first instance the Scheme ran from 1st July 1990 to 30th June 1992, providing aid for investment in mobile assets, with a grant ceiling of 12% of total eligible costs during 1990–91, and 8% in 1991–92.

The second and main form of regional assistance available in east Germany is a grant worth up to 23% of eligible investment costs for new start-ups, 20% for extension projects and 15% for rationalisation, reorganisation and conversion projects. The EC sanctioned the provision of this scheme for a period up to the end of 1993. Under EC regulations, this regional aid may be combined with other forms of assistance, up to a ceiling of 33% of total investment cost. These award maxima give east Germany a significant regional aid preference over assisted areas in other parts of the Federal Republic, where regional aid ceilings are being reduced (due to the abolition of the Zonal Border Area incentives and rulings by the EC regarding the re-designation of problem regions).

Other forms of assistance to east Germany that provide indirect support for inward investors include: the ERP loan programmes (funded with DM6 billion) to support new firm start-up, environmental improvement, modernisation investment and tourism development; the provision of equity support (DM500 million) to improve the capital resources of new and small firms; training programmes (DM80 million); a five-year infrastructure programme (DM1 billion per annum) from 1991 to promote local economic infrastructure investment; aid for the restructuring of former *Kombinate*; temporary tax relief on east German contract orders made by German firms; and limited management consultancy support. These measures were to cover the whole of the former GDR, although special additional measures were undertaken for those areas of the former GDR which bordered the former West Germany. Recently, the Federal government has announced a series of measures to protect the industrial base of the former GDR. In particular, the Federal government recently extended its policy of guaranteeing purchases from east German companies and has agreed to pay premium prices for goods and services.

As regards the institutions of economic regeneration in eastern Germany, the new Bundesländer have been incorporated into the structure of regional policy of the Federal Republic through joint decision-making and funding mechanisms

(*Gemeinschaftsaufgabe Verbesserung der regionalen Wirtschaftsstruktur* — GA — joint operation for the improvement of the regional economic structure) operated by the Länder and the Federal government.

One of the major tasks facing the authorities was to create an entirely new institutional basis for managing and underpinning the economic redevelopment of the new Land. Land governments were created in 1990 along the western model. In the case of Brandenburg, the government of Nordrhein Westphalen (NRW) seconded 1000 civil servants temporarily to the Land to help set up a workable administration. The structure of the government of Land Brandenburg therefore bears a close similarity to that of NRW.

The main responsibility for the development of the Brandenburg economy falls to the *Ministerium für Wirtschaft, Technologie und Mittelstand*. Given the desire to secure large amounts of investment in the region in a short time-period, the ministry has helped to establish two important organisations. The first of these, designed to accelerate the economic planning process, is the regional development group (*Ansiedlungsgruppe*). This is an *interministerial* council that aims to respond quickly to the needs of potential investors and cuts a path through red tape. Complementing the above at the sub-Land level are the *Aufbaustabsgruppe*. These groups include representatives of the relevant Land ministries, the newly established Chambers of Commerce, the main privatisation agency (*Treuhandanstalt*), the Landkreise (local authorities) and key inward investors. At the time of unification there were 44 Landkreise in Brandenburg. Given the smallness and rudimentary skills of such Landkreise, the *Aufbaustabsgruppe* play an important role. Indeed, they may also prefigure a reorganisation of local government in Brandenburg which will reduce the number of Landkreise to 13.

Land Brandenburg has also established an arms-length economic development agency (*Wirtschaftförderung Brandenburg GmbH*), whose task is to coordinate the economic development policies of the Landkreise, and a technology transfer agency the *Technologie und innovations Agentur Brandenburg* (TINA), whose remit is to improve the technological standards of small and medium sized enterprises.

Within the west German industrial system the Chamber of Industry and Commerce (*Industrie und Handelskammer* — IHK) plays an important role in the economy. Three Chambers, resembling closely their western counterparts, have been established in Brandenburg at Potsdam, Cottbus and Frankfurt/Oder. In addition to providing the normal range of business services and acting as a voice of industry, the IHK has also been assigned responsibility for the operation of the apprentice training programme of the former GDR. For example, the Potsdam IHK has trained 15,000 persons. In Potsdam, the key role of the IHK, however, is in supporting and nurturing the emergence of a *Mittelstand* (network of small and medium sized firms) through initiatives such as business incubators

(for example, the Teltow Technology Centre based on the electronics skills and know-how that is concentrated in the area). One aim of the IHK is to bring smaller companies into contact with inward investors; it is developing a computerised database with details of local firms for this purpose. The IHK also hosts seminars and social events designed to bring potential collaborators together. Although the speed with which these initiatives are being established is impressive, it is too soon to give an evaluation of their effectiveness.

As the effective owner of a large part of the industrial patrimony of the old GDR, the activities and policies of the *Treuhandanstalt*, the privatisation agency, play a significant role in the economy. The Treuhand is charged with privatising the whole of the industry of the former GDR by 1994. The market philosophy underpinning its policies has been outlined by Theo Waigel, the federal economics minister:

> Experience teaches that privatisation is the best form of restructuring. The private investor takes over all the risks and opportunities when he buys a company. He will try, through investment, modernisation and realisation of market opportunities to increase the earning power of the business and with it the job security for his employees (Parkes, 1992, p. 3).

The Treuhand has pursued this agenda with gusto. By September 1992 the Treuhand had privatised 64.7% of its 11,759 firms. These privatisations led to investment commitments on the part of the new owners of DM108.5 billion. In turn, it is believed that this investment will secure 1,169,983 jobs, roughly one quarter of the eastern German workforce (Grabher, in press).

The Treuhand negotiates the prices for privatised companies with potential purchasers of companies on an individual basis. To date the only requirement of a company purchasing a former Treuhand holding is to give job guarantee projections. Clearly, therefore, the prices charged by the Treuhand could themselves be regarded as a major investment incentive (or disincentive) to a firm's location decision.

For the Federal authorities, in particular, the key to the regeneration of Brandenburg is seen as the policy of privatisation operated by the Treuhand. These policies are complemented by the flexible cross-ministry and locally based working groups that seek to hasten the privatisation process. Although a number of important institutions that might influence the direction of the economy's development in the long term (notably the IHKs and the technology transfer centres) have been established with impressive speed, in the short term they will have a marginal impact.

9.3. INWARD INVESTMENT TRENDS

There is no single, definitive dataset that provides detailed analysis of the flows of mobile investment into Brandenburg. There are, however, a number of sources

that give a broadbrush picture of recent developments. It should be noted that most references to new investments refer to takeovers of existing plants by western investors.

The first annual report of the Economics Ministry reported that up until March 1992, DM22 billion had been invested in projects which created a minimum of 50 new jobs each. This figure is the highest sum (as a proportion of population) of all the new Bundesländer. Although some of the projects are still in the preparation stage, it is estimated that the investment will create 64,000 new jobs and secure a further 93,000 jobs. Of the total sum invested some DM11.4 billion has been in the form of public support, with an estimated 52,000 jobs dependant on this money (*Ministerium für Wirtschaft, Mittelstand und Technologie*, 1992, p. 68).

By July 1992 there had been 1234 privatisations in Brandenburg, with some 75.4% of all the firms handled by the Treuhand privatised. The total investment commitment in Brandenburg amounted to DM24.9 billion and is estimated to have secured 251,463 jobs, representing some 33.4% of the total workforce. The proportion of the total investments in Brandenburg that were from foreign companies is 17.2% which is significantly higher than average for eastern Germany as a whole (10.7%).

There is no detailed break-down of this investment flow by industrial sector. However, one dataset (based on an analysis of applications for economic development funds and interviews with investors) suggests that 28.1% of the total investment in the period to February 1992 was in the metal sector, amounting to an investment of DM6030 billion. Although the average size of investment is estimated to be about DM36 billion, there are at least 25 investments which are planned to be in excess of DM100 billion (Table 14).

TABLE 14. Major investments announced in the 'Land' Brandenburg (June 1992)

Investor	Investment location	Sector	Investment DM m	Job creation (prospected)
(1) Mercedes Benz AG Stuttgart	Ludwigsfelde (Krs. Zossen)	Car industry	1260	3500
(2) VERA Öl AG, DEA Mineralöl AG, u.a.	Schwedt/Oder	Chemical industry	1250	2600
(3) Horsham Gruppe (Kanada) Steel	Genshagen (Krs. Zossen)	Services	1200	13,000
(4) Krupp Stahl AG	Eisenhüttenstadt	Iron and steel industry	1100	3600
(5) CGE (Companie Generale des Eaux)	Potsdam (DEFA Gel)	Media/services	1000	780
(6) Caroll Gruppe London	Gewerbepark Beelitz (Krs. Potsdam, La)	Media/services	1000	2500

TABLE 14.—Cont.

Investor	Investment location	Sector	Investment DM m	Job creation (prospected)
(7) Heidelberger Druckmaschinen AG	Brandenburg	Mechanical engineering	854	2000
(8) Stadt Brandenburg	Brandenburg (Gut Brandenb.)	Agriculture	800	2000
(9) Haindl Papierwerke Augsburg	Schwedt/Oder	Paper/printing	750	330
(10) Readymix AG	Rüdersdorf (Krs. Fürstenw)	Manufacturing aggregates	704	1600
(11) BASF AG Ludwigshafen	Schwarzheide (Krs. Senftenbg)	Chemical industry	688	2835
(12) Bayernwerk AG	Peitz (Krs. Cottbus L. Region)	Energy supply	600	26,000
(13) Diamant Zuckerfabriken GmbH Co&KG, Köln	Nauen (Krs. Nauen)	Food and drink	480	300
(14) Scharmützelsee Golfhot u Yachthafen Verw.mbH	Bad Saarow-Pieskow (Krs. Fürstenwalde)	Hotel Services	470	150
(15) Gaz de France WFG, VEW	Potsdam	Energy economics (industry)	421	600
(16) Konsortium f. Bau u Entw. Gr. Kienitz (Dänemark)	Groß Kienitz (Krs. Zossen)	Services	400	850
(17) BMW/Rolls Royce	Dahlewitz (Krs. Zossen)	Aircraft engines	400	1000
(18) Flughafen Schönefeld GmbH	Schönefeld (Krs. Königs Wusterhausen)	Traffic	300	500
(19) AEG	Henningsdorf (Krs. Oranienbg)	Locomotives	300	3100
(20) Dieter Hergott Wolfgang Zug	Gut Satzkorn (Krs. Postdam L)	Agriculture	250	1500
(21) Kronotex AG Luzern (Schweiz)	Heiligengrabe (Krs. Wittstock)	Manufacturing of timber and wood	235	260
(22) Herlitz AG Berlin	Falkensee (Krs. Nauen)	Paper/printing	230	500
(23) Maximum Laese GmbH	Dahlewitz Hoppegarten (Krs. Strausberg)	Services	219	380
(24) Frankf Innov und Transferzentrum im Technologiepark	Frankfurt/Oder	Services	217	2400
(25) Grundkredit Bank e.g. Berlin Volksbank	Gewerbegebiet Wittst Kreuz (Krs. Wittstock)	Trade	195	1200

Krupp Stahl AG have since postponed their acquisition of the Eisenhüttenstadt Steelworks, while Mercedes Benz has decided to abandon the Ludwigsfelde project.

Source: Ministerium für Wirtschaft, Mittelstand und Technologie (1992).

In addition to the above figures, between the beginning of January 1991 and April 1992 there were 38,140 net business registrations within the category of firms employing less than 50 workers (*Ministerium für Wirtschaft, Mittelstand und*

Technologie, 1992, p. 68). It is likely that the majority of these firms will each employ only a small number of workers and tend to be providers of retail and personal services for local markets rather than manufactured goods.

Treuhand figures cited by Grabher (in press) show that Brandenburg has received by far the greatest share of inward investment of all the new Länder relative to the size of its population (excluding Berlin where most investment has been in property development). Most of the inward investment into Brandenburg has flowed into the region around Berlin, reflecting the growing political and market importance of the city in the post-unification period. Some 75% of enterprises in Brandenburg have been privatised, the highest proportion of any of the new Bundesländer.

Two important consequences have followed from the resurgence of Berlin as a major metropolitan centre. Firstly, it appears that the large part of inward investment into Brandenburg has concentrated near the orbital road system which encircles Berlin. (At least part of this growth is attributed to firms from Berlin itself relocating or expanding their activities outside the city in areas eligible for investment support). By contrast, relatively little investment has gone to the more remote parts of Brandenburg (although as argued below there are important exceptions).

Secondly, according to officials of the Economics Ministry, most new enterprises moving into Brandenburg have received the full rate of investment incentive. This has meant that in 1991 the Land government managed to spend its entire GA budget until 1994. By contrast, the other four new Länder have yet to spend an entire annual budget. Land Brandenburg, at the time of the research, is in negotiations with federal government to obtain further funds.

One consequence of this situation is that the local government has been forced to adopt a more discriminate provision of regional incentives. Plans are afoot to reduce incentive levels for locations proximate to Berlin, particularly around Potsdam, in order to induce more investors into the remote parts of the region. In addition, while hitherto the main criteria for the award had been job creation, it is intended that future subsidies will include new eligibility criteria such as stimulus to local supply industries and technology transfer.

While Brandenburg has received a high level of inward investment compared to other Länder, the role played by the new institutions in attracting this investment appears to have been marginal. Many of the inward investors have received the maximum available incentives regardless of whether the incentives were crucial to securing the investment in Brandenburg. Only lately have concerns about the 'quality' of investment begun to enter into discussions on industrial policy within the Land government.

9.3.1. The anatomy of recent inward investments

The speed of transformation of the economy of Brandenburg means that few analyses of the impact of new investments have been conducted. Perhaps the most comprehensive analyses of the regional development implications of contemporary restructuring are those of Grabher (1992, in press). Grabher identifies two principal motives for western investment in eastern Germany and categorises three types of investments.

The first motive identified is cost-orientation, which refers to benefits accrued from wage differentials (tariffs were about 60% lower in the new Bundesländer at the time of German economic and monetary union) and to the generous levels of public support in terms of subsidies described above. A second motive for western firms to invest in eastern Germany was to gain access to east European markets. However, as is widely known, these markets have all but collapsed in the last two years, thus posing severe short-term problems for investors attracted by this motive.

The first type of investment identified by Grabher are new greenfield investments, usually in the motor vehicle sector (VW, Opel, Mercedes Benz). So far, however, new greenfield investments have remained comparatively rare. Far more common have been acquisitions of existing firms by western investors. Typically, these acquisitions were motivated by a desire for market access. In the case of EC firms — mainly German, but also U.K. and French firms — access to eastern European markets was important, while in the case of non-EC firms (proportionally much less important than the former group) access to EC markets was the main motive. The collapse of eastern markets after 1991, according to Grabher has often presaged the run-down of plants in Brandenburg. The regional development implications of this phenomenon seem clear:

> Since they are vertically integrated into the production chain of the western corporation, they create no regional supply opportunities and thus reduce the potential for establishing firms in the region (Grabher, in press, p. 17).

Moreover, the run-down of such plants often leads to the closure of R&D departments, leading to the further erosion of the technological base, which began with the mass migration of highly qualified workers in the period up to mid 1991 (Farrands, 1991).

The final type of investment identified by Grabher are 'locally integrated production complexes' in the construction and food, drink and tobacco industries. Both of these sectors have been successful in attracting western investment, whose location decisions seem to be influenced by high transport costs and delivery time considerations. In the construction sector, according to Grabher:

> Since these plants have to serve local markets they enjoy a relatively high degree of local autonomy. At least they are equipped with basic managerial functions, sales and purchase departments. However, for technological reasons, the share of highly qualified

> managerial and technical staff is probably rather low. It is also for technological reasons that not only the regional forward but also the regional backward linkages are relatively strong: the weight/price ratio of the basic input materials of the construction industry does not allow for long transport distances (Grabher, in press, p. 11).

Much of the above interpretation of inward investment is confirmed by our own investigations into the quality of these investments in Brandenburg, as illustrated in the next section.

9.4. THE QUALITY OF FLAGSHIP MOBILE INVESTMENTS IN BRANDENBURG

Three case studies of recent inward investment by major multinationals were undertaken. Reflecting the reality of the recent pattern of investment into the region, all three were acquisitions of plants by European investors. However, in practice all three investors were engaging in major restructuring that amounted to a virtual rebuilding of the plants in question.

The investments are ABB Automatisierungsanlangen at Cottbus (a manufacturer of electrical equipment), BASF-Schwarzheide at Senftenberg (both in the southernmost part of the region), and Rüdersdorfer Zement GmbH (Readymix) at Rüdersdorf close to Berlin. The Rüdersdorfer Zement investment can be seen as representative of a number of investments in the construction sector that have occurred near to Berlin. The former two investments, on the other hand, are some two hours travelling time from Berlin; consequently, they are unaffected by 'the Berlin effect' described earlier.

All three were plants of strategic importance in the former GDR. The former Automatisierungsanlangen Control Cottbus (ACC) had four main competencies: it was the world's largest producer of heavy duty electrical drives for draglines used in the opencast coalmining industry, it manufactured process automation equipment, and electrical installation equipment, and was the GDR's foremost manufacturer of power station and sub-station switchgear. The former VEB Synthesewerk Schwarzheide was an important manufacturer of polyurethanes. VEB Rüdersdorfer was one of five cement works in the former GDR, and held up to 25% of the market. The company also owned the Rüdersdorf lime works, a concrete components plant, a grinding plant at Eisenhüttenstadt, and a network of concrete distribution stations throughout what is now the Brandenburg and Mecklenberg-Vorpommern.

9.4.1. The locational decision and the role of regional incentives and new institutions

ABB (Asea Brown Boveri) established procedures for the acquisition of the Cottbus plant in March 1990 and was one of the first to be completed following

the opening up of the eastern economy. The plant was of interest to all the major electrical engineering companies in Germany because of its strategically important presence in the eastern European power station equipment market. An additional location factor was the presence of skilled workers whose wage rates were 50–60% lower than those in the equivalent ABB plant in Mannheim. The speed of the purchase, however, is explained partly at least by the fact that the firm's existing management approached ABB in an attempt to interest them in acquiring the plant.

BASF acquired the Schwarzheide plant in November 1990. The company wished to extend its existing product lines as well as to access eastern markets. BASF saw Schwarzheide as an opportunity to establish a fourth major chemical complex in Europe, utilising the skills of existing chemical workers. Particularly attractive to BASF was the fact that the purchase of the plant included 500 acres of land — at a very low (unspecified) price — that would facilitate the development of this alternative chemicals complex.

The Rüdersdorfer cement works is perhaps the most important in the GDR due to the fact that it is sited at the only major location on the North German plain where limestone strata can be worked on the surface. Moreover its proximity to Berlin, with its likely future demand for construction materials, adds to its strategic importance.

In all three cases the firms in question received the maximum available incentives. In the case of ABB, the company agreed a DM30m investment programme with the Treuhand as part of the purchase deal with the Treuhand which the firm had already exceeded. In addition the firm received incentives that amounted to 25% of total gross investment. Further subsidies were granted for the firm's training activities (see below). Despite the large scale of these incentives, local representatives of the firm attributed only a marginal significance to the incentives in determining the purchase decision. This suggests that the strategic importance of the plant made its purchase by one of the major electrical companies highly likely. Indeed, according to our research, ABB's decision to purchase the plant pre-dated the finalisation of the incentive package, and while they were an additional benefit they did not stimulate the purchase decision.

The representatives of Rüdersdorfer Zement also stressed the extent to which the availability of financial incentives were not the central factor in determining the purchase of the plant, although the company had received the full level of grant available on its investment. RMC, as a major player in the west German construction industry, felt that the acquisition of a plant of strategic importance was necessary if it was to play a significant role in the reconstruction of Berlin. The limestone and cement works has historically supplied construction materials to Berlin — most prominently it supplied the cement for the construction of the Berlin Wall.

By contrast, management at BASF stressed that financial incentives were central to the decision to invest in Schwarzheide. BASF had been committed to extending their existing production capacity prior to the purchase of the Schwarzheide plant. However, no decision had been taken as to the location of any new investment. The level of direct and indirect financial support available in Brandenburg, therefore, was the principal factor in the company's decision to purchase the Scwarzheide plant. A high level of financial support was seen as offsetting the locational disadvantages of Schwarzheide (in terms of low productivity, out-moded technology and poor infrastructure).

Thus, in only one case did the provision of incentives directly affect the investment decision itself, even if the existence of public financial support proved useful to the companies following acquisition of the companies concerned.

Much effort has gone into the establishment of institutions of economic development along the western German model. To most outside observers such institutions have been a central factor in explaining the phenomenon of west German economic success. Thus, it is worth examining the role of these institutions in relation to the investments discussed.

A remarkable consensus emerged from the three investors. Following the purchase of the company from the Treuhand, for each investor the key agency with which it had dealt had been the Economics Ministry of Brandenburg. On the one hand the inexperience of the Ministry is an institutional weakness; however, both officials and investors saw a positive aspect to this newness insofar as it led to flexible and unbureaucratic procedures, a process exemplified in the establishment of the *Ansiedlungsgruppe*. Moreover, the economic development staff seconded from NRW have experience in dealing with structural economic crisis and industrial reconversion (notably in the *Ruhrgebiet*) and each investor felt that the Ministry officials had an insight into the type of problems that the companies faced. By contrast, there was a generally less favourable attitude to the Finance and Environmental Ministries, which were seen as slow in producing decisions and lacking confidence in the advice they gave. Meanwhile, the local authorities were seen as generally insignificant players in the economic development process.

The institutions of economic regeneration established in Brandenburg appear to have played a minimal role in bringing inward investment into the region. The privatisation policies of the Treuhand had been of far greater significance, although these often amount to little more than advertising companies for sale in western European newspapers. The organisations established within Brandenburg itself, however, have played an important role in responding to the requirements of large western investors, especially in speeding up procedures. Such bodies, at the time of the research, had paid relatively little attention to questions of 'quality' in the pursuit of inward investment, or to questions of 'embedding' investment in the region. However, the overspend in budget by the Economics Ministry appears to be stimulating a more discriminating attitude toward inward investment.

9.4.2. Local content and supplier linkages

Since the acquisition of the Cottbus plant by ABB there has been a major reduction in the ratio of in-house production. Previously, most of the production cycle in each of the four areas of competence was contained within the plant. However, activities are now mainly restricted to the assembly of imported components. Moreover, there has been a massive reduction in locally bought components. Some 80% of purchases are of components produced in the west, largely by ABB itself. This includes all the high value electronic components in the plant's main products; the company's internal transfer pricing system makes this cost-effective. The remaining 20% of purchases are made in eastern Germany, but the bulk of these have related to the refurbishment and reconstruction of the plant. The only component purchases tend to be cable or simple metalwork products that come from the plant's traditional suppliers within the old *Kombinate*. These purchases are often made because of disruptions in deliveries from the west and, therefore, can be expected to decline further as the transport infrastructure improves. A number of low level services, linking certain plant maintenance functions and site security, are purchased locally, often from firms that have been hived off from the Cottbus plant.

At BASF Schwarzheide the key input to the production process is raw materials rather than manufactured components. Although these had previously been sourced locally, now the majority of these are sourced from other parts of the BASF group. The Schwarzheide plant has become vertically integrated into the corporate structure of BASF. Only basic services and some machinery are sourced locally.

Similarly, at Rüdersdorf the main production input is raw materials (limestone) into the concrete works. At Rüdersdorf this process is internally integrated. However, the company is making substantial purchases in relation to the refurbishment of the plant. The company estimates that some 50% of these purchases are from companies in western Germany, a further 30% in other western European countries, and only 20% of purchases are from eastern Germany. Moreover, the eastern German purchases are restricted to items such as low level services and office equipment. Nevertheless, the company has introduced a supplier appraisal programme and an IBM-style point system in an effort to raise quality standards among local suppliers.

In the case of each investment the restructuring programme has been associated with the disposal of businesses not considered to be core activities. In the case of BASF, 45 small firms, employing 500 ex-BASF employees, have been hived-off. In most cases these new firms have been acquired by existing western BASF suppliers. A broadly similar process has occurred at ABB and RMC.

It is clear that of the companies analysed, only Rüdersdorfer Zement has extensive forward and backward linkages within Brandenburg (and to a lesser

extent Mecklenburg-Vorpommern and Sachsen-Anhalt). This reflects the nature of the raw material used in the production process (limestone) and the bulky nature of the product itself. These factors favoured the emergence of a locally embedded production system. In contrast, whilst the ABB and BASF plants in the past had significant linkages with other firms in eastern Germany, these linkages were now being eroded and look set to progressively disappear.

9.4.3. Post-acquisition corporate restructuring

The pattern of post-acquisition restructuring at all three plants was extensive, although motivated by somewhat different concerns in each case. All three plants were characterised by out-moded technology, chronic over-staffing and inefficient working practices. However, specific market and corporate factors combined to determine the pattern of restructuring at each plant.

At ABB the particular pattern of restructuring was determined by the collapse of the firm's eastern European markets. At the time of the purchase the non-GDR market accounted for 20% of the plant's sales and generated sales worth DM60–80m per annum, and it was the long-term possibilities of this market that interested ABB. By June 1992 this market was worth only DM2–3m.

The collapse of the existing markets together with chronic over-staffing prompted the large-scale restructuring of the Cottbus plant by the new ABB parent. At the time of the purchase the plant had 3000 employees; this figure had been reduced to 1400 by July 1992 and was planned to fall further to 1150. To date most of the job losses have been concentrated in production and ancillary areas, while engineering, sales and marketing, and administration have grown in relative importance. In July 1992 the production workforce stood at 450. Until late 1991 the plant retained an R&D department, but this has now closed.

The engineering department (and other strategic functions such as sales) have survived the rationalisation process and the plant is still able to offer the full range of engineering services to its customers. However, the lack of new orders for the plant's traditional products casts a shadow of doubt over the future of this department. In addition, restructuring of the plant management structure by ABB in Mannheim appeared to be eroding the plant's traditional autonomy. The Cottbus operation is to be reorganised into four separate product divisions subject to direct managerial control by western managers in ABB subsidiaries.

At Schwarzheide, BASF is engaged in the virtual reconstruction of the existing chemical works: 40% of the existing buildings have been demolished and large-scale repairs undertaken on remaining buildings. In addition, a DM1.3 billion programme of new investment in plant and premises is underway, especially in relation to improving environmental emissions. The company is also extending

the product range at Schwarzheide. Currently, the plant follows the East German stereotype of concentration on one product — polyurethane. However, a diversification into fertilisers, fungicides and plastic coatings is planned. It expects to raise the share of the other products to 50% of turnover.

The restructuring process has led to a reduction of the workforce from 4822 before privatisation to 2150 at the end of 1992. Of these workers some 120 will be the technical services departments and 150 in management, with the rest in production. The plant has no marketing and sales responsibilities and there are no plans to develop these functions.

Restructuring at Rüdersdorfer Zement includes the virtual rebuilding of the cement works and the re-equipping of the quarry with modern technology, the restructuring of management activities, and a steady reduction in the numbers employed at the site. The RMC supervisory board has sanctioned an investment programme of DM500 million in the Rüdersdorf plant (including its Eisenhüttenstadt grinding works). Some DM70 million was spent in 1992 and a further DM80 million expenditure was budgeted for 1992. Other divisions of the company are making further investments in concrete mixing stations, and RMC estimates its total investment in the five new Bundesländer will amount to DM1.3 billion by 1994 (Readymix, 1991).

The restructuring of operations at the plant has led to the creation of functionally organised departments for the first time. In contrast to ABB, this included the creation of a technical department and marketing and sales functions. Previously, under the old *Kombinate* system, these strategic functions had been centralised in Dessau, which was the headquarters of the old central cement corporation which included all four cement works in the former GDR. Rüdersdorfer Zement, therefore, in order to overcome this legacy of the centrally planned economy, has acquired some strategic functions for the first time. In general, local management appeared to have a larger degree of autonomy in the running of the plant than did the management of ABB Cottbus, which had strict lines of reporting to western sister companies.

The investment and reorganisation programme at Rüdersdorf has been accompanied by substantial job losses. In 1991 alone the workforce was reduced from 2300 to 1000, and is planned to fall to 500 (the figure agreed with the Treuhand) by 1994. Included in the redundancies so far have been several hundred Vietnamese and Polish workers. According to the company the first thousand job losses stem from the closure of a large spare parts department; this action was concerned with overcoming chronic shortages of materials, the disposal of functions (such as maintenance), and the rationalisation of working practices. Further job losses will occur as the new, more automated plant comes on-line.

9.4.4. Quality of labour, skills and training

The arrival of large western investors might be expected to lead to the introduction of new work methods into the regional economy. Although in each case the investors have dramatically reduced the size of the workforce, re-training of remaining workers has also been a feature of the restructuring. RMC spent DM2.5 million on training in 1992 and provided 2500 training days. Off-site training of management grades was important, but the company also has 150 apprentices on its staff. At Cottbus, ABB has invested DM1.2 million in a new training centre. Run as a separate company, the training centre receives a state subsidy because part of its function is to train unemployed workers and workers from other companies in the area. In mid 1992 there were 108 trainees from ABB and 24 from other firms in the area, plus a number of unemployed workers. The former two groups were being trained in electro-mechanical engineering skills, while the latter were being trained in welding skills.

The pattern of post-acquisition restructuring has been complex and varied, and in all cases has resulted in substantial job loss. In the case of ABB the run-down in employment would appear to be associated with the steady loss of operational autonomy and the absorption of the plant into a wider corporate hierarchy centred at Mannheim. At the time of research, the Cottbus plant was largely fulfilling the role of spare capacity for the western operations of ABB. At BASF the employment run-down has at least been associated with a planned diversification of the plant's product range, and there are hopes of the plant acquiring some marketing and sales responsibilities. At Rüdersdorfer Zement, the employment loss has been associated with the complete re-equipping of the plant and the acquisition, for the first time, of a range of strategic functions (technical department, sales and marketing).

9.5. CONCLUSION

The economy of Brandenburg is being transformed at an astonishing rate, with transfers of ownership and large-scale restructuring and redundancies being the order of the day. Financial incentives to attract external investment have been a central feature of this process, although their exact role remains unclear. Perhaps uniquely, however, the evidence of this study and others (e.g. Grabher, 1992, in press) suggest that the disbursement of very high incentives (in the form of bargain sales of assets by the Treuhand, large-scale capital grants and other incentives) has accompanied the virtual collapse of the indigenous industrial sector in Brandenburg. Some of the social consequences of this collapse in terms of rising social unrest have become more fully apparent since the fieldwork for this study was completed in July 1992.

With the benefit of hindsight, the experience of Brandenburg, especially in the greater Berlin area, suggests that a higher level of incentives than required may have been paid out to secure investments, and indeed some of the investments may have occurred anyway. This argument is implicitly accepted by the Ministry of Economics in Brandenburg and is reflected in the decision to introduce more discrimination in the issue of capital grants.

By far the most important incentive for firms to locate in Brandenburg was the ability to acquire significant assets (including potentially valuable land and property) at virtually give-away prices. Typically, more important location factors were: the acquisition of the detailed knowledge of eastern European markets held by the companies (markets that subsequently collapsed); acquisition of low-cost, skilled labour; and availability of large holdings of cheap land and property for possible speculative gains in the future.

The role of financial incentives in securing 'quality' is ambiguous. In general terms, it would appear that the most ostensibly 'high-tech' investment — the ABB power plant equipment operation — has been transformed from the most autonomous production facility (measured by the range of functions that it contained) to the least. On the other hand, the least 'high-tech' operation — the cement works at Rüdersdorf — had gained in autonomy through the acquisition of an extended range of functions (e.g. through gaining a new technical department). In both BASF and Rüdersdorfer Zement, management at the plant had operational (but not strategic) autonomy, although in the case of the ABB plant even operational autonomy was being eroded.

The corporate examples reveal two relevant issues concerning quality. Firstly, the nature of the product market is not itself an indicator of the likely quality of investment. In the case of ABB the workforce were simply assembling sophisticated electrical equipment from components that were increasingly being imported from the west. In the case of BASF, the very limited growth in 'local' linkages was no more than the result of the externalisation of old VEB services, and often to existing western suppliers of BASF who had been encouraged to acquire parts of the business of the former VEB. On the other hand, RMC, specialising in a 'mature' product such as cement, is very firmly linked into the region in terms of its forward and backward linkages. Second, it would appear from the ABB case that market reputation is not a guarantee of investment. The previously existing management approached ABB to secure the future of the plant on the basis of its international reputation, but it is clear that the nature of the company must be disassociated from the nature of plant. This clearly raises a doubt over regional promotion strategies based on the attraction of so-called 'flagship' companies.

It would appear, therefore, that incentives have played an ambiguous role in the case of Brandenburg. On the one hand, the policies of the Treuhand, the

low prices it has charged for companies, and the large capital grants offered by the Ministry of Economics have served to attract investment from major western corporations into the region, but the total absence of 'quality' guidelines set down by both institutions has given companies a free hand to locate what they wish in the region. For the moment, the locational obligations have been minimal.

A striking feature of the transformation of Brandenburg has been the rapid construction of new institutions of economic development. For the moment, however, the institutional framework emerging is based on a buccaneering style that clearly suits western investors. The key institutions tend to make an easy and unproblematic equation between the needs of large investors and the needs of the region itself. Moreover, the institutions have been established very much from above (i.e. from the west) rather than from below. To this extent, most of the key positions are held by 'imported' west Germans, with former east Germans very much on the sidelines.

It seems appropriate to end this case study on a cautionary note. The withdrawal of Krupp Stahl AG from the purchase of the Eisenhüttenstadt steelworks and the recent cancellation of the planned Mercedes Benz truck plant at Ludwigsfelde, casts a shadow over the future role of inward investment in the regeneration of Brandenburg. The decision of Mercedes Benz, in particular, may give the green light to other investors to cancel or reduce their investment plans or to re-open negotiations with the Treuhand on previously agreed job and investment commitments. The worsening economic conditions in Germany as a whole threaten the regeneration strategy based on the attraction of inward investment into the new Bundesländer, at a crucial moment. The social and political consequences of this are now all too apparent.

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