Journal of the Statistical and Social Inquiry Society of Ireland
Volume LIII

The Regional Location of Indigenous and Foreign Manufacturing Establishments, 1929-1975

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(read before the Society, 7th December 2023)

Abstract Regional industrial location has been a matter of intense political interest throughout the history of the state. Details of the geographic distribution of manufacturing establishments are sparse however – particularly up to EEC accession – as reporting of the relevant data was heavily constrained by the requirement to maintain firm-level confidentiality. Our research identifies the vast majority of manufacturing establishments with workforces of 100 or more in operation in 1929 and at various dates through to 1975. Establishments of this size accounted for more than 50 per cent of the manufacturing employment recorded in the Census of Industrial Production (CIP) and are of particular importance given the positive relationship between establishment size and average compensation. Our partial repopulation of the CIP allows us to analyse the regional distribution of industry in significantly greater detail than has been possible up to this point.

Keywords: Irish economic history, regional policy, industrial policy, industrial location
JELs: N64, N84, N94, R12

1. INTRODUCTION

The period 1929-1975 spans a number of overlapping regional, industrial and international trade policy regimes. Industrial location under protectionism was subject to influence by ministerial decision. Industrial subsidies for the 'undeveloped areas' of the western seaboard were introduced in 1952 and supplemented by a national industrial grants scheme and the introduction of export profits tax relief four years later. An export processing zone was established at Shannon in 1958. The Anglo-Irish Free Trade Area Agreement (AIFTA) of the mid-1960s was followed by accession to the European Economic Community in 1973. Under the terms of the accession agreement, special safeguard measures for motor vehicle assembly would remain in place until January 1985. Restrictions on intra-Community trade in other industrial goods would be eliminated by mid-1977.

Though regional industrial location had been a matter of intense political interest throughout the history of the state, details of the geographic distribution of manufacturing industry over most of this period are sparse. Reporting of the relevant data from the Census of Industrial Production (CIP) was heavily constrained by the requirement to maintain firm-level confidentiality. Survey data from the Industrial Development Authority (IDA) began to be made available in the mid-to-late 1960s but these were narrowly focussed on the characteristics and performance of plants of recent vintage.

Studies by O'Malley (1967, 1971), Boylan (1980), Gillmor (1985) and Strobl (2004) have attempted to surmount the scarcity of regional establishment-level data by employing data from the population census. As Morgenroth (2009) notes however, since the population census provides information on where respondents reside rather than on where they work, such analyses may 'be subject to substantial bias'. Gillmor (1985) and Strobl (2004) both marry population census data with information from the IDA employment surveys without adequate acknowledgement of the substantial difficulties that this entails.

* We are grateful to the referees, discussants and audience for their helpful comments on the paper.

A further difficulty that arises in attempting to use the population census as a proxy for the CIP is the marked change in the comparability of the two censuses over the decades. As the former includes tradespersons operating on their own account or in enterprises which do not meet the size criterion for inclusion in the CIP, it records more than twice as many manufacturing workers as the CIP for 1926, the first year for which both censuses were conducted for the new Irish state (Table 1).[1] The gap diminished over time (as dressmakers and tailors were progressively replaced by clothing enterprises for example, and as CIP coverage of the smallest concerns improved) and had almost disappeared by 1981.[2]

Table 1: Manufacturing Employment as Recorded in the Census of Industrial Production and the Census of Population, 1926-1981

Manufacturing Employment			
	Census of Industrial Production I	**Census of Population II**	**Column I as a share of Column II**
1926	56,535	118,219	48%
1929	62,439	-	-
1938	97,285	-	-
1946	105,625	147,706	72%
1951	140,283	184,194	76%
1961	157,622	179,436	88%
1971	196,274	213,633	92%
1972	197,315	-	-
1975	195, 093	-	-
1981	223,630	238,144	94%

Sources: CIP (Barry, 2023), CIP 1981, Table A; Pop Census (1926 Pop Cen, Table 1, vol. vii; 1971 Pop Cen, Table 1, vol. viii; 1981 Pop Cen, Table 6, vol. 4).

CIP data are clearly desirable if the focus is on the location of industrial establishments.[3] In order to maintain firm-level confidentiality however the CIP reported on the regional distribution of an industrial aggregate that combined Manufacturing, Building & Construction and Mining, Quarrying & Turf, with the non-manufacturing sectors typically accounting for some 10-15 per cent of the total. Details of the regional distribution of individual manufacturing sectors are inevitably even sparser.[4] Nor is it possible on the basis of the CIP data to track developments in the 'congested', 'undeveloped' or 'designated' areas as these categories cut across certain county boundaries.

Table 2 provides details from the CIP on the regional distribution of this broad industrial aggregate. Mary Daly comments on the data pertaining to the early decades of the new Irish state that 'the more intensive drive for decentralization in the late thirties appears to have been ineffective' (Daly, 1992, p. 112). Table 2 suggests that there was little change in this regard until the mid-to-late 1960s, though it should be noted that Dublin and to a lesser extent the other cities were expanding as a share of the population while the shares of both Connacht and Ulster were declining.[5]

[1] The 1926 CIP (page vii) provides a sector-by-sector comparison of the number of industrial workers recorded in the two censuses for that year. The gap is particularly large in sectors such as grain milling; bread, biscuits & flour confectionery; timber; metals & engineering, and clothing & footwear.
[2] Vertically-integrated business structures increased in prominence in the wake of the Industrial Revolution. Mokyr (2001) reports on the longevity of less vertically-integrated business structures across a number of countries.
[3] An establishment is essentially an individual factory, creamery, brewery, bakery, print works or the like.
[4] The first Census of Industrial Production states that 'in order not to disclose the business of any individual concern, figures are shown separately only for those Counties etc. in which at least three establishments were engaged in production'. Non-CIP based studies of the location of several individual sub-sectors have been conducted by Dwyer (1961), Dwyer and Symons (1963), Gillmor (1985), Press (1989) and Breathnach (2000). See also Barry (2003) and the reports of the Committee on Industrial Organisation of the early to mid-1960s.
[5] See e.g. Gillmor (1985: 343).

Table 2: Regional Distribution of Industrial Employment, 1931-1972 (%)

	1931(a)	1936(a)	1938(a)	1944(a)	1948(a)	1961(a)	1963 (a)	1972(b)
Dublin City	42	43	43	42	42	41	41	31
Rest of Leinster	18	19	19	20	20	23	23	30
Cork City	7	8	7	8	9	7	7	6
Limerick City	3	3	3	3	3	2	2	2
Waterford City	2	2	2	2	2	2	2	2
Rest of Munster	16	14	13	15	13	15	15	19
Connacht	7	6	8	7	7	6	6	6
3-county Ulster	5	5	5	5	5	4	4	5
Total	≈100							

Source: CIP (various years).
Notes: Columns may not sum to 100 due to rounding. (a) Includes Mining & Quarrying and Building & Construction in addition to Manufacturing. (b) Does not include Turf Production and Building & Construction (Statistical Abstract 1974, table 103). Building & Construction accounted for 23,775 jobs in 1972; Manufacturing for 197,310 (Statistical Abstract 1974, table 102).

Publication of the geographic breakdown employed in Table 2 ceased in 1973.[6] Though not directly comparable, the IDA Annual Employment Survey shows that Dublin's share of manufacturing employment continued to decline between 1972 – when the survey commenced – and 1975, the end date of the present analysis (Table 3).[7]

Table 3: Regional Distribution of Manufacturing Employment, 1972 and 1975

Region	1972 (%)	1975 (%)
Dublin City	40	38
Rest of Leinster	22	21
Cork City	14	14
Limerick City	2	3
Waterford City	4	4
Rest of Munster	6	7
Connacht	6	7
3-county Ulster	6	6
Total	**100**	**100**

Source: IDA/Forfás/DETE Annual Employment Survey

The IDA had begun to collect data on new grant-aided industries from the mid-1960s and these data spawned a large number of contemporary studies.[8] McAleese (1977, table 3.4, 9, 23) provides a comparison of the regional distribution of 'new industry' employment and aggregate manufacturing employment for 1974.[9] His results are reported in Table 4. The planning regions referred to in the table had been established under the Local Government (Planning and Development) Act of 1963. There was not an exact overlap between the least developed of these regions (Donegal, Sligo–Leitrim, Mayo–Galway and the Midlands) and the 'undeveloped' or 'designated areas' which were eligible for preferential grant treatment. As revealed in the final column, the Mid-West/SFADCo region performed best by this metric, followed by the group of least-developed planning regions.[10] The relatively low share of new industry locating in the advanced Eastern region is particularly striking.

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[6] CIP 1980 page 147 states that 'between 1946 and 1973, the [Statistical] Abstract included an analysis of the main variables by reference to the location of establishments.'
[7] The IDA Employment Survey (now conducted by the Department of Enterprise, Trade and Employment, DETE) began as an annual survey of all existing manufacturing plants and was later extended to internationally-traded services. The response rate has generally been close to 100 per cent (Barrios, Gorg and Strobl, 2006). The 1972 total for the CIP aggregate in Table 2 was 227,442. The total for the IDA survey for 1972 was 206,288
[8] See e.g. Survey of Grant-Aided Industry (1967), Ó hUiginn (1972), Teeling (1975), Buckley (1975), McAleese (1977), and numerous papers by P. N. O'Farrell, several of which are cited in the references.
[9] 'New industries' refer here to projects supported by the Shannon Development Authority (SFADCo) and by IDA 'new industry grants' (as distinct from small-industry grants and re-equipment grants).
[10] SFADCo, the Shannon Free Airport Development Company, had been formally established in 1959 and was assigned responsibility for industrial development in the broader Mid-West region in 1968.

Table 4: Regional distribution of manufacturing and 'new industry' employment, 1974

	Regional share of manufacturing employment (%) I	Regional share of 'new industry' employment (%) II	Ratio (II/I)
Least-developed regions	13.1	19.1	1.5
Mid-West	7.7	12.9	1.7
East	46.4	23.6	0.5
Rest of the country	32.8	44.4	1.4
Total	**100**	**100**	**1**
	Manufacturing employment	**'New industry' employment**	
Total	210,193	60,161	29%

Source: Regional shares derived from Dermot McAleese, *A Profile of Grant-Aided Industry in Ireland*, (Dublin: Industrial Development Authority, 1977), Table 3.4, 23; total 'new industry' employment (end 1974) from McAleese, *Profile*, Table 3.3, 21; total manufacturing employment (1974) from *Statistical Abstract of Ireland*, 1978, Table 101 (derived from CIP).

Some three-quarters of the increase in manufacturing employment between 1963 and 1975 was accounted for by 'new' (post-1956) export-oriented foreign firms.[11] The presumption has been that the increased dispersion of industry across the country over this period was a consequence primarily of the differential location patterns of these firms [Strobl (2004), Drudy (1991), O'Farrell (1975), MacFeely (2016)].[12]

2. THE CONTRIBUTION OF THE PRESENT PAPER

The present paper contributes to the analysis of regional industrial location by identifying the largest manufacturing establishments in operation in the Free State area in 1929 and at various other dates through to 1975.[13] Identifying the establishments allows us to distinguish between incumbents and new entrants and between indigenous and foreign-owned firms as well as between foreign-owned firms of different vintages. Our focus is on medium-sized establishments with workforces of 100-499 and large-scale establishments employing 500 workers or more. Kennedy and Healy (1985) estimate that such establishments accounted for 53 per cent of the manufacturing employment recorded in the CIP in 1929, rising to 65 per cent by the mid-1970s (Table 5).

Table 5: Distribution of Employment in Irish Manufacturing Industry by Establishment Size, various years, 1929-1975

Establishment size (by persons engaged)	1929	1938	1946	1958	1963	1968	1975
100-199			*17.7*	*15.3*	*16.5*	*17.3*	*17.9*
200-499			*21.7*	*22.8*	*23.1*	*22.9*	*22.1*
100-499	**34.8**	**39.5**	**39.4**	**38.1**	**39.6**	**40.2**	**40**
500+	**17.9**	**14.2**	**17.2**	**20.9**	**24.9**	**25.7**	**24.7**
TOTAL (100+)	**52.7**	**53.7**	**56.6**	**59**	**64.5**	**65.9**	**64.7**

Source: Kennedy and Healy (1985), Table 2.2 (based on CIP data)

Medium and large-scale establishments would have been of particular importance as average compensation is generally positively related to establishment size. Kennedy and Healy (1985, table 4.5) provide details of the relationship for 1979. Table 6 reports the position for 1958. A similar empirical regularity prevails elsewhere and applies to firm size as well as establishment size.[14] There may have been a wage premium associated with employment in protectionist-era foreign-owned businesses as is the case under outward orientation but there is unfortunately little Irish or international evidence on this.[15]

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[11] Statistical Abstract (1966, 1978), O'Hearn (1987).
[12] See also Survey of Grant-Aided Industry (1967, pps. 29, 32).
[13] Barry (2023) identifies the largest firms in operation over this period. Sources for the firm-level data cited in the book are available at: https://doi.org/10.25546/101139 (Barry Project: Firm-Level Data on Irish Industrial History). The large and medium-sized establishments are a subset of the firms of this size. Much extra work has gone into determining which precise establishments met these size criteria (Scholz, 2022).
[14] Dickens and Katz (1986) note that, internationally, 'large employers typically pay more than small employers within a given industry'. See also Brown and Medoff (1989) and Strobl and Thornton (2004).
[15] Moran (2005, 285) reports that tariff jumping foreign investment projects in Latin America paid higher than average host-country manufacturing wages. It is unclear to what extent this is a sectoral or an ownership effect however.

Table 6: Relationship between Establishment Size and Average Labour Compensation, manufacturing establishments, 1958

Establishment size (persons engaged)	Average wage and salary paid (£)
<5	249
5 to 9	305
10 to 49	346
50 to 99	350
100 to 199	366
200 to 499	415
500+	474

Source: Calculated from Table 9, Census of Industrial Production 1958-1960, Supplement to Irish Trade Journal and Statistical Bulletin, December 1962

Unsurprisingly, given the more than three-fold increase in manufacturing employment over the period of the analysis, the number of medium and large-scale establishments also increased substantially. The CIP for 1929 recorded nine manufacturing establishments with workforces of 500+. (There were a further two large-scale railway engineering works, which would be included in later censuses.) There were 52 manufacturing establishments of this size by 1975. The number of manufacturing establishments with 100 or more persons engaged more than trebled over the period (Table 7).

Table 7: Number of manufacturing establishments with 100 or more persons engaged

Year	Workforce of 100-499	Workforce of 500+	Workforce of 100+
1929	121	9	130
1938	211	13	224
1944	183	13	196
1947	247	21	268
1958	273	31	304
1963	330	45	375
1975	393	52	445

Source: CIP (various years)
Note: Railway engineering works not included in the CIP for 1929, 1938, 1944 and 1947.

3. REGIONAL POLICY UP TO EEC ACCESSION

Regional policy in Ireland dates from the establishment of the Congested Districts Board (CDB) in 1891 as part of the policy of 'killing home rule with kindness' (Lee, 1973: 123). The disproportionate poverty of the western seaboard was to be alleviated primarily through the distribution of untenanted land but also through the development of infrastructure and industry. From 1909 the 'congested districts' would refer to Donegal, Kerry, West Cork, parts of Co. Clare and all of Connacht (Freeman, 1943). Though the CDB was abolished at independence, regional issues remained formally on the agenda as both sides of the civil war divide placed a premium on the preservation of Gaeltacht areas.[16]

Protectionism, as Waterbury (1999) notes, enhances the 'discretionary interventions, patronage resources and rent-seeking opportunities for politicians in electoral democracies'. Both the 'selective protectionism' of the Cumann na nGaedheal era and the 'full protectionism' that followed under Fianna Fáil from 1932 provided the authorities with policy instruments which could be used to influence industrial location. The policy regime itself however may have made regional industrial dispersal more difficult to achieve. As Meenan (1970, p.322) notes:

> The most obvious, and most facile, means of industrialization was to impose tariffs on imported consumer goods so that it would be profitable to manufacture them in Ireland… Because they depended on imported raw materials, which replaced the finished goods in the import list, the new industries clustered around the major ports, which were also the major cities. This strengthened the forces making for urbanization

Strong localist pressures were nevertheless brought to bear on government to seek to influence industrial location (Daly, 1992, pp.106–16). Further powers were provided by the Control of Manufactures Acts of the early 1930s which were designed to concentrate ownership and control of newly established firms in the hands of Irish citizens. Firms that did not fulfil the criteria set out in the legislation were required to apply for a manufacturing licence. Lemass, as Minister for Industry and Commerce throughout most of the period from 1932 to 1959, endeavoured

[16] This brief history of regional policy draws on Barry and Ó Fathartaigh (2014) and Barry (2023).

to make approval of many of these licences contingent on the establishments being located in the west. He was said by one of his senior departmental officials for example to have 'compelled' a hat factory—presumably the French-owned Les Modes Modernes—to locate in Galway (Daly, 1992, p.111). Though many applicants successfully resisted these pressures, a large number of projects ended up in compromise locations well beyond the major urban centres (Daly, 1992, pp.107-112).

A further clause provided that a licence was required to manufacture any item declared to be 'a reserved commodity' (Daly, 1992). The possibility that foreign-owned firms might come to monopolise the market had been one of the arguments used to support the introduction of the acts. Lemass had raised the possibility of offering such a monopoly position as an inducement to General Textiles, which was established in association with Belgian interests, to locate in Connacht.[17] When the cotton factory was set up in Athlone in 1936, the company was instead given a 15-year management contract, the exclusive right to manufacture certain products over this same period, and tariff protection for other products it was planning to produce (Eaton, 2003). The one instance in which the 'reserved commodity' clause was used was in the case of Irish Sewing Cotton, a British firm established in Westport, Co. Mayo in 1935 (Daly, 1992, p. 73).[18]

Lemass also used the offer of protection to influence indigenous industrial projects. When Harold Goodbody of the Clara jute firm J. & L.F. Goodbody was approached by the Waterford Sack & Bag Co. in the mid-1930s to inquire whether he would be interested in acquiring the operation, he found the site and the business to be unsuited to modern production methods. He was convinced by Lemass to establish in Waterford nevertheless, in return for which the government increased the duty on the type of jute products to be produced at the plant. Production commenced at Tycor in Waterford in March 1938 (Stewart, 1965). Employment levels at General Textiles, Irish Sewing Cotton and the new Goodbody factory had all expanded to 100 or more by the end of the decade.

The Fianna Fáil government meanwhile had one of the three new sugar beet factories built at Tuam in County Galway – though the area was not particularly well-suited to sugar beet production (Gillmor, 1985, p.229) – while four of the five industrial alcohol distilleries commissioned by the government in 1933 were also built in peripheral areas – two in Donegal, one in Monaghan and one in County Mayo.[19]

Following three decades of independence, dissatisfaction with the progress achieved thus far led the government to experiment with a market-based regional development strategy, as was being employed elsewhere.[20] Under the terms of the Undeveloped Areas Act of 1952, cash grants were made available to industrial enterprises establishing in the 'undeveloped areas' (the new rubric used to describe the former congested districts).[21]

Although the Industrial Development Authority had only recently been established to promote industrial development, a new agency, An Foras Tionscal (AFT), was set up to administer the grants. The agencies would be merged in 1969.[22] The new scheme occasionally led to controversy, as in the case of Sligo Spinning, a Castleguard Textiles subsidiary established in 1955.[23] More than one-third of the cost of the new facility was covered by grant aid.[24] A complaint from Youghal-based competitor Blackwater Cottons culminated in assurances from Lemass that the Sligo firm was established with the express purpose of spinning imported yarns rather than the type of hosiery yarns that Blackwater produced.[25]

As would occur again in later crisis periods (MacFeely, 2016), regional policy was subordinated to the national economic imperative during the severe economic crisis of the mid-1950s.[26] The Finance Act of 1956 offered a fifty per cent tax remission on profits derived from new industrial exports while the Industrial Grants Act of the same year empowered the IDA to offer capital grants to enterprises establishing outside the undeveloped areas.[27]

[17] *Irish Times*, 20 July 1935.
[18] As Lemass told the Dáil, this was to 'secure the development of the sewing cotton industry in the West of Ireland': *Dáil Éireann debates*, lviii, 8 (19 Jul. 1935).
[19] Daly (1992, pp. 107, 112-14); *Dáil Éireann debates*, lxix, 1305-07 (1 Dec. 1937).
[20] NESC (1975, p.13); Survey of Grant-Aided Industry (1967, p.7).
[21] The Act defined the undeveloped areas as (i) the congested areas, and (ii) any other area to which, by order of the Minister, the Act is declared to apply. The evolution of the designation is described in NESC (1985). The designated area of West Cork was the area externally bounded from the north and east by Charleville, Kanturk, Macroom and Carrigaline. All of Co. Clare other than the Shannon Free Airport Area was designated in 1967. As these are largely coterminous with the traditional 'congested districts', this is the group to which we refer as the designated areas. Other areas would be included over time, frequently for political reasons.
[22] O'Malley (1990) p. 88.
[23] *Irish Press*, 23 Jun. 1955.
[24] *Irish Independent,* 16 Mar. 1957.
[25] *Irish Press*, 4 Jun. 1955; Irish Independent 20 Jun. 1956
[26] NESC (1975, pp 4-5); Girma, Strobl and Walsh (2008).
[27] O'Malley (1990) p. 88.

The distinction between the incentives available inside and outside the undeveloped areas would be further eroded over time, though some margin of difference was maintained. The peripheral areas would also benefit later from the provision of 'advance factories' and from the IDA practice of guiding potential investors along predetermined "itinerary" routes (Breathnach, 1982).[28]

O'Farrell would observe in 1971 that 'no single development problem in Ireland has generated so much controversy and emotion as the concept of spatially polarised growth'.[29] The era would witness a major clash between industrial 'concentrationists' and 'dispersionists'. The most substantive difference between the 1958 Whitaker report *Economic Development* and the associated government *Programme for Economic Expansion* was on regional policy. Whitaker argued that

> A realistic appraisal of development prospects indicates that, apart from exceptional cases, industries must be at or near the larger centres of population. Special subsidisation of remote areas by more extensive grants for industrial development is wasteful and retards progress in areas better situated.[30]

Mary Daly describes the First Programme as 'a watered-down version of *Economic Development* that expunged or diluted many of the tougher, politically-unpalatable recommendations'.[31] Whitaker's views on industrial location were not incorporated. Responsibility for regional industrial dispersal would ultimately devolve to the IDA (Barry, 2023).

The Industrial Development Authority Act of 1969 formally assigned the body a regional development mandate, imparting an added impetus – as one senior IDA manager put it – 'to an activity that had been underway for some time'.[32] The IDA's Small Industries Programme was launched on a pilot basis in 1967 and extended across the country two years later. Its Regional Industrial Plans for 1973–1977 set out manufacturing job targets for large numbers of grouped towns and villages. Only 50 per cent of the new jobs envisaged were to be located in the nine growth centres that had been recommended by the Buchanan Report of 1969, the main regional development strategy document of the time.[33]

The period since 1961 had already witnessed substantial industrial dispersal. This was particularly the case since 1966.[34] As seen earlier in Table 4, the Mid-West/SFADCo region performed best in attracting new export-oriented industries over this period, followed by the group of least-developed planning regions. The 1958 Finance Act had offered a 25-year exemption on export profits for qualifying companies establishing at Shannon, at a time when the general exemption was for ten years. An export processing zone was established at the airport under the Customs Free Airport (Amendment) Act of 1958.[35] The Shannon Free Airport Development Company (SFADCo) was established in 1959 to operate the zone.

4. LARGE-SCALE ESTABLISHMENTS

Location

Table 8 provides data from the CIP on the number of establishments with workforces of 500 or more in operation in 1929 and at various other dates through to 1975. The CIP also identifies the sectors in which these and establishments of other size categories were located. There were two establishments of the largest size category in Bread, Biscuits and Flour Confectionery in 1929, for example, and four in 1963. An adjustment needs to be made for the railway engineering works at Inchicore and Dundalk which were not included in the CIP in the years to 1947, but are included for the years from 1958. (The engineering works at Dundalk had closed by 1963.)

We have identified all of these large-scale establishments, along with details of their location and nationality of ownership. Consistent with the data presented earlier, a change in the pattern of regional location becomes apparent from 1963. For our benchmark years, Dublin's share of large establishments fell below one half for the first time in the 1970s and large-scale establishments appear for the first time in some of the 'undeveloped' areas over these years.[36] Large-scale establishments remain highly regionally concentrated however: the four counties that hosted the 11 large-scale establishments in 1929 continued to host 84 per cent of the more than 40 in operation in 1963 and 75 per cent of the more than 50 in existence in 1972 and 1975.[37]

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[28] O'Malley (1990) p. 89; NESC (1975) pp 24-5; Meyler and Strobl (2000)
[29] O'Farrell (1971), 453.
[30] Whitaker Report, 218.
[31] Daly (2016), 23.
[32] *Irish Times*, 20 Nov. 1973.
[33] NESC (1975: 48); IDA (1972), 16.
[34] See Table 1, 'Regional industrial development', *Irish Times*, 20 Nov. 1973.
[35] *Irish Times*, 27 Sep. 1960. For more on the conditions determining firm eligibility, see *Irish Times*, 13 Feb. 1963.
[36] We do not distinguish between Dublin city and county in the table. Balbriggan is the only town in North County Dublin to feature. Given the size of Co. Cork, we distinguish between Cork city and the rest of the county.
[37] As the largest establishments tended to have been among those longest established, the share of large-scale establishment employment in the four original host counties was even greater.

The table also includes selected details on foreign ownership. The letters **TF** denote a foreign-owned 'tariff factory'. Guinness, though technically foreign-owned since its flotation on the London stock market in 1886, was clearly not a tariff factory, nor was the original export-oriented Ford plant in Cork, which commenced production in 1919. As a decision to close the Ford plant was reversed when the newly-elected Fianna Fáil government imposed restrictions on the importation of fully assembled vehicles (from which point the plant produced largely for the protected home market) we change Ford's status to **TF** from 1932. The label **BF** refers to a 'brownfield' foreign direct investment (FDI) acquisition – i.e. a formerly indigenous firm that had been acquired by a foreign entity subsequent to its having reached a scale of more than very modest size – while **XF** refers to a 'new' (post mid-1950s) export-oriented foreign enterprise. There are judgement calls to be made in several of these cases also.[38]

Table 8: Location of Establishments with 500+ Persons Employed, 1929-1975

Year	**1929**	**1938**	**1947**	**1963**	**1972**	**1975**
No. of large scale establs as reported in CIP	9	13	21	45	53 (authors' estimate)	52*
No. of large scale establs including railway engineering works	11	15	23	45	53	52*
Location	Dublin 7 **(2xTF)**	Dublin 10 **(3xTF)**	Dublin 12 **(3xTF)**	Dublin 24 **(7xTF)** **(2xBF)**	Dublin 21 **(5xTF)** **(2xBF)** **(2xXF)**	Dublin 24 **(5xTF)** **(1xBF)** **(3xXF)**
	Cork1	Cork 3 **(2xTF)**	Cork 4 **(2xTF)**	Cork 5 **(3xTF)**	Cork 7 **(3xTF)** **(1xXF)**	Cork 8 **(3xTF)** **(1xXF)**
	Co. Cork 1		Co. Cork 1	Co. Cork 2	Co. Cork 6	Co. Cork 4
	Louth 1	Louth 1	Louth 3 **(2xTF)**	Louth 5 **(2xTF)** **(1xBF)**	Louth 5 **(1xTF)** **(1xBF)** **(1xXF)**	Louth 4 **(1xTF)** **(1xXF)**
	Offaly: 1.	Offaly: 1.	Offaly: 2 **(1xTF)**	Offaly:2 **(1xTF)**	Offaly:1 **(1xTF)**	
			Carlow 1	Carlow: 1		Carlow: 1
				Westmeath 1 **(1xTF)**		
				Waterford 3	Waterford 2	Waterford 2
				Kildare 1	Kildare 2	Kildare 2
				Wicklow: 1.	Wicklow: 2	Wicklow: 1
					Meath 1	
					Shannon 2 **(2xXF)**	Shannon 1 **(1xXF)**
					Co. Limerick 2 **(2xXF)**	Co. Limerick 2 **(2xXF)**
					Co. Kerry 1 **(1xXF)**	Co. Kerry 1 **(1xXF)**
					Co. Sligo 1 **(1xXF)**	Co. Sligo 1 **(1xXF)**
						Co. Galway 1 **(1xXF)**
						Co. Mayo 1 **(1xXF)**

* Note: While the CIP for 1975 reports a total of 52, our research unearths 53. (One or other of these establishments would presumably have been marginally under 500 at the time.)

[38] Rowntree-Mackintosh is categorised as **TF** rather than **BF** though both firms entered Ireland separately in the 1920s by acquiring small indigenous concerns. Williams & Woods, which was acquired by British firm Crosse and Blackwell in the 1920s, could be characterised as either **TF** or **BF**. The Philips factory in Dublin was originally established in the 1950s to produce for the protected market but later became export-oriented, while Verolme shipyard in Cork could be classified as either **TF**, **BF** or **XF** (Barry, 2023).

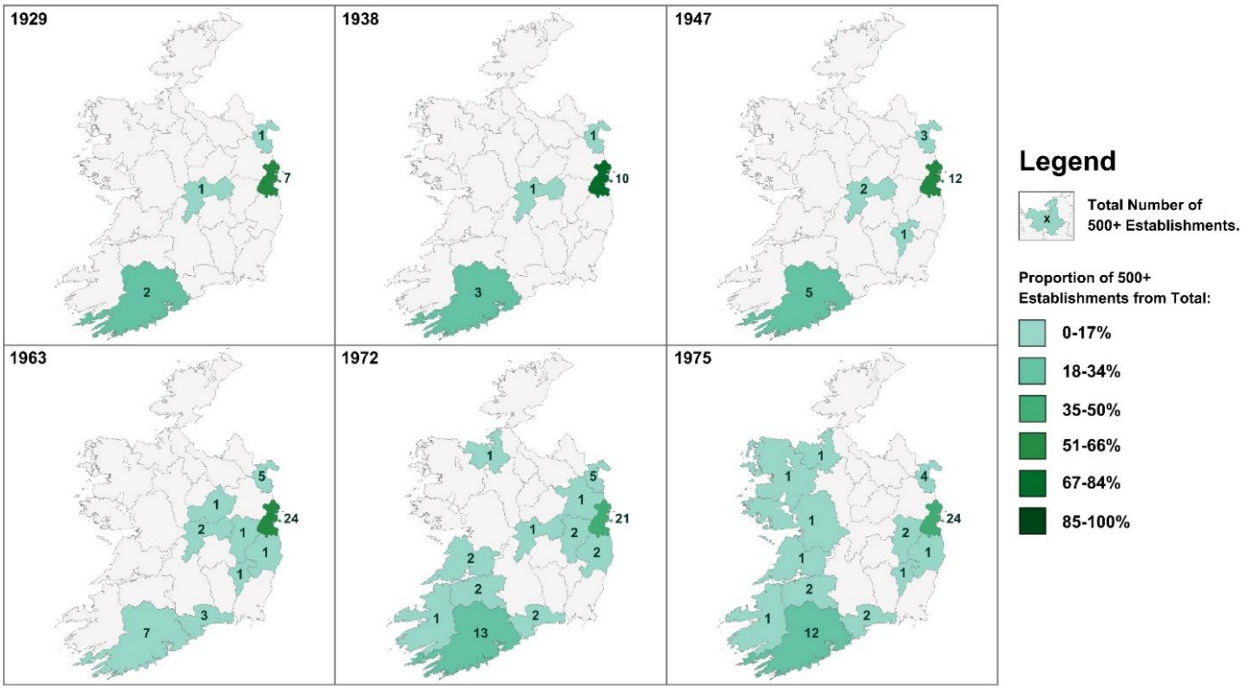
As revealed in the table, tariff jumpers (**TF**) are responsible for the addition of only one new location to the list over the decades. This is the General Textiles plant in Athlone, Co. Westmeath, which appears in the column for 1963. Tariff factories were not therefore a major contributor to regional dispersion. New export-oriented MNCs (**XF**) by contrast *were* a major contributor to the increased dispersion seen in the later years of the study period. In 1972 and 1975, they were responsible for all but one of the new locations to appear on the list (the sole exception in this case being Navan Carpets in Co. Meath, which appears in the column for 1972).

That the four counties that hosted large establishments in 1929 accounted for all of the large foreign-owned tariff factories throughout the entire period (as well as all of the brownfield acquisitions) supports the suggestion by James Meenan and Mary E. Daly that protectionism did relatively little to advance regional dispersal. Contrary to Meenan however, not all of the plants were established at port locations: some were in inland areas with good transport links and established industrial traditions. That the regions that entered the table for the first time in the 1970s all did so by hosting new export-oriented MNCs supports the suggestion by later writers that the 'industrialisation by invitation' strategy was associated with greater industrial dispersion.

Chart 1 depicts the changing distribution of large establishments over the period 1929-1975. The share accounted for by Dublin City and County remained largely static between 1929 and 1938 but declined thereafter. By the 1970s, the west and southwest were becoming increasingly significant locations.

Chart 1:

Distribution of Large Manufacturing Establishments in Ireland 1929 - 1975



Location of Large Establishments in Individual Industrial Sectors

We turn now to an analysis of the patterns pertaining to individual industrial sectors. Table 9 reports on the class of large establishments in Food, Drink & Tobacco. Other than in the cases of the beef and dairy industries, the various sub-sectors remained strongly concentrated in Dublin. Semi-state company Irish Sugar and the long-established Carrolls tobacco factory in Dundalk were the only entities not to conform to this pattern. The beef and dairy industries on the other hand – in which large establishments began to emerge only in the AIFTA era of the mid-to-late 1960s – were largely based in areas other than Dublin.

Table 9: Large-scale establishments in Food, Drink & Tobacco

1929	1938	1947	1963	1972	1975
Bread, Biscuits and Flour Confectionery					
Jacobs (Dublin); Bolands (Dublin)	Jacobs (Dublin)	Jacobs (Dublin); Bolands (Dublin); Johnston, Mooney & O'Brien (Dublin)	Jacobs (Dublin); Bolands (Dublin); Bolands Biscuits (Dublin); Johnston, Mooney & O'Brien (Dublin)	Jacobs (Dublin); Bolands (Dublin); Johnston, Mooney & O'Brien (Dublin)	Jacobs/Irish Biscuits (Dublin); Bolands (Dublin); Johnston, Mooney & O'Brien (Dublin)
Sugar, sweets and chocolate confectionery					
Williams & Woods (Dublin) **TF**;	Williams & Woods (Dublin) **TF**; Rowntree (Dublin) **TF**	Williams & Woods (Dublin) **TF**; Irish Sugar (Carlow)	Williams & Woods (Dublin) **TF**; Rowntree (Dublin) **TF;** Irish Sugar (Carlow); Irish Sugar (Co. Cork); Cadbury (Dublin) **TF;** Urney/HB (Dublin) **BF**	Williams & Woods (Dublin) **TF**; Rowntree (Dublin) **TF;** Irish Sugar (Co. Cork); Cadbury (Dublin) **TF;**	Williams & Woods (Dublin) [39], **TF**; Rowntree (Dublin) **TF;** Irish Sugar (Carlow); Cadbury (Dublin) **TF;**
Beef					
			Clover (Waterford)	Clover (Waterford); Irish Meats (Kildare)	Clover (Waterford); Irish Meats (Kildare); International Meats (Dublin)
Dairy					
				Mitchelstown (Co. Cork); Ballyclough (Co. Cork); Golden Vale (Co. Cork); HB (Dublin) **BF**	Mitchelstown (Co. Cork); Ballyclough (Co. Cork); Golden Vale (Co. Cork); HB (Dublin) **BF**; Premier Dairies (Dublin)[40]
Drink					
Guinness (Dublin)	Guinness (Dublin)	Guinness (Dublin)	Guinness (Dublin)	Guinness (Dublin)	Guinness (Dublin); Cantrell & Cochrane (Dublin)
Tobacco					
Wills (Dublin) **TF**	Wills (Dublin) **TF**	Wills (Dublin) **TF**	Wills (Dublin) **TF**; Players (Dublin) **TF**; Carrolls (Louth)	Players-Wills (Dublin) **TF**; Carrolls (Louth)	Players-Wills (Dublin) **TF**; Carrolls (Louth)

The Textiles, Clothing and Footwear sectors were also largely based in areas other than Dublin city (Table 10). Cork had long been the centre of the woollen industry.[41] J. & L.F. Goodbody of Clara and Smyths of Balbriggan had been leaders in the Irish jute and hosiery sectors respectively since the mid-1800s. Footwear production had been concentrated in Co. Louth since the Cumann na nGaedheal tariffs of the mid-1920s.[42]

[39] Willwood had transitioned into fruit and vegetable processing by this date.
[40] Premier Dairies in Dublin also employed more than 500 in 1972, but since 'pasteurisers and bottlers were included for the first time in 1973' (Statistical Abstract, 1977, p. 1171) it is included for 1975 but not for 1972. HB by contrast was an ice cream factory.
[41] Bielenberg (1991, 40) ascribes this to the lead set by Martin Mahony & Brothers (Blarney Woollen Mills), whose technical and organizational innovations were copied by other local producers.
[42] The factors reported to have favoured Co. Louth were its industrial tradition, labour availability, good port and rail facilities, and easy access to Dublin: Dwyer (1961). The importance of a region's industrial tradition is explained by frequent references to difficulties pertaining to men previously employed in agriculture being 'difficult to train in industrial processes or in adapting themselves to an industrial environment' (Survey of Grant Aided Industry, 1967, p.92).

Table 10: Large-scale establishments in Textiles, Clothing and Footwear

1929	1938	1947	1963	1972	1975
Textiles and Clothing					
Goodbody Jute (Offaly); Blarney Woollen Mills (Co. Cork)	Goodbody Jute (Offaly); Smyth Hosiery (Co. Dublin); Sunbeam (Cork)	Goodbody Jute (Offaly); Blarney Woollen Mills (Co. Cork); Smyth Hosiery (Co. Dublin); Sunbeam (Cork); Salts (Offaly) **TF**; Lee (Cork); Polikoff (Dublin) **TF**	Goodbody Jute (Offaly); Goodbody Jute (Waterford); Blarney Woollen Mills (Co. Cork); Sunbeam (Cork); Salts (Offaly) **TF**; General Textiles (Westmeath); Irish Ropes (Kildare)	Blarney Woollen Mills (Co. Cork); Sunbeam (Cork); Salts (Offaly) **TF**; Youghal Carpets (Co. Cork); Navan Carpets (Meath); Lana-Knit (Shannon) **XF**; Pretty Polly (Kerry) **XF**	Sunbeam (Cork); Youghal Carpets 1 (Co. Cork); Youghal Carpets 2 (Co. Cork); Pretty Polly (Kerry) **XF**; Glen Abbey (Dublin)
Footwear					
		Halliday (Louth) **TF** ; Rawson (Louth) **TF**	Halliday (Louth) **TF**; Rawson (Louth) **TF**	Halliday/Clarks (Louth) **TF**	Halliday/Clarks (Louth) **TF**

In the case of Metals & Engineering, there is a clear distinction between the location patterns of traditional segments (Metals, Motor Vehicles & Parts and Other Transport Equipment) which were largely based in Dublin and Cork, and to a lesser extent in Co. Louth, and the more dispersed pattern apparent in the case of the 'modern' segment (Electrical Equipment & Apparatus).

Table 11: Large-scale establishments in Metals and Engineering

1929	1938	1947	1963	1972	1975
Metals					
	Hammond Lane (Dublin)		Irish Steel (Cork)	Irish Steel (Cork) Ferenka (Limerick) **XF**	Irish Steel (Cork) Ferenka (Limerick) **XF**
Electrical					
			Philips (Dublin) **TF**; AET (Louth) **BF**; Pye (Dublin) **TF**; Unidare (Dublin)	AET (Louth) **BF**; Ecco (Louth) **XF**; EI Co. (Shannon) **XF**; Krups (Limerick) **XF**; Technicon (Dublin) **XF**	Philips (Dublin) **XF**; Ecco (Louth) **XF**; EI Co. (Shannon) **XF**; Krups (Limerick) **XF**; Technicon (Dublin) **XF;** Digital (Galway) **XF**; Travenol (Mayo) **XF**
Motor Vehicles and Parts					
Ford (Cork)	Ford (Cork) **TF**	Ford (Cork) **TF**; CIE bus assembly (Dublin); Another domestic (Dublin)	Ford (Cork) **TF**; Brittain, Lincoln & Nolan (Dublin); Another domestic (Dublin)	Ford (Cork) **TF**; Semperit (Dublin) **XF**; Fiat (Dublin) **TF**	Ford (Cork) **TF**; Semperit (Dublin) **XF**; Fiat (Dublin) **TF**
Other Transport Equipment					
Inchicore railway engineering (Dublin); Dundalk railway engineering (Louth)	Inchicore railway engineering (Dublin); Dundalk railway engineering (Louth)	Inchicore railway engineering (Dublin); Dundalk railway engineering (Louth)	Inchicore railway engineering (Dublin); Verolme Shipyard (Cork) **XF**; Aer Lingus maintenance (Dublin)	Inchicore railway engineering (Dublin); Verolme Shipyard (Cork); Aer Lingus maintenance (Dublin)	Inchicore railway engineering (Dublin); Verolme Shipyard (Cork); Aer Lingus maintenance (Dublin

The Paper, Printing and Publishing sector was firmly Dublin-based, while Clay, Glass and Cement, unsurprisingly, was more dispersed (Table 12).

Table 12: Large-scale establishments in Paper, print and publishing and Clay, glass and cement

1929	1938	1947	1963	1972	1975
Paper and Paper Products					
			Clondalkin Paper Mills (Dublin); Killeen Paper Mills (Dublin) **BF**	Clondalkin Paper Mills (Dublin); Killeen Paper Mills (Dublin) **BF**	Clondalkin Paper Mills (Dublin)
Printing and Publishing					
Independent Newspapers (Dublin);	Independent Newspapers (Dublin); Helys (Dublin)	Independent Newspapers (Dublin)	Independent Newspapers (Dublin); Browne & Nolan (Dublin); Another domestic (Dublin)	Independent Newspapers (Dublin); Irish Press (Dublin)	Independent Newspapers (Dublin); Irish Press (Dublin)
Clay, Glass and Cement					
			Irish Glass Bottle Co. (Dublin); Arklow Pottery (Wicklow); Waterford Glass (Waterford) Irish Cement (Louth)	Irish Glass Bottle Co. (Dublin); Arklow Pottery (Wicklow); Waterford Glass (Waterford); Irish Cement (Louth); Roadstone (Dublin); John A. Wood (Cork)	Irish Glass Bottle Co. (Dublin); Waterford Glass (Waterford); Irish Cement (Louth); Roadstone (Dublin); John A. Wood (Cork)

The other remaining sectors charted in Table 13 were a mixture of traditional and modern segments, with the by-now-familiar location patterns associated with these industry characteristics.

Table 13: Large-scale establishments in Other Remaining Sectors

1929	1938	1947	1963	1972	1975
Chemicals, Man-Made Fibres, Rubber and Plastics					
	Dunlop (Cork) **TF**;	Dunlop (Cork) **TF**;	Dunlop (Cork) **TF**;	Dunlop (Cork) **TF**; Gouldings (Dublin); NET (Wicklow); Snia (Sligo) **XF**; Pfizer (Cork) **XF**; Irish Ropes (Kildare) [43]	Dunlop (Cork) **TF**; NET (Wicklow); Snia (Sligo) **XF**; Pfizer (Cork) **XF**; Irish Ropes (Kildare)

Certain sectors then – bread, biscuits and flour confectionery; cocoa, chocolate and sugar confectionery (other than sugar processing); drink and tobacco; and paper, print and publishing – appear to have been particularly heavily concentrated in Dublin, while the beef and dairy industries displayed no such concentration. (These characterisations are supported by the industry location quotients for Dublin city provided by O'Malley, 1971, and Boylan, 1980.[44]) Table 14 demonstrates that the sectors that were highly concentrated in Dublin declined as

[43] From 1966, Irish Ropes had moved into polypropylene; hence we include it under 'plastics' for 1972 and 1975.

[44] The industry location quotients are derived from the 1961 population census. They measure a region's share of industry in employment relative to its share of employment across all industries. As Boylan (1980) explains: 'where the value of the location quotient is less than unity, the given county is interpreted to possess less than its proportionate share of the industry in question, and conversely, where its value is greater than unity, the county in question is interpreted as having more than a

a share of aggregate manufacturing employment over the 1960s and 1970s, while the meat and dairy sectors expanded. [45] Quite apart from the differential location pattern of 'new' export-oriented foreign industries therefore, the changing sectoral structure of the economy played a role in the decline in Dublin's share of manufacturing employment over this period.

Table 14: Developments in Dublin-centric and non-Dublin-centric sectors, 1963-1975

Sector	Industry location quotient for Dublin City, 1961	Share of manufacturing employment, 1963	Share of manufacturing employment, 1975
Dublin-centric sectors			
Bread, biscuits and flour confectionery	2.08	5.7	4.6
Cocoa, chocolate and sugar confectionery (excl. sugar processing)	3.37	3	2.7
Drink	3.11 (brewing) 2.31 (distilling) 1.32 (soft drinks	4.6	4.0
Tobacco	2.76	1.4	1.2
Paper, print and publishing	3.02 (print and publishing) 2.23 (paper)	8.9	8.3
Non-Dublin-centric sectors			
Meat Processing	0.76	4.3	5.3
Dairy	0.44	2.8	5

Note: Industry location quotients for Dublin City for food industries taken from Boylan (1980); other industries from O'Malley (1971, Appendix).

5. MEDIUM AND LARGE-SCALE ESTABLISHMENTS

We turn our attention now to the location pattern of establishments with a workforce of 100+, including the largest size category of 500+ discussed above.[46] Other than in one particular case below, our measure of regional dispersion is based on a count of establishments rather than on the type of employment data that underlies Tables 2-4.[47]

Chart 2 shows the net change in each county's share of establishments of this size. A light to dark green colouring denotes an increase in a county's share, while light orange to dark red denotes a decrease. Dublin loses more than 1.5 per cent of its share in each of the four observations subsequent to 1929. The increase in the western seaboard's share between 1929 and 1938 contrasts with Daly's observation that the 'intensive drive for decentralization in the late thirties appears to have been ineffective' (Daly 1992, p. 112). (We explore this finding in greater detail below.) While the west just about maintained its employment share (as seen in Table 2), that it increased its share of medium and large-scale establishments would have yielded benefits in the form of enhanced labour compensation.

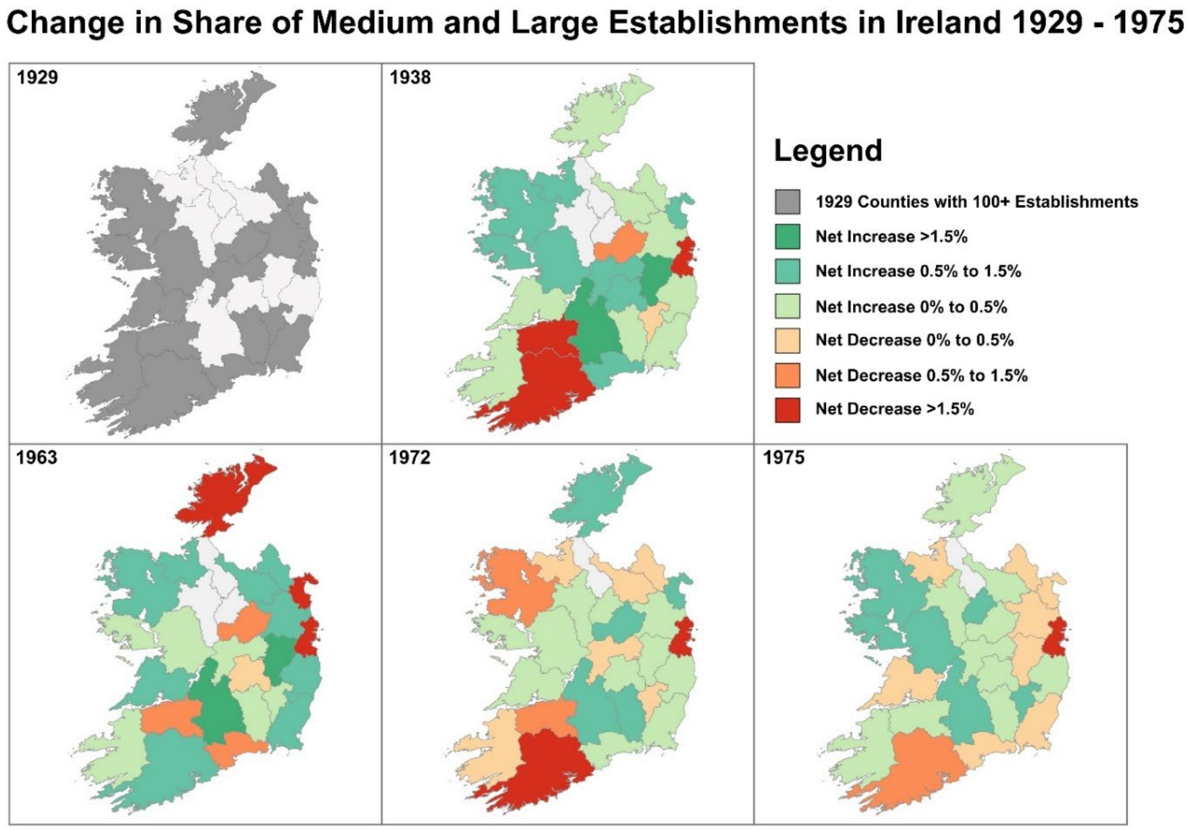
proportionate share of the particular industry'. (Measures of industry concentration would be preferable for our purposes but are not available for this period at the granular level of detail required.)

[45] The main UK market-access benefits of AIFTA were in beef and dairy products and materials containing man-made fibres (Barry, 2023). The CIP for 1975 records an employment level of only 1,473 in the sector *manufacture of other chemical products including man-made fibres*, though many major firms were involved in this segment. These included Janelle and Glen Abbey, which were largely based in Dublin, Cork firms Sunbeam, Seafield and Martin Mahony, Irish Ropes in Kildare, Courtaulds in various non-Dublin locations, and new foreign enterprises Killarney Hosiery ('Pretty Polly'), Snia in Sligo and Lana-Knit in Shannon. Seafield Fabrics was described in 1965 as 'the largest users of man-made fibres in this country' (*Irish Times*, 23 Dec 1965). These operations expanded on aggregate over the period 1963-1975, with the bulk of the expansion taking place beyond Dublin.

[46] We have dropped 1947 from this segment of the analysis for data reasons.

[47] This is because we do not have precise workforce numbers for all of the medium-sized establishments in operation in each of our benchmark years. The inclusion of a particular plant in this size class is based in these cases on a triangulation between the evidence in our database and the restricted information on regional location provided by the Census of Industrial Production.

CHART 2



Comparison of Dublin and the Designated Areas

Details of the number of medium and large-scale establishments, along with the share of such establishments in Dublin and in the designated areas of the western periphery, are provided in Table 15. The designated areas we define as Donegal, Kerry, Co. Clare (other than the Shannon region), West Cork, and all of Connacht.[48]

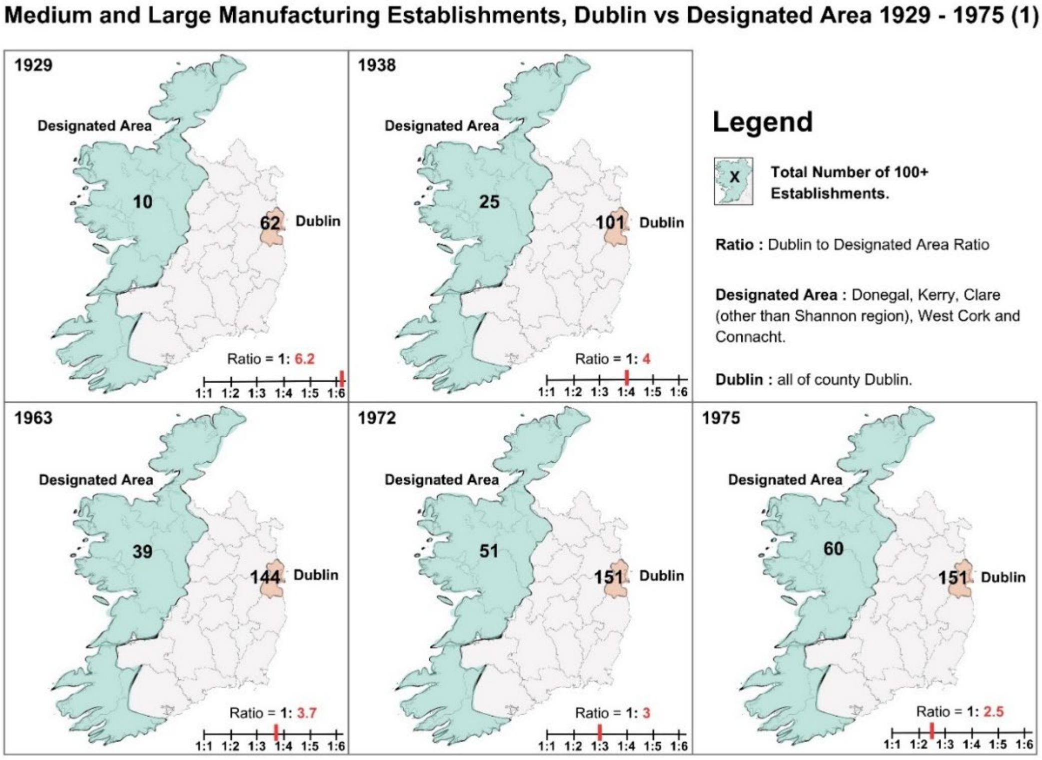
Table 15: Number of medium and large establishments in total, in Dublin and in the designated areas

Year	1929	1938	1963	1972	1975
No. of establs of 100+ persons engaged, including railway engineering works (CIP, adjusted)	132	226	375	428 (authors' estimate)	445
No. of establs. of 100+ in Dublin (authors' estimate)	62	101	144	151	151
Dublin share (%) of establs. of 100+	47	45	38	35	34
No. of estbls. of 100+ in designated areas (authors' estimate)	10	25	39	51	60
Designated-area share (%) of establs. of 100+	7.6	11.1	10.4	11.9	13.5
Dublin share of establs. of 100+ / Designated-area share	**6.2**	**4**	**3.7**	**3**	**2.5**

Table 15 shows that Dublin's share of all medium and large-sized establishments declined monotonically over the years for which we have data, as did the ratio of Dublin's share to that of the designated areas. Chart 3 provides a visualisation of these developments. In 1929, for every medium and large-scale establishment in the designated areas there were 6.2 in Dublin. The ratio decreased to 4 in 1938, 3.7 in 1963, 3 in 1972 and 2.5 in 1975. This aligns with our previous observation of locational dispersion increasing throughout the period of the analysis.

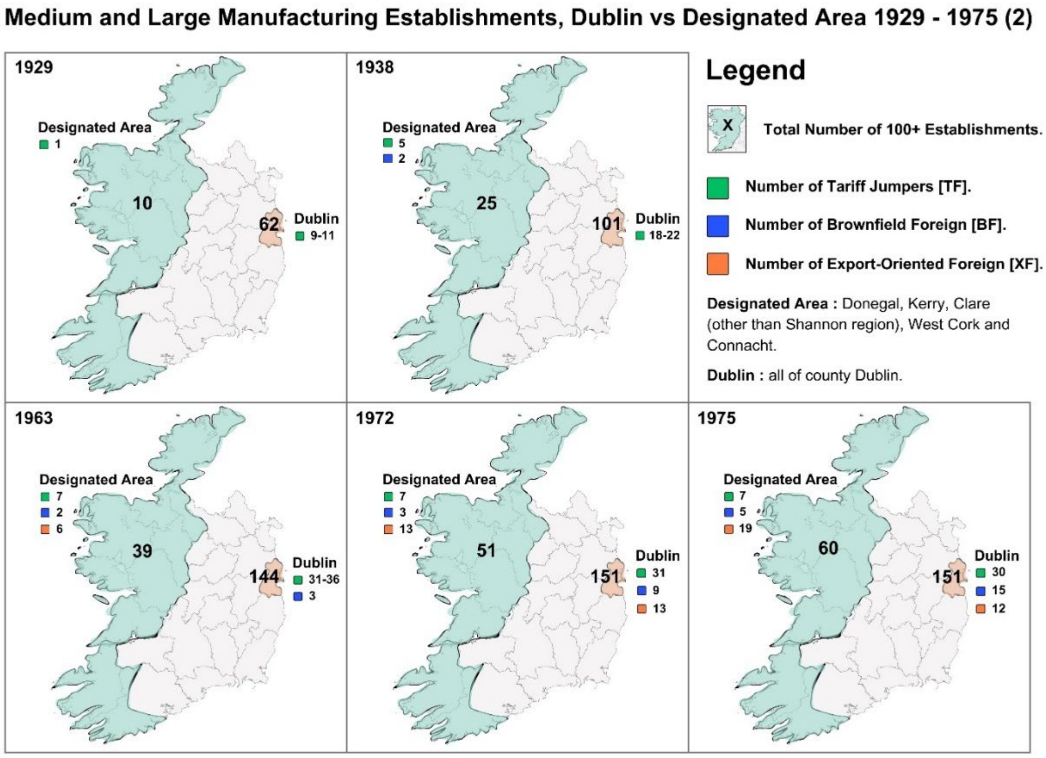
[48] These were largely the areas denoted 'the congested districts' in 1909 and the 'undeveloped areas' in the 1952 Undeveloped Areas Act.

CHART 3:



The contribution of foreign-owned firms to these developments is depicted in Chart 4. Dublin had more tariff jumping foreign firms throughout the entire period. As early as 1963 the designated areas surpassed Dublin in terms of the number of export-oriented foreign projects attracted. While Dublin had caught up by 1972, the periphery had pulled ahead again by 1975. Though the regional distribution of 100+ establishments is of course broader than that of the 500+ employee establishments, the general pattern is similar in the two cases.

CHART 4:



Employment in medium and large-scale establishments in Dublin and selected regions, 1929 and 1938
Our measure of regional dispersion has been based thus far on a count of establishments. As a check on the pattern we have identified, we now focus on the first two benchmark years and seek to work out the employment levels associated with the establishments in operation in 1929 and 1938.[49] We report the results for four regional groupings: Dublin, Cork, the designated areas and the rest of the country.

The Census of Industrial Production records a 56 per cent increase in manufacturing employment over the period 1929-1938 (Barry, 2023, Table 1.5). The changes in regional employment in the establishments in our database are as reported in Table 16. (Much of the employment decline in Cork was accounted for by Ford, which shed some 3,000 jobs in transitioning from export-oriented tractor production in 1929 to home market-oriented vehicle production in 1938.[50])

Table 16: Changes in Employment in Medium and Large-Scale Establishments, 1929-1938

Region	**Percentage change in employment, 1929-1938**
Dublin	43
Cork	-13
Designated Areas	187
Rest of Country	140
Irish Free State/Ireland	**52**

The 26 separate designated-area establishments that appear in our database over these years can be divided into three groups: (i) establishments that employed 100+ in 1929 but fell below 100 in 1938; (ii) establishments that employed 100+ in 1938 and had either been established since 1929 or had employed fewer than 100 at this earlier date, and (iii) establishments that employed 100+ in both years.

The sole establishment in the first group was Galway Woollen Mills, which had a workforce of 150 when it closed in 1932. (Though subsequently re-opened, it employed fewer than 100 in 1938.) Of the nine establishments in group 3, most recorded at best only a slight increase in employment, the exception being the Convoy Woollen Mills in Donegal, whose workforce increased from 150 to 400. Of the remaining sixteen (Group 2) establishments, eight were established between 1929 and 1938. These were the state-owned Tuam Sugar factory, British-owned Irish Sewing Cotton in Westport, the French-owned hatmaker Les Modes Modernes in Galway city, Donegal hosiery and knitwear producer W.P. McCarter and Co., three Irish-owned footwear factories – Sligo Shoe, Reliable Shoe in Westport, and Traly Footwear in Tralee – and a McDonogh family enterprise, the Galway Foundry, whose production of agricultural implements benefitted from tariff protection. In addition, the long-established Hilliard family footwear firm in Killarney had changed its name to Hilliard and Palmer upon entering into a partnership with Palmers of Leicester. The Group 2 establishments which pre-dated 1929 but had expanded to 100+ in the interim were Castlebar Bacon, Pollexfen Grain Milling, McDonogh Fertilisers, Galway wood and furniture company Hunters Woodworkers, and three Donegal textiles and clothing factories: Letterkenny Hosiery, Tillie and Henderson, and Foyle Shirt and Collar. The latter two were offshoots of Northern Ireland firms.[51]

The employment numbers presented in this section support the suggestion emanating from our earlier analysis (based on a count of establishments) that some decentralisation of significance had occurred in the 1930s.

6. CONCLUDING COMMENTS

Some of our most significant results emerge from the study of the largest size category of establishments. We saw that plants employing a workforce of 500 or more remained heavily concentrated in the four counties (Dublin, Cork, Louth and Offaly) that hosted such establishments in 1929. Seventy-five percent of large plants continued to be located in these counties in 1975. Most of the dispersion seen over the previous decade had been an outcome of the differential location pattern of new foreign firms.

[49] When we do not have precise employment data for a particular establishment, we use the total number of establishments by size category provided by the CIP in combination with the distribution by counties/areas (also from the CIP). In cases where we had a figure of e.g. 300 which contradicted the CIP distribution data, we reduced the size to 250.
[50] Barry Project: Firm-Level Data on Irish Industrial History (tcd.ie) http://www.tara.tcd.ie/handle/2262/101139
[51] Tillie and Henderson's long-established factory at Carndonagh had been reopened as a consequence of tariffs introduced under Cumann na nGaedheal.

Even within this highly geographically concentrated group, several individual manufacturing sectors remained particularly heavily concentrated in Dublin. These included bread, biscuits & flour confectionery; cocoa, sweets & chocolate confectionery (other than sugar processing); drink & tobacco; and paper, print & publishing. These sectors shed jobs over the 1960s and 1970s, partly though not wholly as a consequence of trade liberalisation.[52] The dairy and beef sectors on the other hand – which were not concentrated in Dublin – expanded significantly as a consequence of AIFTA and later of EEC accession. Quite apart from the influx of new foreign industries, changes in the sectoral structure of the economy contributed to the decline in Dublin's share of manufacturing employment.

A more nuanced picture emerges when we expand our horizon to include medium as well as large-scale establishments. From this perspective, Dublin's share declines monotonically over time. Was this necessarily a consequence of regional policy? As Gillmor (1985: 241-242) notes, a range of factors were serving to reduce the disadvantages of peripherality. These included the low transport cost component of the newer light industries; the increased ease of contact with dispersed plants through modern communications technology; improved provision of services – including internally within some of the larger firms – and the increased diseconomies of operating in the larger urban centres.[53]

As against this, he cites evidence that 'the percentage grants variable was the single most important factor affecting the pattern of location by area'. He points to the fact that foreign firms established without grant aid were far more likely to be located in Dublin (Gillmor, 1985, pp. 245, 234).[54] A survey of industrialists conducted by Ó hUigínn (1972) found that peripheral areas such as Donegal and Connacht were still regarded as lagging substantially behind the advanced eastern region in terms of the availability of skilled labour and ease of access to intermediate inputs and destination markets.

Other studies have explored the relationship between location and firm performance. If there were disadvantages to peripherality, one might expect these to be reflected in poorer performance unless fully offset by regional assistance. The Survey of Grant-Aided Industry (1967, p.34) found little difference in the failure rates of projects located in the designated areas and elsewhere. McAleese and Counahan (1979), in a study of 'new industry' overseas firms, find no significant relationship between designated-area location and employment performance. O'Farrell (1976), in an analysis of 'new industry' establishments, finds that though the proportion of closures in designated areas was higher than in non-designated areas, the difference is not statistically significant. This leads him to speculate that the higher level of grants received by plants locating in the designated areas 'may help to improve their viability, especially in the early years'. These are the sorts of issues that might potentially be revisited as further data of the type employed in the present paper become available.

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[52] Bread consumption per capita for example fell significantly over this period.

[53] Changes in comparative costs were also leading to the migration of industry to the outer suburbs over this period (see references in MacLaran and Beamish, 1985).

[54] Though Meyler and Strobl (2000) do not find their particular grant measure to be of significance, they postulate that regional policy had a substantial impact on job generation in the designated areas.

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APPENDIX:

Details of 'Designated Area' establishments with workforces of 100+

Legend:

[TF] = Foreign tariff jumper

[XF] Export-oriented foreign

[BF] Brownfield acquisition by foreign firm

[OF] Original (pre-1922) foreign

Others: Indigenous

SECTORS	1929	1938	1963	1972	1975
Food	**Kerry** 1. Slattery Bacon (Tralee) 2. Tralee Wholesale Co-Op Society	**Connacht** 1. Tuam Sugar factory 2. Castlebar Bacon [OF] 3. Pollexfen Flour (Sligo) **Kerry** 4. Slattery Bacon (Tralee) 5. Tralee Wholesale Co-Op Society	**Connacht** 1. Tuam Sugar factory 2. Erin Foods (Tuam) 3. Claremorris Bacon 4. Castlebar Bacon [OF] 5. Cook & McNeily / Denny (Sligo) 6. Pollexfen Milling (Sligo) **Kerry** 7. Denny (Tralee) 8. McCowen Grain (Tralee) 9. Cadbury (Rathmore) [XF]	**Connacht** 1. Tuam Sugar factory 2. Erin Foods (Tuam) 3. Pollexfen Flour (Sligo) 4. Castlebar Bacon [OF] 5. Claremorris Bacon 6. Hanley's (Roscommon) 7. Denny's Sligo 8. Connacht Foods Milk plant, Ballaghaderreen, (Roscommon) **Donegal** 9. Milford Bakeries **Kerry** 10. Cadbury, Rathmore [XF] **West Cork & West Clare** 11. Drinagh Co-op 12. Fastnet Vegetable Processing Plant (Skibereen)	**Connacht** 1. Irish Sugar (Tuam) 2. Erin Foods (Tuam) 3. Western Pride bread, Ballinrobe, Mayo 4. Castlebar Bacon [OF] 5. Claremorris Bacon 6. Denny Bacon (Sligo) 7. Connacht Foods, Ballaghaderreen, Roscommon 8. Hanley's, Roscommon (bacon canning) **Donegal** 9. McKinney, Donegal **Kerry** 10. Denny (Tralee) 11. Cadbury, Rathmore [XF] 12. North Kerry Creameries, Listowel **West Cork & West Clare** 13. Drinagh Co-op (Dunmanway) 14. Fastnet Veg Processing (Skibereen)
Drink & Tobacco				**Connacht** 13. John Egan/Coca Cola, Tuam [BF]	**Connacht** 15. Coca Cola / John Egan, Tuam, Galway [BF]

Textiles & Clothing	**Connacht** 3. Galway Woollen Mills 4. Providence Woollen Mills (Foxford) **Donegal** 5. McDevitt Hosiery (Glenties) 6. Templecrone Co-op 7. Convoy Woollen Mills 8. Porter & Co. (Castlefin) [OF] 9. Austin Moore & Co. (Buncrana) [TF] **West Cork & West Clare** 10. Thomond Woollen Mills, Sixmilebridge	**Connacht** 6. Les Modes Modernes (Galway) [TF] 7. Providence Woollen Mills (Foxford) 8. Irish Sewing Cotton (Westport) [TF] **Donegal** 9. Convoy Woollen 10. Letterkenny Hosiery [OF] 11. McCarter (Buncrana) 12. McDevitt Hosiery (Glenties) 13. Templecrone Co-op 14. Tillie & Henderson (Carndonagh) [TF] 15. Austin Moore & Co. (Buncrana) [TF] 16. Porter & Co. (Castlefin) [OF] 17. Foyle Shirt & Collar (Lifford) [TF] **West Cork & West Clare** 18. Thomond Woollen Mills, Sixmilebridge	**Connacht** 10. Les Modes Modernes (Galway) [TF] 11. Galway Textile Printers Ltd [BF] 12. Providence Woollen Mills (Foxford) 13. Michael Anthony Ltd, Galway [XF] 14. Westport Textiles 15. Irish Sewing Cotton (Westport) [TF] 16. Western Hats (Castlebar) **Donegal** 17. Convoy Woollen 18. McCarter (Buncrana) 19. Porter & Co. (Castlefin) [OF] 20. Austin Moore & Co. (Buncrana) [TF] 21. Magee (Donegal) 22. McDevitt Hosiery (Glenties) **West Cork & West Clare** 23. Braids, Ennis	**Connacht** 14. Westport Textiles [TF] 15. Providence Woollen Mills (Foxford) 16. Irish Sewing Cotton (Westport) [TF} 17. Galway Textile Printers Ltd [BF] 18. Bruno (Ire) (Galway) [XF] **Kerry** 19. Pretty Polly [XF] **Donegal** 20. Convoy Woollen 21. GT Carpet, Gweedore 22. Ambler of Donegal, Gweedore 23. McCarter (Buncrana) 24. McDevitt Hosiery (Glenties) 25. Herdmans Mills, Ballybofey [XF] 26. Erne Hosiery Co Ltd, Ballyshannon; [TF] 27. Magee (Donegal) 28. Clubman Shirts Ltd. Buncrana 29. Porter & Co. (Castlefin) [OF] 30. Donegal Shirt Co (prev. Foyle Shirt), Lifford [TF] 31. Tillie & Henderson, Carndonagh [TF] **West Cork & West Clare** 32. Kire Manuf., Kinsale [XF] 33. Ix Textiles, Sixmilebridge [XF]	**Connacht** 16. Ix Textile Factory, Tuam, Galway [XF] 17. Bruno (Ireland), Galway [XF] 18. Galway Textile Printers [BF] 19. Providence Woollen Mills (Foxford) 20. Ballina Leisurewear [XF] 21. Westport Textiles factory [TF] 22. Irish Sewing Cotton (Westport) [TF] **Kerry** 23. Pretty Polly [XF] **Donegal** 24. Clubman Shirts/Dublin Shirt & Collar, Buncrana 25. Convoy Woollen 26. GT Carpet, Gweedore 27. McCarter (Buncrana) 28. Porter and Co, Castlefin [OF] 29. Herdmans Mills, Ballybofey [XF] 30. Nena Models, Castlefin 31. Magee (Donegal) 32. Tillie & Henderson (Éire) Ltd, Carndonagh [TF] 33. McDevitt Hosiery (Glenties) 34. Erne Hosiery Co Ltd, Ballyshannon [TF] 35. Donegal Shirt Co (prev. Foyle Shirt), Lifford [TF] **West Cork & West Clare** 36. Kire Manufacturing, Kinsale [XF] 37. Ix Textiles, Sixmilebridge [XF] **Kerry** 38. Sunbeam, Tralee, Kerry

Footwear		**<u>Connacht</u>** 19. Reliable Shoe (Westport) 20. Sligo Shoe **<u>Kerry</u>** 21. Hilliard & Palmer (Killarney) [BF] 22. Traly Footwear	**<u>Connacht</u>** 24. Reliable Shoe (Westport) 25. Dubarry Shoes, (Ballinasloe, Galway) [TF] **<u>Kerry</u>** 26. Traly Footwear 27. Hilliard & Palmer (Killarney) [OF]	**<u>Connacht</u>** 34. Dubarry Shoes (Ballinasloe, Galway) [TF] **<u>Kerry</u>** 35. Traly Footwear 36. Brittons (prev. Hilliard & Palmer) (Killarney) {BF}	**<u>Connacht</u>** 39. Dubarry Shoes (Ballinasloe, Galway) [TF] **<u>Kerry</u>** 40. Traly, Kerry
Paper & Printing					
Clay, Glass & Cement			**<u>Connacht</u>** 28. Royal Tara China, Galway **<u>West Cork & West Clare</u>** 29. Celtic Ceramics (Kilrush)	**<u>Connacht</u>** 37. Galway Crystal 38. Royal Tara China (Galway) **<u>West Cork & West Clare</u>** 39. Celtic Ceramics (Kilrush) [BF]	**<u>Connacht</u>** 41. Royal Tara China (Galway) 42. Galway Crystal [BF] 43. Galway Concrete **<u>West Cork & West Clare</u>** 44. Celtic Ceramics (Kilrush) [BF]
Wood & Furniture		**<u>Connacht</u>** 23. Hunters Woodworkers (Galway)	**<u>Connacht</u>** 30. Corbett & Sons Ltd, Galway 31. GWI Ltd. (Sligo) **<u>West Cork & West Clare</u>** 32. Chipboards, Scariff [TF]	**<u>Connacht</u>** 40. G.W.I. Ltd (Sligo) **<u>West Cork & West Clare</u>** 41. Chipboards, Scariff [TF]	**<u>Connacht</u>** 45. GWI Ltd (Sligo) **<u>West Cork & West Clare</u>** 46. Chipboards, Scariff, Clare [TF]
Metals & Engineering		**<u>Connacht</u>** 24. Galway Foundry & Eng	**<u>Connacht</u>** 33. Potez (Galway) [XF] 34. Crown Equipment/Steinbock (Galway) [XF] 35. Basta (Sligo) 36. Industrial Foundries (Sligo) 37. General Plastics (Leitrim) [TF] **<u>Kerry</u>** 38. Liebherr, Killarney [XF]	**<u>Connacht</u>** 42. Standard Pressed Steel (Galway) [XF] 43. Basta (Sligo) 44. Digital Equipment (Galway) [XF] 34. Crown Equipment/Steinbock (Galway) [XF] 46. Hanson (Sligo) [XF] **<u>Kerry</u>** 47. Kingdom Tubes, Tralee [XF] 48. Liebherr, Killarney [XF]	**<u>Connacht</u>** 47. Crown Equipment/Steinbock (Galway) [XF] 48. Digital Equipment (Galway) [XF] 49. SPS (Galway) [XF] 50. Northern Telecom (Galway) [XF] 51. Dart/Pulse Engineering (Galway) [BF] 52. Shamrock Forge and Tool Company (Ballina) [XF] 53. Travenol (Baxter) Laboratories, Mayo [XF] 54. Basta (Sligo) 55. Hanson (Sligo) [XF] 56. Stainless Steel Products, Vidor Factory, Roscommon [XF] **<u>Kerry</u>** 57. Kingdom Tubes, Tralee [XF] 58. Liebherr, Killarney [XF]

Chemicals & Misc.		**Connacht** 25. McDonogh Fertiliser (Galway)	**West Cork & West Clare** 39. Pearl Factory, Ennis [XF]	**Connacht** 49. McDonogh Fertiliser (Galway) 50. SNIA, Sligo [XF] 51. Mayco, Ballina	**Connacht** 59. A.T. Cross (Ballinasloe) [XF] 60. Mayco (Ballina, Mayo)
TOTAL DESIGNATED AREA	**10**	**25**	**39**	**51**	**60**

FIRST VOTE OF THANKS PROPOSED BY GRAHAM BROWNLOW, QUEEN'S UNIVERSITY BELFAST

I would like to thank the authors for producing such a stimulating paper and thoughtful presentation. Additionally, I want to thank Frank for his work in recent years that has - as he exemplified in his recent book - maintained the flame of Irish business history (Barry, 2023). My following comments are intended to provide observations/implications, rather than criticisms, of the analysis provided by Frank and Michael. The observations are grouped into two categories: firstly, there are those concerned with the issues of governance and political economy that in my view the paper raises; secondly, I want to discuss the connections of the paper to thinking about the economic organisation of factories, firms, and industries.

The 'art' of successful industrial (location) policy lies in both attracting 'good' projects as well as avoiding bad projects. It is therefore an art which emerges in a world of discretion in decision making rather than a hard science that can be reduced to a rigid set of rules. The specific case discussed in this paper of course touches on more general debates involving governance and political economy. Economists and economic historians looking at real world economic outcomes have long noted that different institutional structures can produce different economic results because while some institutional structures encourage productive forms of entrepreneurship such as innovation. Less favourable institutional structures promote less economically positive forms of entrepreneurship that are either redistributive or even may be growth inhibiting (Baumol, 1990; Smith and Brownlow, 2023).

Moreover, in the sphere of industrial policy while some free marketeers at one extreme see it as merely 'picking losers', while more interventionist economists see it as successfully producing mission-based outcomes like the Apollo moon landings, the Irish case points towards a middle ground position in which the overall economic success or failure is contingent dependent on the underlying political economy (Eichengreen, 2023). For example, while recent research suggests some industries are more able to efficiently improve the economic performance of depressed locations than others, vote seeking politicians and effective lobbyists may ensure that the most economically efficient decisions regarding industrial policy may not be made. There is some debate about the need to make such decisions independent of the electoral marketplace (Eichengreen, 2023).

The preceding comments shed light on the role of political economy in thinking about the spatial distribution of Irish industrial development. As Frank and Michael observe, T.K. Whitaker's significant role in the history of economic thinking as well as the strategy regarding Irish economic development stands out. As noted in the paper, Whitaker in *Economic Development* took what they termed a 'concentrationist' position based on the economic benefits of what would now be termed agglomeration. As the authors observe, Whitaker viewed any funding allocated to remote or peripheral underdeveloped allocations as representing a wasteful strategy relative to the alternative of concentrating funding on a few better (more agglomerated) bets. Whitaker, and indeed the concentrationist position more generally, runs into the public choice (or pork barrel) problem. Whitaker's concern was a case of 'good' economics (i.e., an argument focused on pursuing efficient outcomes), but it suffered from being a case of 'poor' politics (i.e. it had unpopular implications in terms of spatial equity and the ballot box). In contrast, the rival 'dispersionist' position that while politically popular suffers from economic weakness of forgoing the advantages of concentrating investment in larger population centres. The concentrationists might have had the better economic efficiency arguments; it was the dispersionists who had the potential political support and in a world of democracy and government discretion this often mattered.

As noted elsewhere, the issue of funding (sub)regional industrial development was one faced on both sides of the border (Birnie and Brownlow, 2023). That some of the policy tools resorted to - such as capital grants and advance factories – were the same on both sides of the border was not just because the list of tools was a short one; it was also because many of the individuals concerned with giving economic advice were the same. Charles Carter, who held the chair in applied economics at Queen's between 1952 and 1959, for instance held advisory posts on both sides of the border. Carter's friendship with T.K. Whitaker furthermore provided further opportunities for an intellectual consensus regarding industrial development to emerge.

In the case of developing a strategy involving advance factories (combined with industrial capital grants) it is worth noting that Ireland followed what can be termed the 'Northern Irish' approach of concentrating funding in these areas, rather the alternative 'Scottish' model of devoting more resources to public housing and offering loans to firms rather than channelling funding into advance factories and capital grants. The similarity between the regional industrial policy models pursued on both sides of the border needs however to acknowledge that whatever undoubted pork barrel factors operated both before and after the publication of *Economic Development*, were weaker than those forces which existed simultaneously in Northern Ireland (Birnie and Brownlow, 2023).
The lack of electoral competition in Northern Ireland, where the business elite overlapped strongly with the Unionist government, combined with the ongoing political and economic power of the declining twin staples of linen and shipbuilding, was further aggravated by the weakness of conflict-of-interest regulations until 1963 (Brownlow, 2007). All these constraints hampered the formulation and implementation of effective industrial restructuring. The net result of this situation of overlapping elites was that rent seeking hindered economic growth performance during the Golden Age (Crafts, 1995; Birnie and Brownlow, 2023).

As Frank and Michael noted in the paper there were rent-seeking pressures in Ireland. These pressures related to the pursuit of protectionism. Yet as they also observed 'industrialisation by invitation' promoted dispersion in a way that reinforces the idea that the pattern was attributable to regional policy. In interpreting the spatial distribution of factories, the evidence presented I think points towards the eventual success of the IDA. The lack of overlap in the south between the political and business elite prior to trade liberalisation, an observation made elsewhere by Barry (2022), combined with the IDA's ability at keeping itself at arm's length from political interference, tended to ensure that its vulnerability to lobbying was moderated.

Other accounts of Irish industrial development, such as Krugman (1997) or Best (2018), have suggested the IDA's ability to early identify the way new US technologies could be exploited by Irish locations – an ability aided by low corporate taxation and pools of human capital – was crucial. One way to interpret the evidence presented in the paper is that such an interpretation is at best incomplete. It was the very lack of a preceding manufacturing heritage (with the associated vested interests) that made the IDA's job easier? If so, it returns us back to the issue of the structural contrast between the two Irelands. Northern Ireland faced a challenge of industrial restructuring in a setting with preexisting staples (Birnie and Brownlow, 2023).

The earlier comments regarding different forms of institutions and entrepreneurship (with different implications for profit and rent seeking) leads us onto my second set of observations regarding the economic organisation of factories, firms, and industries. Frank and Michael very much focus on the spatial distribution of factories rather than the functions developed in these enterprises; much less do they relate the spatial distribution of manufacturing to the analysis of economists concerned with topics of strategic management that have influenced business historians elsewhere. As strategic management scholars and business historians have long noted, successful businesses contain both resources as well as capabilities (Penrose, 1959). Resources are firm specific assets (assets which could include physical capital, patents, trademarks, or even corporate culture). Such assets enable firms to create more value than their rivals. Capabilities are clusters of activities (such as customer service or technical diffusion) that a firm does particularly well relative to its rivals.

In some of the sectors covered by Frank and Michael - notably food, drink & tobacco - the firm level resources and capabilities differed from the sector-wide cost drivers that existed in more commodity-based industries. Large scale production in dairy and beef outside of Dublin could for instance grow on the back of scale and scope economies. In contrast, Dublin-based food manufacturers, producing branded products dependent on advertising and marketing, operated under a quite distinct set of competitive advantages more associated with product differentiation. Some of the observed decline in Dublin's share of manufacturing employment may be traceable to the failure of firms to adapt to the need for shifts in resources and capabilities. Conversely, the economics of commodity production - such as synthetic fibres or beef and dairy for that matter - is one shaped far less by branding and far more by scale-based competitive advantages. AIFTA proved particularly beneficial in these segments where greater market access to the UK enabled Irish producers to grow via export (Barry, 2023).

We also need to be aware that while plant size drove wage premia, a point Frank and Michael observe, efficiency wages may also have been a consideration (albeit one with considerable data issues). The basic idea of efficiency wages being that within sectors, some firms may decide to pay wages above the market rate to variously, reduce turnover costs, select better job applicants, reduce shirking and/or improve worker morale. Whatever, the precise motivation in paying these above market wages, any observed wage premia may not just have been due to plant size, but the underlying economics of firm behaviour. Such behaviour would in turn differ according to the differing competitive advantages found in different sectors. In industries, and hence firms, less constrained by considerations of wage costs, such as those driven more by product differentiation, would have had more opportunity to offer efficiency wages relative to commodity-based industries in which cost, and scale was the source of competitive advantage.

This firm or function-based point takes me onto my final observation. While we have an idea what the levels and the spatial pattern of industrial employment were from this paper, I think more could be said about the shifting boundaries of the firms. As the authors note for instance the shift from 'buying' from outside tailors and dressmakers to 'making' within vertically integrated clothing enterprises was just one example of the wider shift in manufacturing employment. What was true in clothing was no doubt true in other industries and firms regardless of whether they were foreign owned or indigenous. In short, the way distinct functions within firms were satisfied may have radically changed through time even if the way the overall levels of manufacturing employment behaved gave the appearance of greater stability.

Relatedly, Ireland even up to the present day while it has been undoubtedly successful in transforming the economy in large part through the attraction of high value-added firms, it has not always been successful in attracting the functions that best promote productivity. As Best (2018) has noted, Ireland imported the mass production capabilities needed to create a manufacturing export base. Yet despite the success of the Irish model as late as the 2010s it retained an 'innovation deficit' of weak R&D performance combined with a divergence in performance within the manufacturing sector. Best attributed the divergence within Irish manufacturing performance to an indigenous set of firms performing poorly and independently relative to a more robust foreign-owned set of manufacturers (Best, 2018). Best concluded that the missing linkages in the Irish economy, which gave rise to dualism and weak innovative capabilities, were due to a paucity of mid-sized entrepreneurial firms.

Whatever, the merits of Best's argument concerning contemporary Ireland, the evidence presented by Frank and Michael suggests that business history provides a fruitful way to study if indeed any dualism was path dependent far back into the economic past, or alternatively it was merely a product of European economic integration. Likewise, their analysis indicates that firm level resources and capabilities may be a productive to think about the path that Irish industrial development has followed. In conclusion, Frank and Michael have provided us with much something to consider, again I thank them for their contribution.

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SECOND VOTE OF THANKS PROPOSED BY ALAN DE BROMHEAD, UNIVERSITY COLLEGE DUBLIN

I am delighted to offer a vote of thanks for the paper *The Regional Location of Indigenous and Foreign Manufacturing Establishments, 1929-1975* by Frank Barry and Michael Scholz. The paper describes a new dataset based on a repopulation of the Census of Industrial Production, containing details of the location, nature and origin of large establishments in Ireland over the middle 50 years of the twentieth century. The construction and examination of these new data represent an important contribution to understanding the changing spatial distribution of industry in Ireland and complements Barry's recently published book, *Industry and Policy in Independent Ireland, 1922-1972*. The interested reader of this paper will likely find much to sustain them in this valuable new volume.

Let me begin by highlighting a number of positive aspects of the paper. Firstly, the great effort undertaken to collect the data should be highly commended. The paper provides glimpses of the substantial amount of work that went into its construction. Anyone working on the reconstruction of historical data will recognise how each individual datapoint may represent many hours of careful research. This considerable effort is proved worthwhile due to the unique establishment-specific characteristics of the dataset. Work of this kind inevitably involves a difficult trade-off between an extensive and an intensive approach – An attempt to capture the location of all industry means that establishment characteristics are foregone, and we are left without knowing the role of certain characteristics - such as foreign ownership - in the spatial pattern of Ireland's industrial development. Focusing on the largest establishments (in terms of employment), as the authors do here, allows for this interesting and important detail to be included. Nonetheless, we are left without information on what is occurring among the small-to-medium sized establishments, which employed between half and a third of industrial workers over the period. Indeed, when considering grant-supported establishments, as many as two-thirds employed fewer than 100 workers in 1972 (Kearns, 1974). Similarly, O'Farrell (1975) noted that the average size of an IDA new industry establishment over the period 1906-71 employed an average of 84 in Designated Areas compared to an average of 167 elsewhere. While a trade-off is inevitable, it is clear the authors have maintained a pragmatic and sensible approach. The information on ownership is where arguably the most interesting insights of their research emerge on how the location decisions of foreign establishments evolved over the twentieth century.

The empirical analysis is well situated within the existing literature and is carefully interpreted as support for the arguments of Daly (1992) and others that judged regional policy to have been unsuccessful in the early years of the state. Indeed, it is only with the long-run approach adopted here that we can make assessments of 'success' or 'failure', as policy changes may take many decades to fully shape economic geography.

Overall, as with previous work undertaken by Prof. Barry on the topic of industrial development, the paper is impressively detailed and represents the highest standards of historical scholarship. It enriches our knowledge of these firms and bridges a gap between an anonymous aggregated approach and the lived experience of those whose lives and livelihoods were shaped by these identified establishments.

A reading of the paper also elicits a number of aspects of interest as well as avenues for future research – indeed the value of any research can often be measured as much by the number of questions it engenders as those that it answers. My own reading sparked a number of thoughts, many of which may likewise have preoccupied the thoughts of the authors, but which I briefly outline here nonetheless.

The paper suggests a changing pattern of location over time and a dispersion of large establishments. While the number of large establishments (and the employment they represent) are no doubt vitally important, so too is productivity. Indeed, the authors refer to the link between establishment size and wages, ostensibly driven by higher output per worker. If foreign-exporting establishments in new industries are also more productive (as is often revealed in the literature) then this would have amplified the effect on regional dispersion in terms of wages and living standards. In recent work with Seán Kenny, we have examined industrial output per worker at a county level – also from the Census of Production - and found a rather nuanced picture of regional differences in industrial productivity over this period. The dispersion of output per worker across counties appears to have decreased between 1931 and 1946 and remained relatively stable thereafter. Our finding that Dublin's productivity advantage disappears over time is consistent with the findings of this paper and suggests, perhaps, that important changes were indeed taking place in terms of industrial activity outside of Dublin. However, this general pattern masks distinct heterogeneity with some less-developed counties seemingly not benefiting from the process as much as others.

An additional point raised by the authors in the conclusion relates to the question of how and why foreign establishments appear to have located in more peripheral areas in the 1970s onwards but were unwilling or unable to do so earlier. How were new industry establishments able to defy the economic geography that had been a barrier to regional development for decades if not centuries of Irish history? Government support and subsidy is an obvious direction to look but a number of additional factors may also have played a role, some local and some international. Clearly, the general opening of global trade, and EEC membership specifically, were necessary conditions for an export-led development model to succeed. Also, as the authors suggest, new industries likely had higher value-to-weight ratios and were therefore more able to bear the higher transport costs associated with peripherality. Similarly, serving large foreign markets likely reduces the importance of the local elements of transport cost.

Other local factors would also have shaped establishments' location decisions. While a complete discussion of these factors is beyond the scope of this piece, some general questions can be posed. Did changing transport infrastructure, such as the closure of railway lines and the development of the road network, impede or promote this process? What role did education and structural change play, particularly considering the point raised in the paper regarding the difficulties experienced by establishments in hiring former agricultural workers? How too did the reversal of decades of population decline in rural areas impact local labour supply?[1] What also was the place for institutional stability? The IDA provided incentives designed to stretch out tax exemptions and relief for new industries over several decades, which required sufficient trust that policies would not be reversed (Industrial Development Authority, 1971). The answers to these questions will not be easy to disentangle but are worth pursuing nonetheless.

The paper brings us tantalisingly close to the origins of the 'Celtic Tiger', the period of rapid growth and convergence of the Irish economy in the 1990s. Did patterns that emerged during the 1970s continue during the 1980s and 1990s? This is naturally an interesting avenue for the future.

Let me close by congratulating the authors on an interesting, important and thought-provoking paper and by thanking the society for the opportunity to propose this vote of thanks.

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[1] Population fell to its lowest point in 1961 and rural population in 1971. Dublin's share of the population increased over the first decades after the foundation of the state before stabilizing at around 30% of the population from the 1970s through to today.