# NEW MANUFACTURING PLANT OPENINGS AND EMPLOYMENT GROWTH: IRISH EVIDENCE

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Between 1973 and 1981 a total of 2,047 new industrial establishments were opened throughout Ireland and survived until the end of the period. Some 37% of the plants operating in 1981 have opened since 1973 and were providing one quarter of all jobs. This suggestion of a very buoyant rate of entry is confirmed when compared with findings for Scotland where Cross (1981) reported that only 9.7% of jobs were contributed by new plant openings between 1968 and 1977 – a broadly similar time span. Outside Dublin, 1,947 plants opened between 1973 and 1981 and 278 (14.3%) had ceased production by the end of the period, leaving 1,669 survivors together with the 378 survivors in Dublin county.[1] The objectives of this article are to examine temporal trends in new plant openings, report the employment impact of new openings by region and town size location and analyse the employment growth performance of manufacturing plants within different ownership categories. Where possible Irish results are compared with those available from elsewhere.

## A Temporal Analysis of New Plant Openings

The number of new industrial establishments opening each year outside Dublin averaged 210 per annum between 1973-1975; then from 1976-1980 the rate of entry rose to a mean of 264 per annum with 1978 being the peak year. Table 1 also records the number of new openings which survived throughout Ireland including those in Dublin. It is a less meaningful measure of annual fluctuations in entry rates because plants established in earlier years will have been vulnerable to closure for longer periods. However, it does give an approximate indication of the national trend, especially since 1977 when the Dublin area was vigorously promoted by the Industrial Development Authority (IDA) and, therefore, had more impact upon the national figures.

The analysis of new openings by ownership category suggests that the

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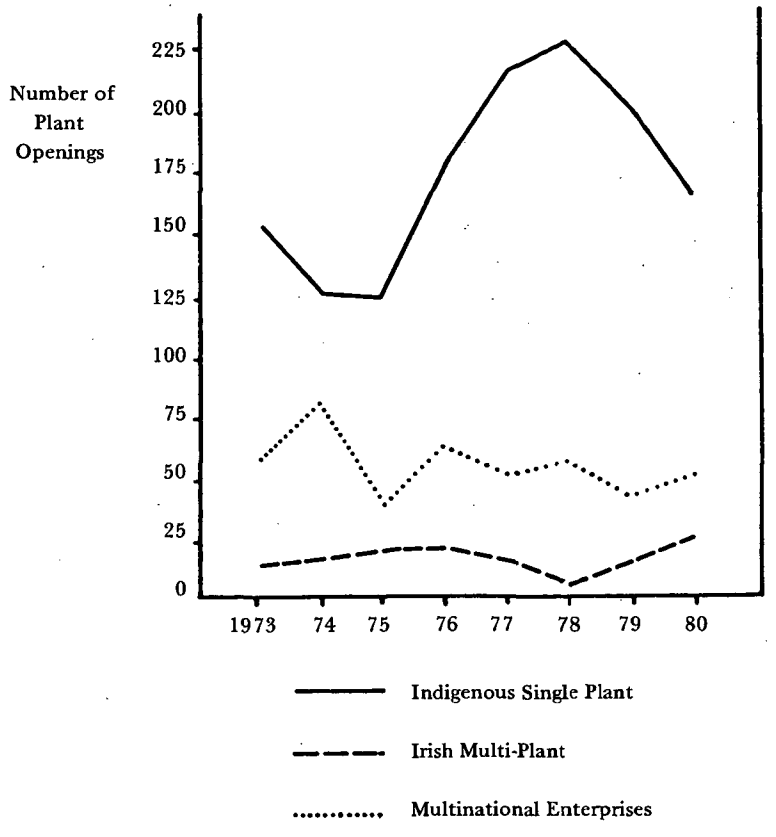
rate of indigenous new firm formation rose rapidly after 1975 with the most fertile years being 1977 and 1978 (Figure 1). The level of new openings by indigenous single plant firms (ISPs) between 1977 and 1979 was running some 60% higher than in the 1973-75 period and this trend is manifest *outside* the Dublin county area. Many of these firms were founded as a response to a domestic demand booster by expansionary government policies, the boom in food export earnings and agricultural incomes during transition to full EEC membership, and infrastructure expenditure partly financed by overseas borrowing. More restrictive government policies and the slowing down in the price rises for food exports make it unlikely that such growth can be replicated in the immediate future. The population of new Irish multi-plants (IMPs) opening is too small to discern any general trend over time; however, among multi-national enterprises (MNEs) there is much less evidence of a time trend than is the case with ISPs. The 407 new MNEs which survived across the country were providing

Figure 1: *Number of New Plant Openings by year by Ownership 1973-1981.*



32,365 jobs by 1981; the 158 IMPs had generated 7,197 jobs and the 1,482 new ISPs were providing employment for 18,032 by 1981. Hence, of the 57,594 jobs created by *new* plants between 1973 and 1981, 56.2% are controlled by MNEs, 12.5% by IMPs and 31.3% by ISPs. Through the processes of the expansion, contraction, closures[2] and new openings, MNEs have increased the degree of external ownership of Irish manufacturing by almost one percentage point per annum to a level of 34.3% by 1981 [O'Farrell, 1984].

Table 1: *Annual Number of New Plant Openings by Grant Type, 1973-1981*

| | Total New Openings[1] | | | | | | |
|---|---|---|---|---|---|---|---|
| Year | New Industry | Small Industry | Re-Equipment | Gaeltarra | Shannon | Non-Grant Aided | Total |
| 1973 | 51 | 81 | 9 | 8 | 11 | 64 | 224 |
| 1974 | 69 | 54 | 4 | 8 | 13 | 76 | 224 |
| 1975 | 38 | 55 | 7 | 8 | 11 | 62 | 181 |
| 1976 | 50 | 85 | 8 | 22 | 11 | 84 | 260 |
| 1977 | 50 | 104 | 4 | 20 | 15 | 88 | 281 |
| 1978 | 43 | 111 | 2 | 6 | 31 | 95 | 288 |
| 1979 | 39 | 137 | 2 | 9 | 19 | 47 | 253 |
| 1980 | 63 | 127 | 0 | 5 | 14 | 27 | 236 |
| Total | 403 | 754 | 36 | 86 | 125 | 543 | 1,947 |

| | New Openings: Survivors[2] | | | | | | |
|---|---|---|---|---|---|---|---|
| Year | New Industry | Small Industry | Re-Equipment | Gaeltarra | Shannon | Non-Grant Aided | Total |
| 1973 | 41 | 86 | 7 | 7 | 9 | 49 | 199 |
| 1974 | 55 | 53 | 4 | 8 | 13 | 50 | 183 |
| 1975 | 48 | 58 | 10 | 8 | 6 | 52 | 182 |
| 1976 | 54 | 73 | 9 | 21 | 9 | 74 | 240 |
| 1977 | 58 | 151 | 1 | 18 | 14 | 61 | 303 |
| 1978 | 58 | 173 | 3 | 6 | 30 | 84 | 354 |
| 1979 | 60 | 177 | 2 | 9 | 18 | 52 | 318 |
| 1980 | 63 | 129 | 1 | 5 | 14 | 56 | 268 |
| Total | 437 | 900 | 37 | 82 | 113 | 478 | 2,047 |

[1]Dublin excluded; total incorporates survivors and new entries which subsequently closed.

[2]Dublin included.

The new openings are classified by grant type in Table 1 and this indicates that the entry rate of plants which at some time either before or after 1973 received a grant under the New Industry (NI) programme

of the IDA has fluctuated between 40 and 70 plants annually with no discernible time trend.[3] Conversely, the Small Industry (SI) programme has witnessed a dramatic increase in the number of new openings over time. Prior to 1977 the SI scheme was confined almost exclusively to areas outside Dublin and, hence, the figures for new openings at an average of 69 per annum between 1973 and 1976 represent national figures. The number of new SI-assisted openings outside Dublin increased to a level of 120 per annum in the post-1976 period, while, in addition, some 50 new plants were setting up annually in Dublin which had been incorporated in the SI scheme in 1977. Consequently, national new opening levels under the SI programme were around 130% higher in the post-1976 period than before it, partly reflecting the major increase in domestic demand to which we have already referred.

New openings under the Shannon scheme also displayed a tendency to increase slightly in the post-1977 period; but the number of non-grant-aided new openings rose to a peak of around 90-95 in 1977-78 and then fell to their lowest levels in 1979 and 1980. This coincides with the extension of the SI programme to the Dublin region which partly explains this trend, but non-grant-aided openings also fell substantially outside Dublin. The 473 NI survivors created 35,102 jobs by 1981 – 61% of all new manufacturing employment – while the smaller SI plants generated a further 11,594 new jobs. The non-grant-aided establishments which entered between 1973 and 1981 were providing 6,040 new jobs by the end of the period.

The analysis of new plant openings by sector indicates that new entries outside Dublin were most numerous in metals and engineering (712), wood and furniture (313) – a low barriers to entry industry, – and other manufacturing (222). Food sector entry rates remained fairly constant throughout the period at around 20 per annum, while, conversely, the rate of new openings in textiles tended to decline somewhat after 1976 (Table 2). The rate of entry in metals and engineering, after falling to its lowest point during the trough of the oil price recession in 1975, recovered to a level some 40% above that prevailing before the recession. All of these basic trends are mirrored for the survivors-only data which includes Dublin. Low rates of entry were recorded by drink and tobacco (11 new plants), chemicals and plastics (72) – where many new plant are under overseas control – and textiles (192) – all sectors facing severe international competition in both domestic and overseas markets. The metals and engineering sector, largely because of its size, created 21,532 new jobs while the 313 new openings in wood and furniture, a small-firm industry, only generated 3,260 new jobs. Conversely, the 136 new entries in food, which survived until

Figure 2: *Total New Plant Openings by year by Town Size Group 1973-1981.*

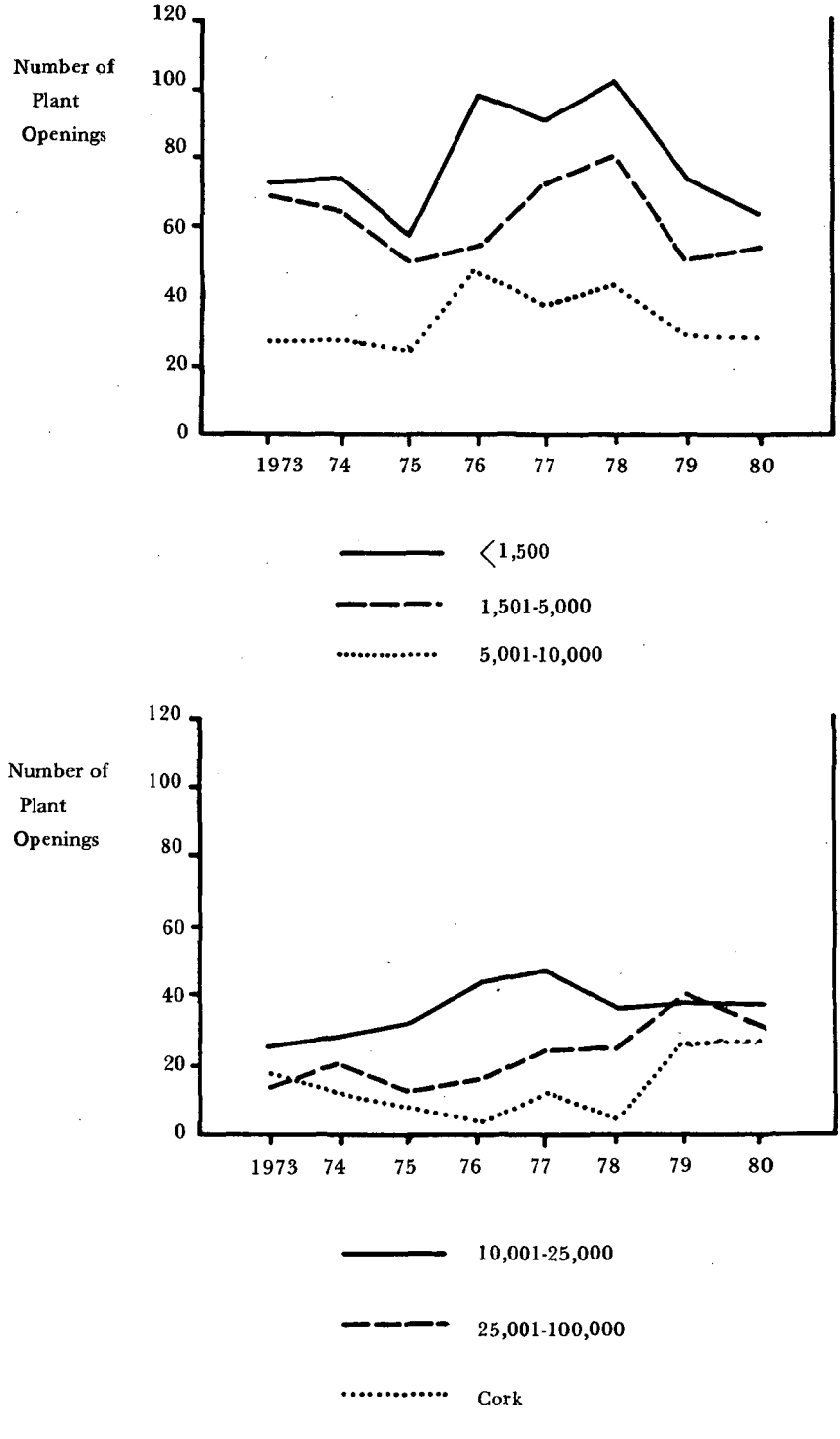


Table 2: *Annual Number of New Plant Openings by Sector 1973-1981*

| | Total New Openings[1] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Food | Drink and Tobacco | Textiles | Clothing Footwear | Wood Furniture | Paper and Printing | Chemicals | Glass Cement | Metals and Engineering | Other Manufacturing | Non-Man Grant Aided | Total |
| 1973 | 19 | 1 | 14 | 8 | 37 | 9 | 11 | 24 | 68 | 31 | 2 | 224 |
| 1974 | 17 | 1 | 9 | 7 | 26 | 14 | 10 | 17 | 84 | 36 | 3 | 224 |
| 1975 | 18 | 2 | 14 | 10 | 35 | 8 | 6 | 11 | 47 | 26 | 4 | 181 |
| 1976 | 27 | 1 | 21 | 15 | 39 | 10 | 7 | 19 | 83 | 31 | 7 | 260 |
| 1977 | 20 | 1 | 16 | 16 | 47 | 14 | 5 | 19 | 110 | 23 | 10 | 281 |
| 1978 | 12 | 2 | 11 | 19 | 60 | 7 | 8 | 24 | 111 | 28 | 6 | 288 |
| 1979 | 16 | 1 | 12 | 20 | 37 | 7 | 8 | 10 | 110 | 26 | 6 | 253 |
| 1980 | 22 | 2 | 6 | 13 | 32 | 10 | 11 | 8 | 99 | 21 | 12 | 236 |
| Total | 151 | 11 | 103 | 108 | 313 | 79 | 66 | 132 | 712 | 222 | 50 | 1,947 |

[1]Dublin is excluded; total incorporates survivors and new entries which subsequently closed.

1981, were providing employment for 3,840 people by the end of the period.

### New Plant Openings by Region

The regional distribution of new plants (including both survivors and subsequent closures) is outlined in Table 3 and this suggests that, within the new plant openings category, there is a considerable variation in the relative importance of different ownership groups across the regions with respect to employment creation. Some 13.5% of total national manufacturing employment in 1981 was in *new* MNEs opened since 1973, but the relative employment impact of *new* overseas plants upon *total* manufacturing employment in 1981 has been much greater in the Midlands, the North West, West and Mid West, and less than average in the North East, Donegal and East (Table 3). The effect of *new* ISPs, which were providing 7.5% of all manufacturing jobs nationally in 1981, was relatively greatest in Donegal, North West, North East and Midlands and least in the Mid West, Dublin and the South West. The proportion of regional employment in new openings established between 1973 and 1981 varies around a national figure of 24.1% from 45.1% in the Midlands and 37.7% in the North West to 16.8% in the East and 21.4% in the South West (Table 3). This largely reflects the strategy of the IDA during the 1970s to foster industrial development most strongly in those areas of the country which were least industrialised in 1970. Turning to the share of jobs created by new openings, it is apparent that the percentage of jobs in new openings arising in new ISPs ranges about the national average of 31.3% from 50.9% in Donegal to 39.9% in the East to the lowest figures of 20.0% in the Mid West, 23.2% (Midlands) and 24.2% in the South East (Table 3).

### New Plant Openings by Town Size Group

The new plant opening data is presented with respect to town size location in Figure 2 and this shows that in the small towns and villages of below 1,500 population the rate increased from around 68 per annum between 1973-1975 to 97 per annum between 1976 and 1978, only to fall back to the original level between 1978 and 1980. There is also evidence that new plant openings in the 1,501-5,000 settlements, which were very bouyant in 1977 and 1978, have declined in recent years. The 10,001-25,000 size group generated marginally more new entries towards the end of the period, but this recent upward trend in new openings is more pronounced in the major provincial towns between 25,001 and 100,000 population and in Cork: the entry rate between 1979 and 1980 doubled in the former and trebled

Table 3: *Employment in Component Categories by Region, 1981*[1]

| Region | Total Manufacturing Employment 1981 | Permanent Establishments Total New Plant Openings | % | Employment in New Openings: New MNEs Total | New MNEs % | New Irish Multi-Plants Total | New Irish Multi-Plants % | New Indigenous Single Plants Total | New Indigenous Single Plants % | Total Employment New Openings Total | Total Employment New Openings % | New Indigenous Single Plants as % of Jobs in New Openings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Donegal | 6,750 | 95 | 68.3 | 710 | 10.5 | 342 | 5.1 | 1,091 | 16.2 | 2,143 | 31.7 | 50.9 |
| North-West | 4,836 | 83 | 62.3 | 1,224 | 25.3 | 28 | 0.6 | 573 | 11.8 | 1,825 | 37.7 | 31.4 |
| West | 15,075 | 215 | 66.2 | 3,627 | 24.1 | 234 | 1.6 | 1,240 | 8.2 | 5,101 | 33.8 | 24.3 |
| Mid-West | 20,480 | 240 | 71.5 | 4,495 | 21.9 | 169 | 0.8 | 1,166 | 5.7 | 5,830 | 28.5 | 20.0 |
| South-West | 37,813 | 306 | 78.6 | 5,041 | 13.3 | 605 | 1.6 | 2,432 | 6.4 | 8,078 | 21.4 | 30.1 |
| South-East | 28,790 | 281 | 73.8 | 4,644 | 16.1 | 1,069 | 3.7 | 1,819 | 6.3 | 7,532 | 26.2 | 24.2 |
| East | 92,865 | 637[2] | 83.2 | 6,276 | 6.8 | 3,106 | 3.3 | 6,219 | 6.7 | 15,601 | 16.8 | 39.9 |
| North-East | 18,067 | 236 | 72.3 | 2,394 | 13.3 | 617 | 3.4 | 1,985 | 11.0 | 4,996 | 27.7 | 39.7 |
| Midlands | 14.380 | 232 | 54.9 | 3,954 | 27.5 | 1,027 | 7.1 | 1,507 | 10.5 | 6,488 | 45.1 | 23.2 |
| Total Ireland | 239,056 | 2325 (1947)[3] | 75.9 | 32,365 | 13.5 | 7,197 | 3.0 | 18,032 | 7.5 | 57,594 | 24.1 | 31.3 |
| Dublin | 74,101 | 378[2] | 85.8 | 3,425 | 4.6 | 2,465 | 3.3 | 4,619 | 6.2 | 10,509 | 14.2 | 43.9 |
| Kildare, Meath and Wicklow | 18,764 | 259 | 72.9 | 2,851 | 15.2 | 641 | 3.4 | 1,600 | 8.5 | 5,092 | 27.1 | 31.4 |

1 The employment totals are expressed as a percentage of total manufacturing employment in 1981.

2 Dublin data for openings is survivors only.

3 National figure excludes Dublin; it includes 1,669 openings which survived until 1981 and 278 which closed prior to January 1981.

in the Munster capital. Unfortunately, in the case of Dublin, data for survivors only is available so that figures for earlier years are net of closures; but this is not sufficient to account for a rise from 30 new plants annually between 1973 and 1976 to 66 plants per annum since 1976. These trends are confirmed by the fact that between 1973 and 1978 (inclusive), the 25,001-100,000 towns and Cork attracted/generated 11.1% of all new plant openings outside Dublin, while in 1979 and 1980, 23.9% of new entries located in these towns. Conversely, the two smallest settlement size groups below 5,000 population accounted for 60.6% of all new entries between 1973 and 1978 (inclusive) – a very high share – which subsequently fell to 48.9% in the 1979 and 1980 period. Clearly there has been a net shift away from the smallest towns towards the largest, leaving those between 5,0001 and 25,000 unaffected.

This trend would have been even more pronounced if comprehensive data on all new openings in Dublin had been available. It is difficult to explain this significant locational shift towards the larger towns in the national urban hierarchy apart from the special case of Dublin actively promoted since the mid-1970s. The success of the other larger towns might reflect increased spin-off of new entreprises following the considerable phase of IDA-sponsored overseas investment in places such as Limerick, Galway and Waterford since the late 1960s. The proportion of manufacturing employment in each of the town size categories created by new openings between 1973 and 1981 varies from 35.9% and 31.5% in the 10,0001-25,000 and 1500 groups, respectively, to 14.2% in Dublin and 22.2% in the communities with 5,001-10,000 population (Table 4). Consequently, it is the medium-large provincial towns with between 10,001-25,000 population and the smallest centres below 1,500 with around one-third of their 1981 manufacturing employment in new openings which, relatively, have benefited most from industrialisation in the seventies.

## The Employment Growth of Manufacturing Establishments

There is evidence to suggest that the entry rates both of overseas branches and indigenous new firms are high in Ireland [O'Farrell and Crouchley, 1984], but what of the actual job creation record of manufacturing plants? First, we examine the employment growth of *surviving* manufacturing establishments. This will permit the analysis to be extended back to include all cohorts since 1967. The employment performance is analysed in three ways: (i) by examining the initial employment size group relative to employment size in 1981; (ii) by computing the 1981 size distributions of all cohorts entering

Table 4: *Total Number of New Plant Openings by Town Size Group 1973-1981*

| Town Size | Total New Plant Openings[1] | Total Employment in New Openings 1981 | Manufacturing Employment 1981 | Employment in New Openings as a Percentage of Total Manufacturing Employment 1981 |
|---|---|---|---|---|
| 1,500 | 535 | 10,951 | 34,710 | 31.5 |
| 1,501-5,000 | 417 | 10,181 | 36,855 | 27.6 |
| 5,001-10,000 | 233 | 6,328 | 28,533 | 22.2 |
| 10,001-25,000 | 236 | 10,734 | 29,896 | 35.9 |
| 25,000-100,000 | 145 | 5,396 | 19,614 | 27.5 |
| Cork | 103 | 3,495 | 15,347 | 22.8 |
| Dublin | 378 | 10,509 | 74,101 | 14.2 |
| TOTAL | 2,047 | 57,594 | 239,056 | 24.1 |

1 Table includes survivors only.

from 1967 and surviving to 1981; and (iii) by investigating the employment build-up over the first six years of three annual cohorts, 1973, 1974 and 1975. It is also logical to classify the plants into the three ownership groups defined in the Appendix.

*Indigenous Single Plant Firms.* A total of 2,291 new ISPs opened since 1967 and *survived* until 1981 and, of these, 95.7% employed fewer than 51 people at the end of the period. Only 1.1% of new firms employed over 1000, while 4.3% had expanded to above 50 employees and 60.2% remained below 11 (Table 5). The size matrix of initial year employment size by 1981 size indicates that of the 1,276 plants opening with fewer than 51 employees, only 1.2% employed over 50 in 1981, while of the 992 reporting an opening size of 0-10, 77.5% remained in that category in 1981. Only 3.1% of these 992 new firms in the smallest size category had expanded to over 25 employees by 1981, but of the 234 opening with 11-25 on the payroll, 25.8% had grown to be over 25 by 1981. Therefore, there is some suggestion that initial year size is related positively to 1981 size with larger new firms being more likely to grow than small ones.[5]

In order to examine the employment build-up of new indigenous single plant firms, median plant sizes were calculated for the 1973-1975 cohorts for each of the years 1 to 6 following opening.[6] The results indicate that ISPs start with 5-6 employees and increase to a median of 8 after six years of their existence. The overall *mean* em-

Table 5: *Employment Growth of Indigenous Single Plant Firms*[1], *1967-1981*

| Year of Opening[2] | Number of Plants | Median Size 1981 | Size Distribution 1981 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1-2 | 3-5 | 6-10 | 11-20 | 21-30 | 31-50 | 51-75 | 76-100 | 101-150 | 151-200 | 201-300 | 301-400 |
| 1967 | 93 | 11 | 10 | 15 | 20 | 18 | 12 | 9 | 7 | 0 | 1 | 0 | 0 | 1 |
| 1968 | 152 | 6 | 12 | 39 | 26 | 39 | 14 | 12 | 2 | 3 | 4 | 1 | 0 | 0 |
| 1969 | 140 | 6 | 20 | 27 | 33 | 25 | 14 | 10 | 9 | 1 | 0 | 1 | 0 | 0 |
| 1970 | 173 | 6 | 20 | 31 | 44 | 29 | 15 | 15 | 8 | 3 | 2 | 4 | 1 | 1 |
| 1971 | 146 | 11 | 16 | 24 | 25 | 32 | 20 | 17 | 10 | 1 | 0 | 1 | 0 | 0 |
| 1972 | 105 | 6 | 16 | 18 | 29 | 15 | 12 | 10 | 4 | 0 | 0 | 1 | 0 | 0 |
| 1973 | 142 | 11 | 14 | 27 | 26 | 44 | 9 | 15 | 5 | 1 | 1 | 0 | 0 | 0 |
| 1974 | 109 | 6 | 4 | 21 | 31 | 27 | 11 | 12 | 2 | 0 | 1 | 0 | 0 | 0 |
| 1975 | 119 | 6 | 15 | 41 | 29 | 17 | 9 | 5 | 2 | 1 | 0 | 0 | 0 | 0 |
| 1976 | 169 | 6 | 10 | 44 | 42 | 37 | 14 | 12 | 4 | 3 | 1 | 2 | 0 | 0 |
| 1977 | 238 | 6 | 12 | 54 | 66 | 57 | 28 | 17 | 3 | 1 | 0 | 0 | 0 | 0 |
| 1978 | 273 | 6 | 13 | 94 | 80 | 50 | 21 | 12 | 1 | 1 | 0 | 0 | 1 | 0 |
| 1979 | 247 | 6 | 5 | 84 | 86 | 50 | 13 | 7 | 2 | 0 | 0 | 0 | 0 | 0 |
| 1980 | 185 | 3 | 0 | 106 | 51 | 21 | 5 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Total | 2,291 | | 167 | 625 | 588 | 461 | 197 | 154 | 60 | 15 | 10 | 10 | 2 | 2 |

[1]Table incorporates survivors only; Dublin is included.

[2]Year of opening data prior to 1973 is less accurate than for the 1973-81 period.

ployment for the three cohorts combined in the first year is 8 employees rising to 13 after six years in production. It appears that most ISPs remain astatic in size after 6 years, although a small minority move up into the higher size groups between the sixth and fifteenth years: 1% of the 1976-80 cohorts employed over 50 in 1981 compared with 6.7% of the 1967-75 cohorts.

*Irish Multi-Plant Branches.* Turning to the IMP survivors, Table 6 shows that branches of IMPs were established which survived until the end of the period and of these 39.4% were employing over 50 by 1981. Of those plants opened between 1967-1975 (inclusive), 48.1% employed fewer than 51 in 1981 – a similar proportion to MNEs compared with 82.7% of the 1976-80 entries (the equivalent figure for MNEs being 62.8%). This suggests two trends: (i) that IMPs grow more slowly than MNEs and (ii) that IMPs continue to expand after six years.[7] These two conclusions are further corroborated when the proportion of new plants expanding to over 100 employees is examined. Some 26.5% of the 1967-75 entries which survived were employing over 100 people by 1981 compared with 29.4% of MNEs, while only 7.7% of the 1976-80 IMP openings had reached the 100+ size category by 1981 compared with 17% of MNEs (Table 6). Only 10 IMP openings (3.5% of survivors) were employing over 300 people by 1981, although it must be remembered that the data is at *establishment* not *firm* level and in some firms growth may have been allocated to some other plant within the corporate organisation. The slower growth record of IMPs relative to MNEs is also confirmed by inspecting the size matrix of initial year employment by 1981 size which reveals that 42.7% of IMP plants had moved up a size category compared with 67% of MNE branches. This may partly reflect differences in the characteristics of IMPs with respect to industry mix, capital intensity and so on. The median plant sizes of the 1973-1975 cohorts suggest that IMP establishments typically commence production with 11-12 employees and after 6 years they build up to a median size in the range 30-43 employees. The evidence of median sizes in 1981 classified by year of opening in Table 6 suggests that significant growth continues after six years up to 8-10 years after opening when the median size will be around 50-60, equalling that of MNEs. So multi-plant branches grow more slowly than MNEs but eventually expand to around the same median size. Furthermore, new IMP establishments have a far superior closure performance that MNE's: 11.6% of new IMP branches which opened between 1973 and 1981 closed by 1981 compared with 19.3% of MNEs [O'Farrell and Crouchley, 1983].

Table 6: *Employment Growth of Irish Multiplant Establishments*[1], *1967-81*

| Year of Opening[2] | Number of Plants | Median Size 1981 | Size Distribution 1981 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1-2 | 3-5 | 6-10 | 11-20 | 21-30 | 31-50 | 51-75 | 76-100 | 101-150 | 151-300 | 201-300 | 301-400 | 401-500 | 500 |
| 1967 | 17 | 51 | 0 | 1 | 2 | 1 | 1 | 1 | 4 | 1 | 5 | 0 | 1 | 0 | 0 | 0 |
| 1968 | 29 | 76 | 1 | 0 | 0 | 3 | 2 | 4 | 4 | 3 | 5 | 1 | 2 | 0 | 2 | 2 |
| 1969 | 21 | 51 | 0 | 0 | 2 | 3 | 0 | 2 | 4 | 5 | 2 | 1 | 0 | 0 | 1 | 1 |
| 1970 | 24 | 31 | 0 | 1 | 4 | 3 | 3 | 3 | 4 | 1 | 4 | 0 | 1 | 0 | 0 | 0 |
| 1971 | 26 | 51 | 0 | 2 | 2 | 2 | 3 | 3 | 4 | 3 | 2 | 1 | 2 | 0 | 2 | 0 |
| 1972 | 14 | 76 | 1 | 0 | 0 | 2 | 0 | 2 | 1 | 4 | 3 | 0 | 1 | 0 | 0 | 0 |
| 1973 | 13 | 51 | 0 | 1 | 1 | 1 | 2 | 1 | 4 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 1974 | 18 | 21 | 0 | 4 | 2 | 2 | 3 | 2 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 |
| 1975 | 23 | 31 | 2 | 0 | 0 | 3 | 4 | 7 | 2 | 1 | 3 | 0 | 1 | 0 | 0 | 0 |
| 1976 | 22 | 31 | 0 | 0 | 3 | 4 | 3 | 4 | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 1 |
| 1977 | 17 | 21 | 0 | 0 | 1 | 7 | 4 | 1 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 14 | 11 | 0 | 0 | 4 | 5 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 24 | 11 | 0 | 7 | 3 | 8 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 1980 | 27 | 11 | 0 | 5 | 4 | 10 | 4 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Total | 289 | | 4 | 21 | 28 | 54 | 34 | 34 | 37 | 20 | 33 | 5 | 9 | 0 | 6 | 4 |

1 Table incorporates survivors only; Dublin is included.

2 Year of opening data prior to 1973 is less accurate than for the 1973-81 period.

*Multinational Enterprises.* Between 1967 and 1981 a total of 559 MNE subsidiaries were opened which were still operating in 1981 and of these survivors 44.4% were employing over 50 people at the end of the period, and 23.4% had payrolls in excess of 100 employees. Turning to the 292 openings between 1967-75 which survived until 1981 – all of which have had at least 5 years in production – some 49% had fewer than 51 people employed in 1981 compared with 63% of the post-1957 new branches (Table 7). Does a longer life increase the probability of moving into larger size categories particularly those over 100 employees? The evidence tends to confirm this for the 1967-1975 new branches 29.4% of these survivors had grown to over 100 employees by 1981 and 6.5% to over 300 whereas the respective figures for the 1976-80 entries were 16.9% and 4.9%. The extra time beyond 5 years permits a significant increase in the share of plants expanding to over 100 but has little effect upon the proportion growing in excess of 300 employees. However, some of this difference may be due to changes in the mix of MNE branches opening in later years. Examination of the size matrix of initial employment size relative to 1981 size shows that 5% had declined to a lower size band and 67% had moved upwards. Only 8.7% of MNEs in the 0-10 opening size category had expanded to over 100 by 1981 compared with 11% of the 11-25 category, 25% of the 25-50, and 74.4% of the 50-100 size band. There is some support here for the proposition that initial year size is positively associated with size in 1981. The median plant size of the 1973-75 cohorts of new overseas establishments suggests that the new overseas plant typically commences operations with around 15 employees and expands quite rapidly to around 30 employees within two years. There is some evidence from Table 7 to suggest that the typical branch then remains static at a size of around 30 for 4-5 more years. (i.e. until 6-7 years after opening) and then expands to stabilise at a median of 50 employees. There is no evidence of any time trend in growth into the large categories above 300 employees; most annual cohorts furnish a couple of plants which are employing over 300 people by 1981, except for the two most recent years. Caution needs to be exercised in making plant growth estimates from the data in Table 7, since there is no information on possible changes in the characteristics of the distribution of new plant over time. However, it would not appear to be totally satisfactory from a policy and public expenditure perspective that 55.6% of all MNE branches are employing fewer than 51 people in 1981 and that even for the 1967-75 cohorts – in production 5-14 years – 49% were still employing between 1-50 people. Finally, comparisons with similar but not identical data for Scotland and Northern Ireland tends to confirm the relatively small-scale of MNE's locating in Ireland. Cross (1981) showed that 60% of

all local and non-local branches opening in Scotland between 1968 and 1977 employed fewer than 50 in 1977 while 10% had over 200 on the payroll. In Ireland, 76.6% of all MNE branches opening between 1973 and 1981 and surviving, employed up to 50 persons in 1981 and 11.4% employed over 200. In the case of Northern Ireland, Bull *et al* (1983) reported that the average size of American projects was 460 and for those from the rest of the UK, 237. Conversely, American branches in the Irish Republic recorded a mean plant size of 187 in 1974 and in Britain a mean of 100 [McAleese, 1977].

## Implications and Conclusions

Indigenous single plant firms employed over 81,000 people in 1981, or 34% of the manufacturing workforce. Although there has been a high rate of new firm formation, the employment growth performance of ISPs has been less impressive, it is apparent that much of the growth in new indigenous firms formation has been in businesses relatively protected from international competition: one-third of new firms are in pre-dominantly non-traded[8] sectors of paper, printing, packaging, wood, furniture, cement, glass and clay [O'Farrell and Crouchley, forthcoming]. Only 10% of new firms have been established in overwhelmingly traded (i.e. open to international competition) sectors such as clothing, footwear and textiles, while the remainder (57%) are attributable to heterogenous industries like metals and engineering, plastics, food and consumer goods [NESC, 1982]. Relatively few of the new firms serve the sub-supply needs of the larger predominantly foreign companies; for example, only 11.4% of the materials and components used by the largest New Industry sector, metals and engineering, were purchased in Ireland in 1976 [O'Farrell and O'Loughlin, 1981] although the trend is upwards [O'Farrell, 1982]. Many new firms that have set up in sub-supply industries have been in lower skill areas such as general welding, structural metal or packaging; indeed, packaging represented over one-third of domestic purchases by the non-food sectors in 1976 [O'Farrell and O'Loughlin, 1980]. Sheltered businesses have a growth potential constrained by the small size of the regional and Irish market and many were founded in the 1970s as a response to the exceptional rise in domestic demand. There are various supply side bottlenecks preventing the purchasing levels of foreign firms in Ireland rising to their potential of more than double the existing proportion. These bottlenecks include lack of price competitiveness, poor achievement and maintenance of quality standards, and lack of reliability in meeting delivery date deadlines [O'Farrell, 1982]. These trends are emphasised by sectoral net employment changes for indigenous enterprises (ISPs and IMPs) between 1973 and 1981. Employment in Irish-owned textile,

Table 7: *Employment Growth of Multinational Branch Plants*[1], *1967-1981*

| Year of Opening[2] | Number of Plants | Median Size 1981 | Size Distribution 1981 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1-2 | 3-5 | 6-10 | 11-20 | 21-30 | 31-50 | 51-75 | 76-100 | 101-150 | 151-200 | 201-300 | 301-400 | 401-500 | 500 |
| 1967 | 18 | 54 | 2 | 0 | 1 | 1 | 1 | 4 | 0 | 2 | 4 | 2 | 0 | 0 | 1 | 0 |
| 1968 | 22 | 51 | 1 | 1 | 2 | 2 | 2 | 1 | 3 | 2 | 3 | 2 | 1 | 1 | 0 | 1 |
| 1969 | 23 | 31 | 1 | 2 | 1 | 2 | 5 | 3 | 2 | 4 | 1 | 0 | 0 | 1 | 0 | 1 |
| 1970 | 30 | 76 | 0 | 0 | 3 | 1 | 4 | 3 | 3 | 5 | 5 | 4 | 1 | 0 | 0 | 1 |
| 1971 | 29 | 51 | 1 | 0 | 3 | 3 | 2 | 5 | 4 | 2 | 4 | 1 | 2 | 1 | 0 | 1 |
| 1972 | 30 | 51 | 0 | 2 | 2 | 1 | 3 | 6 | 5 | 2 | 3 | 1 | 2 | 2 | 0 | 1 |
| 1973 | 44 | 31 | 1 | 2 | 3 | 9 | 3 | 9 | 5 | 1 | 5 | 2 | 3 | 0 | 1 | 0 |
| 1874 | 56 | 51 | 0 | 3 | 5 | 6 | 3 | 5 | 9 | 6 | 5 | 3 | 6 | 1 | 1 | 3 |
| 1975 | 40 | 31 | 0 | 0 | 5 | 10 | 4 | 5 | 3 | 4 | 1 | 2 | 3 | 1 | 0 | 2 |
| 1976 | 49 | 31 | 0 | 0 | 5 | 7 | 6 | 7 | 5 | 6 | 3 | 1 | 2 | 3 | 2 | 2 |
| 1977 | 48 | 31 | 1 | 3 | 8 | 7 | 3 | 6 | 6 | 3 | 5 | 1 | 3 | 2 | 0 | 0 |
| 1978 | 67 | 31 | 1 | 6 | 8 | 7 | 9 | 11 | 6 | 8 | 5 | 2 | 1 | 1 | 0 | 2 |
| 1979 | 47 | 31 | 0 | 2 | 5 | 13 | 0 | 8 | 8 | 3 | 6 | 1 | 1 | 0 | 0 | 0 |
| 1980 | 56 | 11 | 0 | 11 | 14 | 10 | 5 | 4 | 4 | 6 | 2 | 0 | 0 | 0 | 0 | 0 |
| Total | 559 | | 8 | 32 | 65 | 79 | 50 | 77 | 63 | 54 | 52 | 22 | 25 | 13 | 5 | 14 |

1 Table incorporates survivors only; Dublin is included.

2 Year of opening data prior to 1973 is less accurate than for the 1973-81 period.

clothing and footwear firms fell by more than 30%, a decrease only partly compensated for by increases in metals and engineering, wood and furniture, cement, printing and packaging. Consequently it is the predominantly traded goods industries which recorded the greatest employment loss, while the non-traded sectors such as packaging, cement and structural steel enjoyed net employment increases.

The principal opportunities for growth lie either in import substitution by providing components for MNEs and large IMPs, or by firms currently serving only a regional or the national market exporting to the UK, the rest of the EEC, or beyond. Consequently, although the rate of indigenous new firms formation in Ireland has been relatively high by international standards, the evidence presented here concerning employment creation suggests that the majority of the firms established are small-scale enterprises producing sheltered goods which are unlikely, in the absence of further policy initiatives, to expand into even medium-sized enterprises selling overseas. This remains a major policy problem for government and development agencies if the buoyant entry rates are to be translated into high value added exporting companies or skilled sub-suppliers providing substantial high quality employment.

*Multinational Enterprises.* Foreign manufacturing establishments employed 82,113 people in 1981, 34.3% of the manufacturing workforce. The evidence suggests that most MNE branches are relatively small and few expand into large size categories. Ireland has been, primarily, the location for European investment chosen by smaller faster growing *companies* availing of the incentives in order to penetrate EEC markets. The median employment size of MNE parent companies with Irish branches is 1,500 with a mean of 15,880 [O'Loughlin and O'Farrell, 1980, p. 161]. There is a suggestion that this is small by US standards: Vernon (1971) reported a mean company size of 35,800 although he only included companies belonging to the top 500 in the USA.

The IDA has achieved a remarkable degree of success in persuading such projects to locate in Ireland. There is evidence that in 1978 and 1979, Ireland attracted 80% (185 plants) of all new foreign green field projects established in Ireland, Scotland, Wales, Northern Ireland and Belgium. [NESC, 1982]. However, in general, foreign-owned plants in Ireland are not highly integrated into the skilled sub-supply industry of the Irish economy. The lack of backward intergration is partly a function of the extent to which overseas branch plants are dependent upon their parent company for supplies of inputs: the mean proportion of raw materials supplied is 30.2% although half of the MNE branches obtain less than 10% of their inputs from affiliates [O'Farrell and

O'Loughlin, 1981]. All of these problems have been recognised by the IDA which has taken a number of policy initiatives to try to persuade firms to locate more headquarter functions in Ireland, to purchase a higher proportion of their inputs domestically and to stimulate companies to conduct more manufacturing processing in Ireland thereby enhancing domestic value added. Some success has been achieved, notably the increasing tendency of MNEs to incorporate an R and D facility in their Irish branches during the post-start-up phase. The initial activity of foreign branches is almost invariably production, but if a viable production base is established, there is a greater chance that the company will extend the range of functions performed in Ireland. Too much should not be expected for most firms will wish to retain their R and D facility close to their head office. Branch plants which incorporate only one or two key functions, such as production and marketing, can make an important contribution to employment creation, regional development and the balance of payments.

## APPENDIX

*Definitions*

*Establishment or Plant*: an identifiable unit of production engaged under a single legal entity in manufacturing activity at a distinct physical location. An establishment may be one of a number owned by a firm or enterprise but is classified separately if it has a discrete plant and work force at a specific location. Establishments may comprise one or more *technical units:* departments of a meat-packing plant which produce lard, cure bacon or can meat are examples of technical units horizontally integrated within an establishment.

*Enterprise or Firm*: a corporation, joint stock company, co-operative association, partnership, individual proprietorship or some other form of association. It owns and manages the property of the organisation and receives and disposes of all its income; it may consist of more than one establishment.

*Ownership Status*: The ownership variable has been classified into three categories: (i) multinational branch plant; (ii) Irish multi-plant branch; and (iii) indigenous (Irish) single plant. Joint ventures, of which there are only some 25 of the 5,000 plants, were classified under the majority shareholding group. Ownership, in the case of surviving plants, was categorised according to their status in 1981 and, for closures, their status in the year prior to closure. In the very small number of cases where a single plant firm expands by opening a branch, thereby moving into the multi-plant category, or a multi-plant firm disinvests and enters the single plant group, the plants are classified according to their 1981 ownership status.

*Openings*: are new establishments which were in existence in 1981 but not in 1973 and their employment 'gain', as a consequence of opening, is defined as their 1981 employment. The definition of the start-up date is, to some extent, arbitrary. In this study it is defined as the year of entry to the IDA Employment Survey for which the qualifying criterion is a minimum full-time employment of 3, including founder or partners.

*Programme under which Grant Aided*: Many grant-aided projects have received grant assistance under a number of separate programmes. In consultation with the IDA, it was decided to sort the programme classifications according to the following hierarchy. A *New Industry* grant takes

precedence over all others: i.e. if a project has been in receipt of both a New Industry and a Small Industry grant, it is classified as New Industry for the purposes of the analysis. The remainder of the hierarchy, in order, is Small Industry, Re-equipment, Shannon, Gaeltarra and Non-Grant Aided. Enterprise Development programme projects are classed as New Industry. A project is classified as grant-aided under one fo the above programmes if at any time either before or after 1973 it has received a grant payment.

*Relocations*: Relocations are an unimportant phenomenon in Irish regional employment change. Only 139 plants, approximately 2% of the stock, relocated between 1973 and 1981. The predominant movement was an inner city-suburban shift within the Dublin conurbation and fewer than 50 *jobs* actually migrated across a *regional* boundary. Hence, inter-regional relocation can be ignored in the analysis. It is extremely important, however, to identify and account for within-region relocations because the IDA files are assembled such that when a plant closes *prior* to relocating it is classified as a *closure*; and when it re-opens at a new site it is categorised as a *new plant opening* with a different numeric code. Hence, failure to identify and adjust for relocations *within* regions would seriously bias an analysis of new firm openings by inflating the number of new firms and gross job increases arising from new openings. Relocations were identified by comparing alphabetical lists of possible relocations. A list of origins and destinations was then checked against a separate IDA listing of relocations and confirmed relocations were re-classified as permanent establishments for the purpose of deriving employment accounts.

*The Data*: The analysis is based upon the Industrial Development Authority's (IDA) annual employment survey conducted on 1st January each year. The survey constitutes a population census of manufacturing establishments with a minimum payroll of 3 including owner manager(s). In subsequent years, if the employment total falls below 3, the plant is retained on file and the employment recorded. Prior to 1979, the employment survey only included a sample of plants in County Dublin employing less than 50 people. Hence, Dublin must be excluded in any national analysis of *all* new firm entries including those which subsequently closed, but the capital may be included when the objective is to study survivors only. The following data is recorded for every plant: name of firm; total male and female employees; location; product code; year production commenced; nationality; and programme under which grant aided, if applicable.

*NOTES*

1. Complete data on the number of new openings in Dublin which closed before 1981 is unavailable since a census survey of plants 50 was not conducted until 1979. Hence, the analysis of new plants *survivors* includes Dublin but the examination of all new entries, including survivors and subsequent closures, excludes the capital (see Appendix).

2. MNE's have displayed a greater propensity to close than either IMP's or ISP's over the period [O'Farrell and Crouchley, 1973].

3. This does not include expansions aided under the NI programme.

4. The East region has been disaggregated into two areas – the Dublin metropolitan county and Kildare, Meath and Wicklow – to reflect the marked contrast in the behaviour of the manufacturing systems within the two sub-regions defined.

5. Size matrices of initial size by 1981 size for MNE's and IMP's are available from the authors upon request.

6. The results refer to the non-Dublin area only because there was no census coverage in the capital until 1979.

7. Inferences concerning plant employment growth need to be made with caution since there is no information concerning possible changes in the mean size of new plants over time or in other characteristics of the distribution of new plants.

8. Non-traded business include services localised within a region including health care, retailing and housing construction and manufactured goods in which the productivity improvements that can be achieved through increased production scale are not great enough to offset the increased costs of distributing the product to a foreign country, [NESC, 1982].

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