THE IRISH STATE SUPPORT SYSTEM FOR INTERNATIONAL MARKETING: PRESENT STRUCTURE AND FUTURE DEVELOPMENT

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Evolution of the System

State support for international marketing in this country is widely recognised as a highly developed and effective system. This reputation is reflected in the level of interest expressed by international export promotion and trade development agencies, working with developing countries. The structure of the Irish system has frequently been advanced as a model for imitation for the more advanced of these economies.[1]

The present system has developed over a period of nearly thirty years. Coras Trachtala (CTT), established in 1959, still remains the central agency with responsibility for international marketing support but many others have been created over the years and still more have entered the system by adding or being allocated functions in this area, functions which were outside their previous terms of reference.

As the number of agencies providing support to business in international marketing has grown so too has the range of services offered by most of them individually. Two major consequences have followed this pattern of development: The expansion of agencies, in numbers and in services offered, has created a system of considerable complexity not readily understood by potential clients or indeed by many of the support agencies themselves. The second consequence is the greater absorbtion of international marketing support services within the overall system of industry support. This second consequence has in turn led to the growth of many "grey areas" of support activity, such as that for product development, where other functional areas of business management interact with marketing or international marketing. It is thus increasingly difficult for business enterprise to avail of state support for marketing without linking this support effectively with that for other areas of the business. The difficulties for client firms, implied in the above changes, can be seen as a price to be paid for the greater range and depth of the

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services offered. From the viewpoint of the state the changes noted have led to greater difficulty in judging the effectiveness of the various elements of the overall support structure for industry; in the case of international marketing the difficulty of evaluation is accentuated by this function becoming a critical element in industrial policy following the analysis provided in the Telesis Report [NESC, 1982; No. 64] and subsequent documents leading to the *White Paper Industrial Policy* (1984). Overall industrial policy issues are thus implicated in any review of the effectiveness of the existing support measures.

The recent evaluation of the marketing support system conducted under the aegis of the Sectoral Development Committee introduced a new phase in the development of that support system [CCM, 1984; SDC, 1985]. The first twenty five years of its development were largely concerned with building the basic framework of agencies and their services. The central concern has however, now switched to improving the operation of the overall support system and redesigning its structure to meet the many new demands of the post Telesis industrial development policy. A wide range of issues have already emerged from this analysis. The manner in which these are to be addressed in future policy should be of major interest not only to those concerned with the direction of industrial policy but to individual industrial firms. This paper aims to outline the main features of present state support for International Marketing, assess the issues which have been identified in recent appraisal of the system, and comment on the implications which its future shape will have for government and industry.

Scale of the System

International marketing receives a relatively modest share of total expenditure on state support for industry.

The Consultative Committee on Marketing (CCM) set up by the Sectoral Development Committee reported a total of over £31 million allocated to Marketing support in 1983 by the agencies shown in Table 1; the major proportion of this could be attributed to international marketing [CCM, 1984]. Adding the financial allocation to Coras Beostoic agus Feola (CBF) a figure of approximately £33 million emerges. This would form about 7% of the total expenditure of £489 million on overall industry support.[2]

The staff resources allocated for marketing support is seen to be largely concentrated in CTT. The total figure of 527 for all the state agencies noted in the table is approximately 10% of the staff employed in all industry support agencies.[3] The proportion of staff resources devoted

Table 1: *Resource Allocation by Agencies in 1983*

Agency	Primary Support Staff	%	Secondary Support Staff	Total Staff	%	Primary Financial £000	%	Pay £000	Overhead £000	Total £000	%
CTT	151	48	169	320	61	6,696	35	5,574	4,820	17,090	55
IGC	17	6	13	30	6	651***	3	328	240	1,219***	4
IDA	7*	2		7	1	9,420	49			9,420	30
SFADCo	20	6		20	4	216	1	272	89	577	2
IIRS	82	26		82	15						
KDW	36	12	32**	68	13	224****	1	540	80	844	3
D/ITCT†						1,984	10			1,984	6
Total	313	100	214	527	100	19,191	100	6,714	5,229	31,134	100

* Overseas personnel engaged solely in the promotion of technology transfer, licensing and joint ventures. However, all project executives in IDA have this responsibility within their marketing or company development roles.

** Staff in trading excluded.

*** Including £210,000 est. from YEA for Market-Place Programme.

**** Calculated by using 1981 pay/total expenditure ratios.

† Department of Industry, Trade, Commerce and Tourism.

Source: CCM, 1984, p. 44.

to marketing in state support for industry appears therefore to be little more than the small proportion allocated in financial resources. One of the issues discussed below is the adequacy of these proportions given the central importance of the marketing or international marketing functions.

System Structure

In providing support to industry the state has two means of intervention. It can employ policy instruments to improve the business environment directly without relying on an intervening agency.[4] In addition, it can channel intervention through its agencies and thus aim at improving the performance of industry through a variety of support services provided by these agencies. The balance maintained between these two forms of intervention and the relative effectiveness of each, continues to be a major subject for debate in this as in many other western economies [Bradley 1983; Bradley, Hession, Murray, 1985]. The present support system relies heavily on the second form.

A variety of approaches are possible in depicting the strcture of support provided through intervening agencies. Analysis of the specific roles and services provided to industry distinguishes the following five forms of support [CCM, 1984, p. 38]:

- Provision of Information.
- Provision of Advice or Consultancy.
- Provision of Finance.
- Mediation on Client firms' behalf with third parties such as other governments or large customers.
- Performance of Marketing Activity for the Client Firm.

Each form of support is directed by agencies at specific elements of the marketing or international marketing function. Table 2 indicates the variation in support roles undertaken by the various agencies by noting the forms of their support and the marketing elements towards which these are directed. The specialised nature of IDA, IIRS and KDW support appear in sharp contrast to the much wider scope adopted by CTT and the other agencies.

The allocation of the financial and staff resources, identified earlier, to the main areas of international marketing activity has been roughly estimated in Table 3. Product development emerges as receiving by far the heaviest resource allocation of staff and finance. Market research and promotion also receive significant allocations of both resources, albeit at a much lower level than product development. Resource acquisition (largely marketing personnel recruitment and placement)

Table 2: *Forms of Support Provided for Marketing Elements*

	CTT	IGC	IDA	SFADCo	IIRS	KDW
Market Information, Acquisition and Assessment	● ○ ■	● ○	○ ■	● ○ ■		
Positioning Strategy	○	○		○		
New Product Development	● ■ □	● □	○ ■	● ○ ■	● ○	● ○
New Market Entry	● ○ ■ □					
Product Management	● ○	● ○		● ○	● ○	● ○
Pricing	● ○	● ○		● ○		
Distribution	● ○ □ ▲	● ○ □		● ○		▲
Promotion	● ○ ■ □ ▲	● ○ □		● ○		● ○ ▲
Resource Acquisition	■		■			
Risk Management	●					

Code: ● Provision of Information.
○ Provision of Advice or Consultancy.
■ Provision of Finance.
□ Mediation on client Firms' behalf with Third Parties.
▲ Performance of Marketing Activity for the Client Firm.

Source: CCM, 1984, p. 42.

and risk management (export credit insurance) are allocated substantial finance.

Some arbitrariness is suggested, by the contents of Tables 2 and 3, in the support roles adopted by agencies and particularly in the allocation of their aggregate financial and manpower resources. This suggestion is reinforced by two findings resulting from more detailed analysis in the CCM study:

> . . . *many agencies address operational rather than strategic marketing issues in their support programmes and fail to differentiate adequately as between the often differing support requirements of particular clients.* [CCM, 1984, p. 91].

Strategic Issues of State Support

Of the many issues identified in the studies leading to the report of the Sectoral Development Committee on Marketing the following are of

Table 3: *Financial and Staff Resource Allocation to Marketing Elements, by the Listed Agencies in 1983 (£'000)*

	Financial	Staff
Market Information Acquisition and Assessment	1,845	33
Positioning Strategy	445	21
New Product Development	8,980	119
New Market Entry	400	18
Product Management	520	43
Pricing	445	21
Distribution	445	21
Promotion	2,805	39
Resource Acquisition	1,310	—
Risk Management	1,984	—

Source: CCM, 1984, p. 46, 47.

particular interest to those concerned with the future shape of the support system and its effective use.

Balance of Direct vs. Indirect Intervention

While the design of the existing support system relies very heavily on intervention through intermediary agencies, such as CTT, IDA, IGC, IIRS and KDW, the functioning of international marketing in Ireland is strongly affected by the numerous strands of government economic and social policy through their effects on the business environment. Fiscal policy is of particular importance; for instance the bias in fiscal policy in favour of low risk investment, reported by NESC (1984), strikes particularly severely at marketing investment decisions such as in new market entry and product and market development.

The one major example of state intervention on the fiscal environment to support international marketing has been the relief on export profits tax scheme, now terminated except for companies that qualified for tax exemption before 1981. The heavy state investment programme in telecommunication is possibly the only recent example of a major intervention in the infrastructural environment with very positive effects on international marketing activities. Such interventions have however been rare, state support being generally directed through the intermediary agencies providing incentive grants, advice and the other services already noted. There is, however, an increasingly vocal lobby in both private and state sectors in favour of redirecting state support, for all areas of business or industry, towards improving the business environment directly. The poor performance of the telecommunication facilities has long been seen as a critical barrier to effective performance of much international marketing activity. Further evidence of the inhibiting aspects of the overall environment is provided in the annual reports of the European Management Forum on industrial competitiveness. Ireland's relatively low ranking, sixteenth in the twenty two country list, is seen to be heavily influenced by well recognised negative aspects of the business environment [European Management Forum, 1984].[5]

While the above concern for redirection of state support arises from the numerous unattractive aspects of the present environment, many of these being unintended results of past fiscal or social policies, there is also a concern with some of the effects of the indirect path of intervention pursued through the state agencies. For example, the Telesis Report questioned the general philosophy of intense "hand-holding" of small firms:

> *We doubt that it [intense hand-holding] is an effective long-term means for the development of skills and exports. It has the effect of increasing small firms' dependence on outside services, instead of stimulating in-house long-term solutions or direct cross-company initiatives. It also has the effect of making the agencies more and more staff intensive.* [NESC, 1982, p. 210]

The intense hand-holding of some firms pursued by state agencies can be argued to be appropriate for the economy of a developing country; the argument would run that the state thereby aims at overcoming major endemic weaknesses of private sector firms by a "bootstrapping" process employing state and international agencies to transfer the knowledge and skills required. The relevance of such a policy to Irish industry depends on the view taken on the state of development of this economy. From some perspectives Ireland should, like Portugal, be classified as a developing country and be acknowledged as sharing many of the barriers to development that characterise such an economy. Present industrial policy appears however to have accepted the Telesis criticism and to reject the "bootstrapping" approach. Indeed, if realistic measures were possible in the field of direct intervention a further dilution of the intervention through intermediary agencies might be expected. Unfortunately the extreme burden placed on the state by the size of its national debt makes it difficult if not impossible to radically alter the present fiscal environmental structure. There are perhaps equally strong constraints on altering many of the non-fiscal environmental factors, e.g. in the field of industrial relations or employment protection.

Proportion of State Support Provided for Marketing

In view of the importance of the internationalisation process in the industrial development policy for indigenous industry we may readily interpret the call for greater state support for Marketing as largely directed to International Marketing activity [Bradley, 1983; Bradley, Hession, Murray, 1985].

The case for a substantial increase in the state support funding and manpower resources devoted to improving the marketing performance of industry has been advanced on many occasions since the late 70s. The emphasis placed by the Telesis Report [NESC, 1982] on effective marketing as a critical requirement in the growth of internationally oriented indigenous industry provided very powerful support for this view.

Two factors have however operated against implementation of such a policy. Of primary importance perhaps is the difficulty of bringing about a significant redivision of the sum of about five hundred million pounds in state funds devoted to industry support in general in favour of the marketing component of that support. The organisational implications of such a redistribution would clearly be extensive. The second difficulty arises from the greater risks incurred by state investment in intangible marketing related assets as opposed to the relatively safe investment in production facilities, that has been the traditional focus of most Irish grant aid.

A limited increase in the proportion of state support funds, if not manpower, directed to marketing appears to be already occurring. Nonetheless, the incrementalism which appears a necessary feature of major public sector decision making is likely to ensure that major redistribution of state support resources will take many more years to accomplish.

Within the limits implied by the present scale of support for international marketing the positions being adopted on the remaining issues will have significant influence on the nature of the future support system.

Exploiting Support System Synergy

The great variety which now exists in the state support system for international marketing creates many possibilities for unnecessary overlaps and lack of co-ordination between agencies. The challenge in controlling and managing the system, however, goes much further than the avoidance of overlaps or ensuring co-ordination. The very complexity of the system should allow a much more responsive matching of support services to the needs of industry than could be obtained from the simpler structure of earlier years. Such responsive matching to industry's needs requires a sophisticated level of system control and management. In particular, it requires that the overall system of agencies operate with a coherent policy of intervention; the policy should exploit the synergistic potential across agencies and provide a clearly defined support role for each one. In this manner the set of agencies might be seen to act as a closely knit team impacting on industry in a highly varied and flexible manner [Murray, Bradley, Hession, 1985].

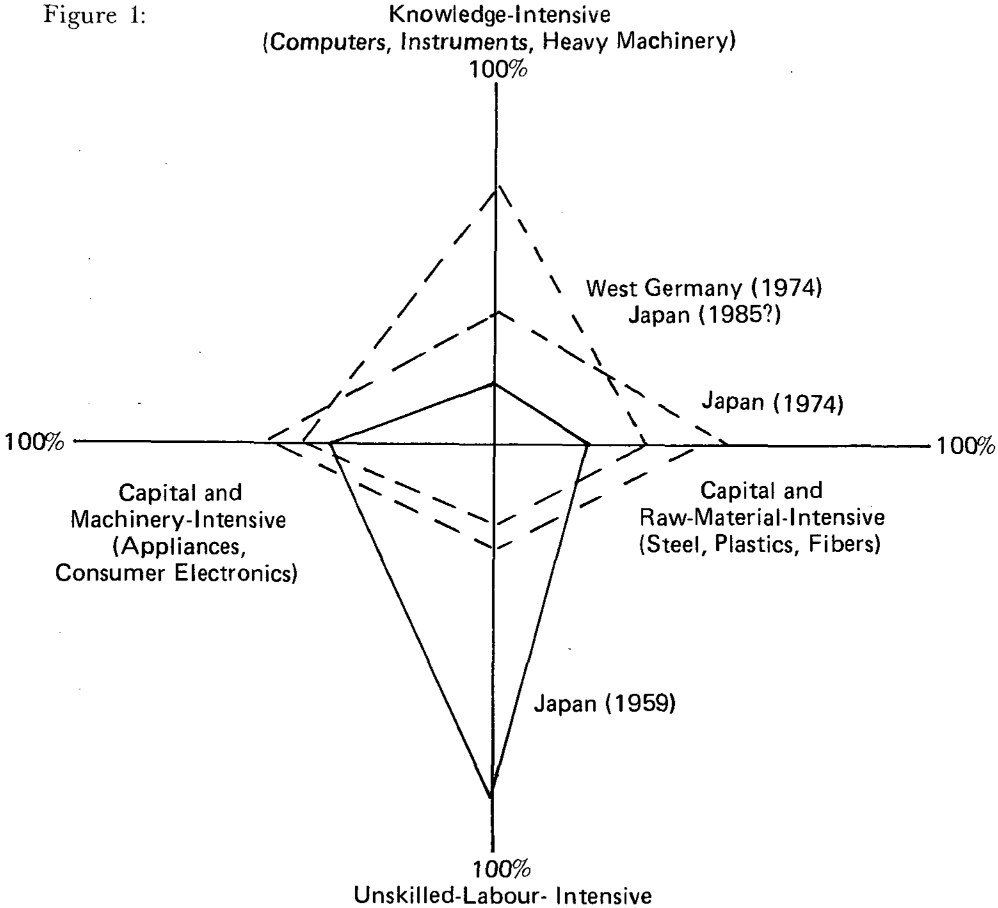
The present support system falls very far short of such an ideal. The SDC report on marketing identified the "lack of overall policy to guide the activities of the different agencies providing marketing support" as a major weakness of the system [SDC, 1985, p. 19], and it set forth several proposals to overcome this defect. The collaborative effort required of agencies in developing and implementing the type of overall policy desired, presents many difficulties and is unlikely to emerge without considerable experimentation with the organisational form of the support system. In the meantime, however, we can expect to see a much higher level of agency interaction than in the past. This would reflect a greater appreciation among the agencies of the high degree of variety in their support services and the need to exploit this important strength through some new interorganisational mechanisms.

Segmentation of Industry for Appropriate Targeting of Support Services

One of the central contributions of the debate on Industrial Policy generated by the Telesis report was the recognition given to the differing strategic categories of firms that make up Irish industry. The Telesis report employed a classification scheme used by the Japanese Economic Planning Agency and illustrated in a chart which depicted the mix of the country's total exports among four categories of industry (Figure 1). Each category was seen to present different requirements for competitive success.

Many other segmentation possibilities exist which can provide additional insights not only into the range of competitive requirements that exist now but those evolving in future industry [Bradley, 1983; Murray, Bradley, Hession, 1985; Murray, 1985]. The perspective provided by analysis of the impact of the competitive structure of industries on the

Figure 1:



Source: (NESC, 1982, p. 7)

range of strategic choice [Porter, 1980; Porter, 1985] has clearly influenced the direction taken in recent efforts at strategic segmentation. While these segments are of major interest in characterising strategic choices open to individual firms they can usefully be adapted to differentiate state support requirements of industry.

Other variables beyond those of industry competitive structure are also required in differentiating targets groups of firms for state support. A primary candidate for inclusion among these variables is the absorbtive capacity of firms for external assistance. An ironic though not surprising finding of the CCM report, is that services of support agencies are generally of greater use to firms already well endowed with managerial and technical capabilities [CCM, 1984, p. 71]. Those with weak capabilities and thus in greatest need of support appear unable to tap and absorb effectively the external support available. In arguing against the diffuse provision of services in a manner that would increase a firm's dependence on the state agencies the Telesis report appears to recognise the importance of considering absorptive capacity:

> *A major push towards skill development and export competitiveness needs a different pattern of resource allocation, a stronger corporate structure, and the building of in-house capabilities, as opposed to the never-ending provision of consulting services* [NESC, 1982, p. 210].

There has been little evidence in the past of the type and degree of client firm differentiation, alluded to here, in Irish support services for international marketing any more than for other functions of business. Categorisation of client firms was until recently largely founded on a standard sectoral basis by product group. The IDA, CTT and some of the other agencies are now reorienting their support services to include a much richer segmentation. It is unlikely that any agency has yet achieved a segmentation of sufficient analytical merit to provide a stable cross agency basis for the design and delivery of state support services in international marketing. Good marketing practice applied to the management of the support system demands that the considerable resources of that system be adequately matched to the highly varied requirements of these strategic segments. A standard set of services promoted and delivered in a standard manner to all industrial firms is no longer acceptable.

Meeting the Need for Advanced Advice/Consultancy in International Marketing Strategy

Our indigenous industrial firms aiming at international markets face inherently complex problems of marketing strategy. The poor competitive position and resource limitations of these firms are difficulties calling for a particularly high level of strategic marketing, if they are to be circumvented.

A highly developed capability to undertake such strategic analysis and planning is unlikely to exist within the main body of indigenous industry. Much of this capability must thus be supplied externally from either private sector consulting or the state support system to augment that in the firm. The private sector already shows signs of responding to this need through the formation of such specialist consulting services. A pressing need remains, however, for a reorientation of the state support services towards strategic marketing consulting in addition to the traditional emphasis on supplying basic market information and advice. The CCM report recommended the formation within CTT of an advisory/consultancy corps of 15 contract staff "with a high level of proficiency and experience in marketing strategy" [CCM, 1984, p. 111]. In view of the increasing interdependence of the state support agencies on each other and the need to see international marketing strategy within the context of overall company development the report recommended that individual members of the corps should be available to the other state agencies through a joint appointment system. An interagency group would initiate and monitor this joint appointment system.

This recommendation could have a very major impact in raising the level of international marketing strategy employed by Irish industry, or at least by those firms moving in the direction, advocated by the Telesis report, of growth to significant internationally trading enterprises. The successful implementation of the recommendation depends heavily on the resolution of other issues outlined in this paper. Undoubtedly, it also depends on greater enthusiasm in Irish industry for international marketing strategy than has been evident heretofore.

Sharing the Risks Inherent in Major Marketing Investment Decisions

Many marketing investment decisions are inherently of high risk and of long term. These attributes can pose particularly severe barriers to development for Irish industry due to the small size and modest resources of the great majority of firms and their location in an island economy.

High risk long term investment normally requires financing through equity sources. The inadequate flow of equity funds from the private sector for this type of investment, was identified in a recent study of the financial system [NESC, 1984]. While some fiscal measures have now been taken to encourage a freer flow of private sector equity funds to industry, investment possibilities in international marketing are still likely to be seriously under exploited due to the risk aversion of individual firm management or their investors.

In France this problem has been attacked through state agencies sharing the risk of investment with firms entering new markets. Some progress has now been made in Ireland in adopting a similar approach through the Market Entry and Development Scheme proposed in the *White Paper on Industrial Policy* (1984).[6] Should this trend continue we may expect to see risk sharing as one of the most important measures in state support for international marketing.

Developing the Required Managerial and Organisational Capabilities of Indigenous Industry

The inadequacies of marketing and international marketing capabilities in Irish industry have been identified and analysed over several decades

[CIO, 1962-1975; Dillon-Malone, 1970; Gorman, L., Hynes, McConnell and Moynihan, 1975; Benson TJ., 1976; Condon, S., 1978; Hession E., 1979; CCM, 1984]. The quality of marketing at firm level was reassessed in associated studies of the SDC report. The findings contain few surprises. Major weaknesses were identified at strategic and operational levels and performance of the marketing function compared poorly with that of competitors in export markets [CCM, 1984, p. 13].

The organisational changes required to bring about the dramatic improvement required of Irish firms in international marketing fall largely in the area of manpower policy. Management development aimed at deep-rooted attitudinal change from chief executive to middle management level is prescribed by the SDC to bring about "a fundamental change . . . in the way that most firms think about the marketing function" [SDC, 1985, p. 22]. This is perhaps the greatest task facing the state support system; several decades of effort, albeit on a smaller scale than now proposed, have apparently failed to change the nature of the basic attitudinal barriers to effective marketing, and particularly to international marketing.

A parallel recommendation in manpower policy was directed by the SDC at improving the organisational capabilities in marketing at both strategic and operational levels, through the supply of new, highly trained marketing staff. The support system was required to organise and fund the professional development of marketing graduates to a level of proficiency in international marketing comparable to competitors in the main international markets of relevance to Irish industry. Such a proposal requires adaptation of models of professional training for graduates which apply in other disciplines such as accounting, law and engineering, to the context of international marketing. It also requires heavy funding and concentrated commitment by the support system utilising its own and overseas sponsored industry's organisational resources.

Conclusion and Implications

In the remaining years of this decade we may expect the initial responses to the above issues, many of which are already being tested on a pilot basis, to be adapted, extended in scope and multiplied. The broad lines of the future structure of state support have been drawn even if the longer term responses to the key issues have yet to emerge. The outline of that future support system shows a complex interwoven structure of multiple interdependent agencies offering a very wide range of services, with multiple entry points for the client firm seeking assistance.

Hopefully a large-scale redistribution of financial and manpower resources will rectify the imbalance in state support to the marketing function as opposed to the traditional areas of priority. A reorientation of support towards intensively knowledge based services addressing the strategic rather than operational issues in international marketing is now beginning. State/business partnership will develop to share the risks of the critical decisions in product development, market entry and development, and the many other investments required to engage in and compete successfully on international markets.

If the new structure of state support is to accomplish its promised central role in the internationalisation of Irish indigenous industry two highly significant challenges must be accepted. One faces the state support system, the second refers to industry.

The challenge for the state sector is the effective management of what is now a highly interactive and complex set of support agencies. These must be viewed as an overall entity where formerly each agency could be considered largely as a separate unit, merely requiring a limited degree of co-ordination in a one to one relationship with its partners. The requirement for a coherent global strategy for the team of agencies, generating a clear mission for each member, was outlined earlier. The recommended interagency group under the chairmanship of CTT [SDC, 1985, p. 24] is one step in the process of building an adequate system-wide management capability; it will require much further development [Murray, Bradley and Hession, 1985].

The second challenge is firmly directed to the individual industrial firm. It is doubly significant given the view expressed by the SDC that "the primary responsibility in achieving this improvement [upgrading the marketing performance of Irish industry] rests with industry itself" [SDC, 1985, p. 22]. Faced with a complex state support system offering highly varied services to differentiated client groups and allowing multiple access points to the individual firms, managers must develop a deep understanding of how the system works. The lack of serious attention by many firms to the potential of the system in the past renders the new challenge more daunting.

Knowledge of the support system will not however be sufficient to meet the needs of firms committed to growth in international markets. The future system should be capable of exploitation in very many forms. The form chosen by the individual firm should reflect the complexities of its own strategy of growth and development. The extent of these complexities for the firm committed to growth, in an economy dependent on international markets, is explored in Bradley, Hession, Murray (1985). The basic paradigm of marketing strategy development for this type of firm can be seen to incorporate a new component: developing a substrategy which seeks to match the support requirements generated by the firm's growth ambitions to the full potential of the new state support system. This substrategy deserves deliberate and thoughtful expression as the form it takes may open up or constrain the strategic choices available in exploiting growth opportunities of international markets.

NOTES

1. Evidence of this interest is provided in the frequency of articles on Irish trade promotion activity appearing in publications of international agencies such as the International Trade Centre UNCTAD/GATT, Geneva (e.g. Condon, T., 1985).
2. Expenditure on industry support is understood in this paper to comprise the 1983 outturn on the following public expenditure programmes: Industry Development and Finance; Marketing and Export Promotion; Manpower, Labour Relations and Conditions of Employment, Research, Development and Technical Assistance. (Comprehensive Public Expenditure Programmes, 1984).
3. The reference is to State sponsored Industry Support Agencies which relate to the public expenditures programmes noted above.
4. Much recent literature related to Industrial Policy has focused on this aspect of intervention and on its effects on international competitiveness at industry sector or national economy level. (See, for example, Scott, B.R. and G.C. Lodge, 1985).
5. The NESC sponsored review of industrial policy, of which the Telesis report formed one part, included an evaluation of the physical infrastructural constraints facing existing Irish firms and new industrial projects. (NESC, 1981, No. 59). The Council's own conclusions and recommendation on this as on the Telsis report are contained in the final publication of the policy review (NESC, 1982, No. 66).
6. Suggestions on state support to overcome the barriers inhibiting marketing investment decisions were presented at the Dublin Chamber of Commerce, Bicentenary Conference, September 1983. (Carroll, D.S.A., 1983; O'Reilly, A.J.F., 1983). These ideas were also advocated by Coras Trachtala in more detailed form in a contribution to industrial policy development. Following similar recommendations in the CCM and SDC reports, the Market Entry and Development Scheme was presented in the *White Paper on Industrial Policy* (1984) as the first of its initiatives to aid export development.

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CONTROL OF NORTHERN IRELAND EXPENDITURE: OBSCURITIES AND ILLUSIONS

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"The financial relationship established between Northern Ireland and Great Britain suffers from an (additional) inherent defect. It is complicated. Neither its intentions nor its operation is understood by half the members of the Legislature, not to speak of the general public" [Mansergh, 1936].

Nearly fifty years later, the situation has changed little. The first part of this article sets out the process of financial control between the administration in Northern Ireland and both Parliament in Westminster and central government in the UK, and the second part why that procedure is both obscure and anomalous. The third part indicates a possible reason for the present position and finally the article gives reasons why the obscurity and those anomalies need to be dealt with.

The Present Process of Financial Control

In common with the rest of the UK, expenditure control for Northern Ireland is based on two parallel, but linked, procedures and systems. One is based on the need to obtain Parliamentary approval for expenditure. The other is based on the need for the government to plan and control expenditure – plans which are announced in detail in the Public Expenditure White Paper.

The Parliamentary procedure for the approval of expenditure in Northern Ireland differs in detail, though not in principle, from that applied to the rest of the UK. In summary, the "Supply" element of expenditure in Northern Ireland is voted through Parliament in Westminster in one of three ways:

1. As part of those UK Supply Estimates which cover the whole of the UK – for example Class 2 (Defence).
2. In Class 17 of the UK Supply Estimates (Northern Ireland). This Class comprises two votes "Law, order, protective and miscellaneous

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services Northern Ireland" and "Transfers to the Northern Ireland Consolidated Fund" [H.M. Government, 1984a].
3. As the Northern Ireland Supply Estimates.

The main UK Supply Estimates are published in the Spring and voted on by Parliament in the Summer. As part of the "normal" procedures, Northern Ireland expenditure, whether under Class 17 or any other class — is voted on with the rest of the UK Supply Estimates.

The Northern Ireland (as opposed to UK) Supply Estimates set out the requests for expenditure by Northern Ireland departments and certain non-departmental bodies, such as the Fair Employment Agency or the Equal Opportunities Commission. The draft order for the Northern Ireland Supply Estimates is usually laid before Parliament in June, and debated and then "made" (agreed) in July. Authorisation to spend from the beginning of the financial year is on the same principle as the rest of the UK, with Sums on Account usually being voted in the early months of the year, at the same time as Spring Supplementary Estimates are debated. Under the Westminster Supply procedures, Appropriation Orders (normally three each year) are approved by Parliament and these authorise payments out of the Northern Ireland Consolidated Fund. The Parliamentary procedure is that the Appropriation Order is laid before both Houses of Parliament in draft before being debated. If approved, the Appropriation Order is made at a Privy Council meeting.

The structure of Votes in the Northern Ireland Estimates operates in the same way as the rest of the UK, with divisions chosen to reflect the basis of accountability. The procedure for Supplementary Estimates again follows the pattern of the rest of the UK, with Autumn and Spring Supplementaries as required. There are, nevertheless, some differences of practice in the treatment of Northern Ireland expenditure in parliamentary procedure from "normal" Supply procedures. First, because the Appropriation Orders are Statutory Instruments, unlike the normal Supply procedure, the sums voted on cannot be amended, but only accepted or rejected as a whole [House of Commons, 1983]. Second, the amount voted for the Northern Ireland Consolidated Fund in Class 17 of the Supply Estimates will be dependent on the decisions about taxation at Budget time. This does not mean that the fundamental principle of expenditure determining income has been breached, since the amount is amended automatically in the light of the Budget proposals. But it is unusual in being dependent at all on taxation proposals.

In the parallel administrative system for public expenditure control, Northern Ireland expenditure is classified as a programme (17 in the

Public Expenditure White Paper). Expenditure plans are announced in the Autumn Statement and then given in detail in the Public Expenditure White Paper in the Spring. Programme 17 covers both expenditure under the control of the Northern Ireland Office (mainly law, order and protective services) and also that covered by the Northern Ireland Departments.

Yet this outline of the current procedures barely hints at the problems of trying to reconcile the figures for public expenditure in Northern Ireland. The Introduction to the Northern Ireland Supply Estimates [H.M. Government, 1984b] gives only a part of the story, and there is no easy way of understanding which items are covered by which figures. Table 1 gives the different amounts for 1984/5 in the various documents in which they appear.

Table 1: *Supply Estimates*

	£ million
UK Supply Estimates 1984/5 Class 17 Includes Law, order protective and misc services (£404.051m) and transfers to the NICF (£815m)	1,219.051
Northern Ireland Supply Estimates 1984/5 12 Classes of which public expenditure element £2,524.583 which corresponds (approximately) to public expenditure in Cmnd 9143 of £2,556.5m	2,831.495
Financial Statement 1984/5 (Table 4) Includes Supply Services (£2,831.495m) and Consolidated Fund Standing Services (£190.124m)	3,021.619
Financial Statement 1984/5 (Table 5) Includes Supply Services (£2,831.495m), Consolidated Fund Standing Services (£190.124m) and provision for Surplus of £0.1m	3,021.719
Public Expenditure White Paper (Cmnd 9143) Includes Northern Ireland Office – Law, order and protective services/Other public services (£406m) and total for Northern Ireland Departments (£3,626m)	4,032

Notes: 1. National Accounts figures are not included.
2. Collection costs of £41.47m are identified in Table 2 of the Financial Statement, together with £86.13m as Northern Ireland share of UK payment to the European Community. This is not shown as expenditure, since it is netted off against income.

None of these figures can be taken as "Northern Ireland expenditure". For example the total of £4 billion in the Public Expenditure White Paper [H.M. Government, 1984c], excludes expenditure borne on programmes covering the whole of the UK. There are two categories here. First, those items which benefit Northern Ireland citizens but which cannot be separated from the rest of the UK, such as the activities of the Foreign and Commonwealth Office and the bulk of Ministry of Defence expenditure. Second, there are those items which are handled centrally, even though there may be direct benefit to Northern Ireland, including agricultural policy handled through the Ministry of Agriculture and the Intervention Board for Agricultural Produce. Expenditure in both these categories is borne in the main UK public expenditure programmes and Supply Estimates.

Taking the picture as a whole, 86% of planned public expenditure under the control of the Northern Ireland Departments represents direct expenditure by those departments and of this 80% is borne on Votes in the Northern Ireland Estimates. Thus public expenditure on the Votes is about 70% of the planning total.

There is an additional allocation of funds to Northern Ireland not included directly in the UK Supply Estimates. Payments from one public sector body to another do not count as public expenditure. Such items represented about 11% of the main Estimates in 1984/5. An example given in the guide to the Northern Ireland Supply Estimates [H.M. Government, 1984b] is that of the Education and Library Boards, financed by the Department of Education on Class VIII, vote 4 of the Estimates.

Individual items are also difficult to reconcile — the treatment of revenue from the European Community for example. This is an important item, since it offsets expenditure in the calculations of the net cost of a programme. The revenue appears in three different places in the documents presented to Parliament. Some is included in Class 17 of the UK Supply Estimates, and therefore reduces the amount which has to be voted by Parliament. This amounted to £82 million in 1984/5. Then there are amounts credited directly to the Northern Ireland Supply Estimates. These amounted to £49.1 million in 1984/5 and counted as a reduction in Northern Ireland expenditure. Finally there are the amounts credited to other UK expenditure programmes, notably agriculture, some of which relate to Northern Ireland but cannot be specifically attributed to it. The total revenue in the UK Supply Estimates as a whole (excluding Class 17) was £1590 million in 1984/5.

None of the above figures is easily reconcilable with the memorandum figure of £64 million in the Public Expenditure White Paper. To make matters even more confusing, a sum (£86 million in 1984/5) is deducted from the tax revenue credited to Northern Ireland in Table 2 of the Financial Statement as being "NI share of UK payment to the EC". This therefore means that this sum has notionally to be an *addition* to the amount voted in Class 17 of the UK Supply Estimates.

Table 2: *Reconciliation — Public Expenditure in Northern Ireland — White Paper and Supply Estimates*

		£ million
Total in 1984 Public Expenditure White Paper		4,031[1]
Less	– Northern Ireland Office expenditure funded from UK Consolidated Fund	406[1]
	– Less local authority expenditure funded by rates, internally generated resources and central government grants	306
	– Less external financing of public corporations funded by borrowing	192
	– Less expenditure on National Insurance type benefits funded from NI National Insurance Fund	566
	– Less expenditure on Employment Protection funded from NI Redundancy and Maternity Pay Funds	6
	– Less provision in Public Expenditure White Paper not taken up in Main Estimates	32
Equals public expenditure total in Northern Ireland Supply Estimates		2,534

Sources: [1]Public Expenditure White Paper 1984/5-1986/7; Northern Ireland Estimates 1984/5. Other figures from Department of Finance and Personnel, Northern Ireland.

Table 2 shows just how difficult it is to reconcile the figure (shown in Table 1) of the public expenditure total in the Public Expenditure White Paper with the figure for the total given in the Northern Ireland Estimates. Indeed it is impossible without the five linking figures given and these five figures are not available from published sources.

It should be emphasised that the difficulties of reconciling the figures in different documents is not peculiar to Northern Ireland. It is a general problem in the operation of separate Parliamentary and administrative systems and the general obscurity of public expenditure figures as a whole in the UK [Likierman and Vass, 1984]. But the Northern Ireland position is made very much more obscure than that of the rest of the UK because of a mechanism in the control of Northern Ireland expenditure which has no parallel in either financial and constitutional terms elsewhere in the UK – the Northern Ireland Consolidated Fund (NICF) which was set up under the 1920 Government of Ireland Act.

To put the Fund in context, the general principle is that government revenues from Northern Ireland are treated no differently from those gathered from other UK citizens. The imposition and administration of all taxes – on the income and capital gains of individuals, on the income of corporations, and for customs and excise duties and Vehicle Excise

Duty — as effected from Westminster. The taxes are collected either directly by UK central departments, or by Northern Ireland departments on their behalf. With a few minor exceptions, the proceeds are paid directly into the United Kingdom Consolidated Fund.

Yet the NICF exists as a separate account for Northern Ireland, as if this part of the UK was a separate financial entity. The Fund has income from a variety of sources, by far the most important of which is Northern Ireland's share of UK taxes which are hypothecated as income to the Fund. The bulk (but not all) of Northern Ireland expenditure is debited to the Fund. There are a variety of other items of income and expenditure and the balance is made up by an amount voted as part of Class 17 of the UK main Supply Estimates.

The case is even more artificial because it looks as if the transfer to the Fund through the UK Supply Estimates is the total amount transferred to Northern Ireland from the rest of the UK. Yet as can be seen, some expenditure is already voted through other Supply Estimates covering the whole of the UK and there are the additional amounts on Vote 17 of the UK Supply Estimates. The NICF itself includes a variety of items covering different types of expenditure and income other than those relating to central government, including local government, the European Community and income and expenditure arising from capital accounts. This mixture of current expenditure and interest received and paid makes the assessment of trends from one year to another very difficult indeed. Thus a decision to borrow rather than pay for items through current expenditure alters the balance between items in each year by both the amount borrowed and because of later interest payments. The basis on which the amount of borrowing is decided is not at all clear [Simpson, 1980]. The calculation for the hypothecation of tax income attributable to Northern Ireland from the whole of the UK mut also be difficult to make. While there has been little public complaint, it is difficult to know whether this is because the results are regarded as satisfactory, because nobody understands the calculations or, if they do, because the results are not seen as being of great importance.

The existence of the NICF adds a technical complication to the operation of cash limits. In general, the control mechanism of cash limits operates in the same way for Northern Ireland as the rest of the UK and about two-thirds of Northern Ireland expenditure in the Northern Ireland Estimates is subject to cash limits. There is a single block for all those Northern Ireland Supply Estimates which are cash limited (the others being demand-determined) and one for the item other than "Transfers to the NICF" in Class 17 of the main UK Supply Estimates. There is no cash limit for the transfers to the NICF, since it is merely a transfer from one public sector body to another. Furthermore, a cash limit could not be applied because the amount to be transferred depends on the tax revenue raised in the Budget and this amount is not known until after the Supply Estimates are produced.

The existence of the NICF also gives rise to an anomaly in Parliamentary procedures. The Northern Ireland Supply Estimates provide for the total amount to be spent (£2.8 billion in 1984/5). Yet because this sum is debited from the NICF and because credits are given for hypothecated taxes from the rest of the UK (£2.3 billion in 1984/5), the balance of £0.5 billion, after the relatively minor additional elements of income and expenditure, has then to be voted by Parliament to finance the expenditure as if Northern Ireland was a separate country. But it is not clear why this whole procedure is necessary. Parliament has already voted the whole amount of £2.8 billion and the vote to balance the NICF duplicates that part of the £2.8 billion which has already been voted.

There are a number of possible explanations for the existence of the NICF, of which two might be thought to be possible contenders. First that it is a legacy of history, based on the fact that there used to be a separate Northern Ireland Budget controlled from Stormont, and that to discontinue it would be a political act implying further integration of Northern Ireland into the rest of the UK. The second is that it has some role to play in the calculation of the amount of resources channelled to Northern Ireland from the rest of the UK. The second explanation can be dismissed, since expenditure on Northern Ireland is decided through the public expenditure (PESC) process in the same way as the rest of the UK. In any case, as has already been shown, the NICF is not an indicator of the flow of funds to and from the rest of the UK. On the face of it, therefore, it is role of history dominating current political considerations which explains the present arrangements.

Implications for the Future

The existence of the NICF and the present anomalies in the treatment of Northern Ireland might be dismissed as irrelevant if there were not the continuing danger that the figures could be misused. One such danger is in the belief that Northern Ireland could stand on its own feet economically. Calls to withhold the "Imperial Contribution" in the 1940s were one manifestation of this, the calls for a Unilateral Declaration of Independence in 1971 [Arthur, 1980] were another. There is no doubt that these illusions still exist in Northern Ireland and they can only be fed by the existence of separate accounts such as the NICF.

Another area of danger arising from the existence of a separate Fund lies in the way various attempts have been made to try to give a figure for the "cost" of Northern Ireland to the rest of the UK or to prove the degree of dependence of Northern Ireland on the rest of the UK (see for example the regular questions about the Northern Ireland "Subvention" by Lord Blease in the House of Lords, occasional questions and comments in the House of Commons, and the allegation by Simpson (1984) that "it is the only region where the net fiscal transfers from the central government can be measured in the published accounts of the two Exchequers"). While estimates of expenditure per head in any region are possible, the idea that the "total cost" of Northern Ireland to the rest of the UK can be calculated is fraught with dangers. Here too the existence of the NICF gives a spurious degree of credibility to figures of dependence, spurious because substantial parts of the flows of funds to and from Northern Ireland to and from the rest of the UK are not included, difficult to record or difficult to calculate. Year-by-year comparisons are made additionally difficult because of the possibilities of financing expenditure through either capital and current accounts. In summary, therefore, the amount of the "cost" of Northern Ireland cannot easily be found or calculated.

On the Parliamentary side, the present provisions for scrutinising Northern Ireland expenditure are also anomalous in a number of respects. First, the lack of a Northern Ireland Departmental Select Committee means that the three days of debate on the Northern Ireland Estimates, while a welcome feature of the control of Northern Ireland expenditure, are out of line with the procedures for the control of government expenditure in the rest of the UK. Second, there is the element of duplication in voting that element of the Northern Ireland Estimates which is covered by the NICF contribution. Finally there are the concerns expressed by the House of Commons Procedure (Finance) Committee in 1983 [House of Commons, 1983]. One was that the use of the Appropriation Order is a blunt instrument which is hardly suitable for this form of Parliamentary control. The other arises from the fact that Northern Ireland expenditure is voted in part in the Northern Ireland Estimates and in part in the main UK Supply Estimates, and that the total for Northern Ireland in the Public Expenditure White Paper includes some, but not all the expenditure on Northern Ireland. This arrangement was criticised [House of Commons, 1983] as dangerous in giving the illusion that Northern Ireland expenditure as a whole was being debated when the Northern Ireland Estimates were debated.

At a more detailed level, the structure of Class 17 of the UK Supply Estimates and the existence of separate Supply Estimates for Northern

Ireland are certainly anomalies when compared to the treatment of Scotland and Wales. Thus Scotland and Wales each has a UK Supply Estimate to cover a variety of services covered by the respective Secretaries of State although each also has services financed through Supply Estimates which cover the whole of the UK. But there are no separate Scottish or Welsh Supply Estimates. To bring Northern Ireland into line with practice for Wales and Scotland, it would not appear to be difficult technically to cover the Northern Ireland Supply Estimates as a whole in Class 17. The dividing line between what was covered in Class 17 and what was covered in other Classes would then be decided on the basis of administrative boundaries.

There can be three possible reasons for continuing the present procedures. One is that devolution is the current policy and to effect any change would be seen to be counter to that policy. The second is the understandable fear of political and other reaction to any change. Finally there could be the idea that the present arrangements could act as the basis of future financial arrangements with devolved arrangements of one kind or another.

Little can be said about the first two, since these are largely political and tactical issues. But if the final explanation is the reason, two questions need to be asked. First, is it likely that there will be a swift development in the constitutional position for Northern Ireland, perhaps building on the 1985 Anglo-Irish agreement? If there is, then there might be grounds for waiting to use the opportunity to settle all aspects of relations between the UK and Northern Ireland and not to tidy up in any piecemeal fashion. If lasting arrangements are unlikely to be agreed in the near future (and on the evidence it *does* seem unlikely) a second question which then arises is whether the NICF could be the basis for whatever is eventually decided? Assuming there will have to be a Consolidated Fund, the NICF and the present accounting arrangements seem far too obscure and cumbersome to be part of any conceivable set of future constitutional arrangements. They are certainly irrelevant in considering the amount of money required for Northern Ireland. This position is unaffected by Direct Rule from Westminster. Indeed Direct Rule did little to alter the substance of the financial relationship between Northern Ireland and the rest of the UK. It simply made more formal the relationship between the Treasury and the Department of Finance and Personnel in Northern Ireland which had previously been ad hoc, but no less close than at present.

The appropriate administrative, as opposed to political, steps to make the present procedures less illogical might involve two interlinked steps.

First, the creation of a Select Committee to handle the affairs of Northern Ireland in the same way as the affairs of Scotland and Wales are handled by their respective Departmental Select Committees. Second, the winding up of the NICF and the direct voting of Northern Ireland expenditure by Parliament in the same way as public expenditure for the rest of the UK is currently voted. With or without Direct Rule, the Northern Ireland Supply Estimates could be voted through without the need to engage in duplicate voting of "Transfers to the NICF" at Westminster or the transfer of funds into and out of a notional account.

The political dangers of any change are obvious enough. But these have to be set against the dangers of maintaining the status quo. In the case of financial arrangements the danger is that the impression of an arms length financial relationship will continue to foster economic and political illusions. The danger in Parliament is that the obscurity of the arrangements will mean that Northern Ireland will continue to occupy a dimly understood half-in-half-out position in Westminster and that there will be little understanding of the financial facts, either in Northern Ireland or in the rest of the UK. This cannot be healthy for a good financial working relationship between Northern Ireland and the rest of the UK or provide the basis for a significant Parliamentary contribution to the resolution of Northern Ireland consitutional issues.

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TECHNOLOGY TRANSFER THROUGH STAFF MOBILITY: III

E. Onyenadum and B. Tomlin*

This is the last of three articles detailing the movement of executive-level staff out of two large subsidiaries of a multi-national electrical and electronics manufacturer, and attempting to assess their potential for technology transfer into their host companies. A further series of articles will discuss the innovations they made as evidence of actual technology transfer.

The first article dealt with the jobs they had held in the source company and elsewhere, and showed that exits could be divided into three sub-groups, each with considerable potential for transfer [Onyenadum and Tomlin, 1984a]. The second article dealt with the nature of the companies they went to, and showed that, while most were foreign multi-nationals, a substantial number were Irish: some started by the exits themselves (after a considerable delay), others were in the State sector, where the possibility of 'broadcasting' technology existed [Onyenadum and Tomlin, 1984b]. Although these were welcome signs, it was disappointing to see how few exits joined established Irish manufacturing firms. Further light will be cast on this issue in the present article, which deals with the nature of the jobs taken up in host companies, to see how far these jobs, in terms of functional area and hierarchic level, would easily permit the transfer of technology.

Table 1: *Type of Function carried out by Exits*

Function	Last in Source per cent	First After Source per cent	Current per cent
C.E.O.	—	11	25
Technical (a)	72	54	52
Non-Technical (b)	28	35	23

(a) Technical comprises manufacture; ancillary activities such as quality control and plant management; non-industrial technical work such as testing and technical consultancy.
(b) Non-technical comprises accounting and data processing; personnel management; marketing and management consulting.

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Functional Area in Host Company

As the number of jobs held between the time of leaving the source and the time of the study was very large (participants often changed jobs several times within a single company) it would be impractical to analyse them all. We shall begin our analysis by examining their first job on exit and their current job. Since these are usually very similar — indeed they are often the same in the case of recent exits — we shall concentrate our later analyses on their current jobs only. Clearly a majority left from, went to, and remained in technical jobs. Table 2 shows how little tendency there was to change from one area to another. Most who left from technical positions are now either C.E.O., or doing technical work, most who did not are not.

Before going on to examine their host companies, let us examine the kind of work being carried out, currently and on first move, by the three sub-groups isolated in the first article (Table 3). Since those with technician or lower qualifications, and those who were direct recruit graduates, were most likely to leave from technical positions, it is not surprising to see that they tended both to move to and to stay in technical jobs (we shall refer back to this finding in the section below on hierarchic level attained).

To assess fully their capability for technology transfer, we must relate the jobs taken up by exits to the nature of their host company, in terms of its

Table 2: *Present Function by Last Source Function*

Function	Last Source Function: Technical per cent	Other per cent
C.E.O.	28	17
Technical	67	13
Other	5	70

Table 3: *First and Current Function by Exist Sub-Group*

Sub-Group	First Function: Technical per cent	First Function: Other per cent	Current Function: Technical per cent	Current Function: Other per cent
Technician Level	46	54	52	48
Experienced Graduates	38	62	28	72
Direct Recruit Graduates	71	29	60	40

industrial grouping and ownership (Tables 4 and 5). We have shown absolute numbers rather than percentages in Table 4 to dramatise the fact that no exits are currently engaged on technical work in Irish industrial firms, while many do such work in foreign enterprises. Table 5 begins to shed some light on why this should be so, by showing in greater detail the nature of the industries in which they work. Obviously the vast bulk of exits go into firms manufacturing machinery of one sort or another, mostly electronic, and are currently either running the company or doing technical work in it. This is not surprising, for most exits are engineers whose work experience is in this kind of industry.

But here is where the problem arises. *For there is virtually no established indigenous machinery industry for them to go into.* Irish industry has always been predominantly process-oriented. We never developed a machinery industry of any strength: in 1971 there were only 34 companies with over 100 employees in this sector. As O'Sullivan and Tomlin (1985) show this particular segment of indigenous industry was hit worse than most by the recessions of the last 10 years: it is unlikely that as many as half of these companies still survive. Furthermore, even

Table 4: *Present Function by Type of Host Company (No. of Respondents)*

Function	Type of Company			
	Industrial	Other	Foreign Industrial	Host Other
C.E.O.	7(a)	3	11	—
Technical	—	11	32	—
Other	1	11	7	—
Total	8	25	50	—

(a) Including five who started their own business.

Table 5: *Present Function by Industry Group (No. of Respondents)*

Function	Industry Group					
	Electronic Manufacture		Other Machinery Manufacture		Process Industries	
	No.	%	No.	%	No.	%
C.E.O.	9	26	7	39	2	33
Technical	23	68	8	44	1	17
Other	2	6	3	17	3	50
Total	34	100	18	100	6	100

the survivors have been cutting back on staff rather than expanding. Thus, the employment opportunities in indigenous firms large enough to offer scope to good engineers have simply been non-existent.

It might be asked whether new indigenous firms in this sector could not have absorbed a greater number. The answer is that they probably will — with time. These new firms are predominantly still small and, since their founders largely have a technical background, they no doubt feel they can handle their technical/managerial problems themselves, until the company becomes bigger.

Thus we see that, when a host country has a poorly developed sector, inviting in foreign companies can result in technology transfer in only four ways: (a) by people leaving foreign companies to start their own firms, which a fair number have done in the present case, after considerable delay; (b) by people going to central organisations from which they can 'broadcast' technology to the environment — which a fair number have done; (c) by people later joining new companies such as those in (a) above, as soon as they are big enough to absorb them; (d) by stimulating whatever existing native base exists to make itself attractive to high-quality exits from foreign firms.

Obviously we must anticipate considerable lags before we can expect substantial technology transfer into an area which is poorly developed in the host country: this study suggests that the better part of a generation will pass before it becomes significant. This is not to suggest that we should abandon such a policy — it is crucial in the present world that we develop a significant capability in the engineering industry generally. But we must be realistic and persistent in executing this policy. As a corollary, it now becomes obvious that technology transfer will occur more readily in sectors where the host country already has some capability [Baranson, 1970; Freeman, 1977]. If we are concerned, for instance, about the technical level of our process industries (mostly food and drink) we might consider pursuing foreign investments in these sectors — though no doubt this might be dangerous and opposed by indigenous companies on other grounds.

Hierarchic Level in Host Company

We now examine the hierarchic level attained in host companies, both to see whether exits have the power to innovate (and what innovations to expect) and, as a subsidiary issue, to see who does well and in what kind of firm. Exits attain positions of some importance on leaving — naturally representing a step-up on their exit level — and continue to improve their position as time passes, and as they move. These higher level positions are substantially more likely to have been attained in industry than in services, because many of those in the service sector are in large state-sponsored agencies with deep hierarchies, and where an exit is therefore less likely to go to the top quickly. (Tables 6 and 7).

Given that most of those in industry are in foreign-owned companies, and at senior management level, we might expect from them a preponderance of technico-managerial or system innovations. We should expect purely technical innovations to come from technical staff at a lower hierarchic level. As we shall see in later articles, this expectation is borne out.

Our analysis so far suggests that exits are strongly placed to institute and encourage innovations of a particular kind. (It must not be forgotten that these exits are by no means finished moving onwards and upwards, so their power will continue to increase). We shall close this article by asking briefly whether there are career advantages in coming from a particular background or in going to a particular kind of firm.

Table 8 suggests that a technical background is associated with more varied career possibilities: a greater probability of becoming a C.E.O., but also a smaller probability of becoming a head of function. This in fact does less than justice to technical staff, for they are more likely than non-techni-

Table 6: *Hierarchic Level Attained by Exits*

Hierarchic Level	Last Source Level per cent	First Post-Source Level per cent	Current Level per cent
C.E.O.	—	14	25
Head of Function	6	34	36
Other Management	77	41	33
Supervisory	17	10	5

Table 7: *Hierarchic Level by Type of Host Company*

Hierarchic Level	Industrial No.	Type of Company per cent	Other No.	per cent
C.E.O.	18 (11)	31 (22)	3	13
Head of Function	22 (21)	38 (42)	8	33
Other Management	14 (14)	24 (28)	13	54
Supervisor	4 (4)	7 (8)	—	—
Total	58 (50)	100 (100)	25	100

The figures in parentheses are, respectively, the numbers and percentages at each hierarchic level in *foreign* industrial firms. All non-industrial employment is in Irish firms.

cal staff to have either lower levels of qualifications or less experience (direct recruit graduates). They are also more likely to have left recently and still to be in their first post-exit position. Table 9 shows the difference in level attained by different sub-groups. If these variables associated with a technical background were controlled, its relative advantage would become clearer.[1] Also, it is interesting to observe that many who left from relatively low levels, or with lower levels of qualifications, have nonetheless reached high positions.

We saw in Table 7 that exits tended to do somewhat better in manufacturing firms than in others, partly because they are smaller. It is tempting to ask whether they do better in Irish than in foreign firms. Unfortunately, this question is complicated by the fact that most of those in Irish firms are in larger service companies, whereas most of those in foreign firms are in smaller manufacturing concerns. Furthermore, most of those in Irish manufacturing companies have started their own, and consequently are C.E.O.'s. To make a fair comparison between nationalities of ownership it is therefore necessary to control for all these factors. The result is to

Table 8: *Present Hierarchic Level by Last Source Function*

Hierarchic Level	Last Source Function Technical per cent	 Other per cent
C.E.O.	29	17
Head of Function	29	57
Other Management	37	22
Supervisory	5	4
Total	100	100

Table 9: *Present Hierarchic Level by Exit Sub-group*

Present Hierarchic Level	Technician or Lower No.	Technician or Lower %	Sub-Group Graduate: Direct Recruit No.	Direct Recruit %	Previous Experience No.	Previous Experience %
C.E.O.	5	17	7	28	9	36
Head of Function	8	27	8	32	12	48
Other Management	13	43	10	40	4	16
Supervisory	4	13	—	—	—	—
Total	30	100	25	100	25	100

[1]Among non-technical staff, personnel managers did well. In several cases they had joined at start-up, working under an expatriate chief executive. Having set up the company with him, they were then left in charge when he returned home.

make some of the numbers very small indeed. They are nevertheless reported because of their intrinsic interest.

Table 10 shows that the majority of those going to industry enter somewhat larger foreign companies, but that they do less well in them (so far at least) than those who join smaller foreign firms, and far less well than the tiny number who join small Irish firms. Many of these smaller firms will, one hopes, grow substantially. The moral appears to be that it is better to join a small growing firm — though not necessarily at start-up — than an already established foreign firm. If this remains true, and if it were more widely known among potential exits, it would suggest much scope for small newer Irish companies to attract staff from multi-nationals: but only if they can offer them both technically valuable employment (in the case of younger staff) and hierarchic positions competitive with small incoming foreign firms.

Conclusion

This article has shown that the positions taken up by exits, both in terms of their function and hierarchic level, are very conducive to technology transfer, particularly perhaps of a system or technico-managerial nature. It also points to the fact that our capacity to *receive* technology from these and similar companies is very limited, because of the weak state of the relevant indigenous sector. The only realistic short-term avenues open — starting one's own company or entering a support agency — are in fact being followed. Movement into existing indigenous firms must await the growth of these newly-established companies to the point where they need and can absorb further technical management. This re-emphasises the point in the last article, that industrial policies aimed at developing new capabilities are slow to mature.

Table 10: *Present Hierarchic Level by Ownership and Size of Firm (Industrial Firms only, excluding Owner-Managed Firms)*

Hierarchic Level	Ownership and Size of Firm: Irish Firms, 1-99 Employees No.	%	Irish Firms, 100+ Employees No.	%	Foreign Firms, 1-99 Employees No.	%	Foreign Firms, 100+ Employees No.	%
C.E.O.	2	67	—	—	6	33	4	13
Head of Function	1	33	—	—	7	39	14	45
Other Management	—	—	—	—	4	22	10	32
Supervisory	—	—	—	—	1	6	3	10
Total	3	100	—	—	18	100	31	100

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