

FISCAL INCENTIVES AND CORPORATE FINANCING A FLOW OF FUNDS  
ANALYSIS 1964-1982

J C STEWART\*

*(Read before the Society, 27 February 1986)*

---

This paper examines flows of funds for Irish public companies for the period 1964-1982 with particular reference to the effects of fiscal incentives. The study uses published accounts of companies as a data source. Sources of finances were found to vary cyclically, as was the change in cash balances and stocks. The paper demonstrates the low level of corporate saving, in particular, if an allowance is made for stock appreciation. Since 1973 aggregate dividend payments are seen to be higher than aggregate tax payments. The paper shows that the main source of external finance is from the commercial banks. The paper also notes a switch from short-term bank borrowing to long-term borrowing. The Stock Exchange/shareholders accounted for a low proportion of external finance although the proportion is higher than that found for public companies in the UK for some years. Finally a weak though positive relationship was found between the export/sales ratio and reliance on share issues (preference and equity). The paper concludes that the allocation of funds in Ireland can be best described as a private bureaucratic allocation of funds in contrast to a capital market based financial system such as the US or a system of State allocation as in the case of France and this raises certain issues relating to the efficiency of this allocation.

---

\* The author would like to thank Steve Satchell of the University of Essex for his advice on statistical aspects of this paper. Peter Connell of Trinity College, Dublin, provided expert computer advice. Finally I would like to acknowledge the help of the late A R Prest of the London School of Economics who supervised the Ph D thesis from part of which this paper is derived.

This paper begins with a description of the study population. Secondly there is a brief discussion of some of the problems of preparing flows of funds from the accounts of individual firms. Thirdly the overall importance of different sources of funds is examined, and some effects of fiscal incentives on corporate financing are considered. Finally some conclusions and policy implications are discussed.

## *1 THE SELECTION OF FIRMS IN THE STUDY*

All firms in the private sector in Ireland may be classified as public or private. The most common distinction between a public and a private company is that a private company cannot have more than fifty shareholders. The 1963 Companies Act in Ireland, which is almost identical to the 1948 Companies Act in the United Kingdom, requires all public companies to file a balance sheet and a profit and loss account for each accounting period with the Registrar of Companies. These documents are then made available for public inspection. During the period 1964-1982 the number of public companies varied between 396 and 338 [1].

The total population of public companies was used as a data source for this study, but certain categories were excluded [2]. By far the largest group of companies included in the study consisted of Irish or partially Irish owned companies. This is because very few wholly owned subsidiaries of multinational companies (MNCs) operating in Ireland are public companies, and are thus not obliged to publish any financial information [3]. Those MNC subsidiaries that are public companies, and hence included in this study, are long established (pre-1964) and are public companies for a variety of reasons. For example, some of those established before the repeal of the Control of Manufactures Acts in 1958 may have been obliged to sell a majority of ordinary shares to persons resident in Ireland [4]. Subsequent to the repeal of the Control of Manufactures Acts in 1958 some of these shares may have been repurchased in order to obtain majority control. Other MNC subsidiaries as well as Irish owned companies issue securities which were traded on the Dublin Stock Exchange in order to benefit from a lower rate of tax on dividends or interest payments. This relief was

first introduced in 1936 and was ended in 1983

The study population thus consists of non-financial, Irish or partly Irish owed companies in the private sector, and a small group of non-financial wholly owned subsidiaries of multinational companies operating in Ireland. Most of the MNCs included in the study, in contrast to other MNCs which are located in Ireland, trade largely in the domestic economy. There was no instance where output was totally exported or supplied to an affiliate, but there were some examples of companies purchasing inputs from affiliates, such as the oil distribution companies.

Data were obtained from the published accounts of these companies for the period 1964-1982 inclusive. The year 1964 was the first year of operation of the Companies Act (1963). Ireland operates on an April to April fiscal year and companies may choose their own accounting year end date, although the most common year end date was December 31st followed by March 31st. There are also some sector specific year end dates for company accounts, for example January 31st for retail stores, and October 31st for companies involved in milling and the storage of grain. The following rule of thumb was used in allocating company accounts to different year end dates. A company whose accounting year ended between January 1st and June 30th was attributed to the preceding calendar year, and a company whose accounting year ends between July 1st and December 31st was attributed to the current calendar year [5]. For more recent years approximately half of all companies included ended their accounting year on December 31st, although these companies accounted for more than half of the total pre-tax profits of the study group as a whole.

Most of these firms included in this study were engaged in manufacturing activities, and there was a general trend over the period 1964-1982 for the non-manufacturing firms to diversify into manufacturing activities. For the year 1982, out of 72 companies included, only 13 companies (18 per cent) appeared not to engage in some manufacturing activity. This compares with 32 companies out of 117 in 1964 (27 per cent, 26 per cent in 1965). Three of the 13 companies were involved in hotels and travel, two companies were involved

in oil distribution, two in property ownership, two in hardware merchandise, and one each in auctioneering, vehicle distribution, retail distribution and leasing [6] The largest single grouping of firms was in food, drink and agriculture related industries with 21 firms

As noted in Stewart (1981) many firms during the study period diversified into other manufacturing sectors, and in some cases from manufacturing into distribution, for example, Waterford Glass Similarly some firms engaged in non-manufacturing activities diversified into manufacturing activities, for example Arnotts, a department store In addition, the population of non-financial public companies on which this study is based has also changed considerably during the period 1964-1982 as a result of new public companies, mergers, takeovers and liquidations During the period 1964-1982, 58 of the companies included in the study either merged with, or were taken over by, other companies [7] Of these 58 companies, 34 companies were taken over or merged with existing public companies Twenty-eight companies went into liquidation or had receivers appointed, of which 10 were textile companies There were 26 new public companies As a result of these changes there has been a considerable reduction in the number of public companies, and as can be seen from Table (1) a reduction in the number of companies included in the study population from 114 in 1973 to 72 in 1982 During the period 1964-1972 the number of companies included rose from 117 in 1964 to 143 in 1966 and then fell to 114 in 1973 Because of variations in the amount of published information, in particular comparable data for the immediately preceding period prior to becoming a public company, a few companies were omitted for some years from particular aspects of this study However the same firms were included in Table (1) showing aggregate profits, as in Tables (4) to (9) showing sources and uses of funds

Table (1) shows that the study group accounts for a diminishing proportion of total corporate trading profits in Ireland Trading profits are defined in Table (1) as pre-tax profits plus interest payments Trading profits of the study group fell from approximately 26 per cent of aggregate trading profits in 1973 to 8.4 per cent in 1982, although with some fluctuation from year to year As not all

Table (1) *Trading Profits of Companies in the Study  
Compared with Aggregate Trading Profits in  
Ireland 1973-1982*

|                                                                         |   | IR£ '000 |       |       |       |       |       |        |       |        |        |
|-------------------------------------------------------------------------|---|----------|-------|-------|-------|-------|-------|--------|-------|--------|--------|
| Year                                                                    | 1 | 1973     | 1974  | 1975  | 1976  | 1977  | 1978  | 1979   | 1980  | 1981   | 1982   |
| Trading Profits of Study Group                                          |   | 73 5     | 69 5  | 62 1  | 77 6  | 103 0 | 123 4 | 158 8  | 140 9 | 132 6  | 116 8  |
| Number of Companies Included                                            |   | 114      | 112   | 111   | 108   | 101   | 95    | 90     | 88    | 77     | 72     |
| Trading Profits of all Companies in Ireland                             |   | 278 4    | 325 8 | 375 6 | 537 1 | 721 7 | 865 8 | 1008 2 | 973 6 | 1303 7 | 1388 2 |
| Trading Profits of Study Group as a Percentage of Total Trading Profits |   | 26 4     | 21 3  | 16 5  | 14 4  | 14 3  | 14 3  | 15 8   | 14 5  | 10 2   | 8 4    |

**Notes**

- (1) Defined as pre-tax profits plus interest payments minus profits of associated companies. Pre-tax profits have been arrived at by deducting depreciation calculated according to historic cost conventions.
- (2) Defined as pre-tax profits plus interest payments. Pre-tax profits have been arrived at by deducting depreciation allowances calculated for tax purposes. This figure also excludes overseas earnings of Irish subsidiaries operating abroad.

*Sources: National Income and Expenditure 1979 and 1984, Table A 1*

companies in the study disclose interest payments, trading profits for the study group are underestimated particularly for the earlier years (1973 and 1974) There is also an error working in the opposite direction as some companies in the study group have subsidiaries operating in other countries, and hence trading profits of the study group include profits of subsidiaries operating abroad, whereas aggregate data excludes profits of subsidiaries operating abroad

For the year 1964 pre-tax profits of the study group (excluding interest payments) amounted to approximately 25 per cent of total trading profits in Ireland (the highest proportion for any of the years 1964 to 1982) Hence it is likely that trading profits of the study group (pre-tax profits plus interest payments) as a proportion of total trading profits in Ireland was at its highest at the beginning of the period 1964-1982 and gradually declined throughout the period

Finally to conclude this description of the study population, Table (2) shows the numbers employed by firms in the study group for the five years 1978-1982, and the total numbers at work in Ireland for comparative purposes

Table (2) shows that companies in the study accounted for approximately 4.5 per cent of the total employment for 1982 [8]. Over the five years 1978-1982 the percentage of total employment and the total numbers employed by firms in the study has fallen. Although employment data are not available for all firms for all years, the study group appears to account for a falling share of total employment also in the years 1964-1977

Table (3) shows employment for a subset of firms in the study for which employment data were published and which were in continuous existence for the period 1964-1980. In addition a further eight firms which were taken over or merged with these firms are also included. These firms accounted for more than half of total employment of firms in the study in 1980. Table (3) shows that employment rose between the years 1965 and 1970, fell from 1970 to 1975, and then rose again from 1975 to 1980. However the rise in employment between 1965 and 1970 is partly accounted

Table (2) *Numbers Employed by the Study Group and Percentage of Aggregate Employment*

|                                           | '000 |      |      |      |      |
|-------------------------------------------|------|------|------|------|------|
| Year                                      | 1978 | 1979 | 1980 | 1981 | 1982 |
| Numbers Employed by M.N.C.s in the study  | 10.5 | 10.4 | 9.8  | 9.1  | 7.0  |
| Total Numbers Employed by the Study Group | 69.4 | 65.0 | 62.5 | 53.6 | 51.3 |
| Number of Companies                       | 90   | 84   | 79   | 71   | 70   |
| Percentage of Aggregate Employment        | 6.3  | 5.7  | 5.4  | 4.7  | 4.5  |

*Sources* Numbers employed by firms in the study group was obtained from the Annual Reports of Companies, and also from *Irish Business* January 1979-January 1983. Employment data were not available for a few small companies included in the study for various years. Data on aggregate employment were obtained from Department of Finance, *Economic Review and Outlook for 1983*, and *1984*.

for by takeovers of existing firms, rather than new investment, while the rise in employment between 1975 and 1980 is partly accounted for by firms in this sub-group investing outside Ireland (for example Cement Roadstone). It is of interest to note that total employment by these 26 firms fell by approximately 2,500 between 1970 and 1980, despite receiving £29 million in capital grants during this period.

In conclusion there has been a considerable change in the population of non-financial public companies over the period 1964-1982. The three main features of this change are (1) diversification mostly through merger and takeover of other companies, but in some cases by investing abroad.

Table (3) *Employment for 26 firms in the Study for 1965-1980*

| Year                          | <sup>1</sup><br>1965 | 1970  | <sup>2</sup><br>1975 | <sup>3</sup><br>1980 |
|-------------------------------|----------------------|-------|----------------------|----------------------|
| Employment                    | 29565                | 35648 | 31519                | 33157                |
| Accumulated<br>Grants (£'000) | 1264                 | 6657  | 15636                | 35805                |

*Notes*

(1) Includes data for one firm for 1966

(2) Includes data for one firm for 1976

(3) Includes data for one firm for 1981

*Source* Annual Reports of Companies and the Annual Survey of Public Companies, published by *The Irish Times*

(2) the closure of firms operating in the traditional sectors such as textiles, and in other sectors formerly protected by tariffs, such as car assembly, (3) a reduction in the relative importance of non-financial public companies, whether expressed in terms of profits or employment. The next section considers some technical problems involved in the production of flows of funds

## 2 SOME TECHNICAL PROBLEMS WITH FLOWS OF FUNDS

The sources of funds in this paper are classified according to sector of issue. The three main sectors identified are the capital market, state institutions and commercial banks. Few companies in the study appear to rely on foreign borrowing, the total identified amounted to just under IR£20 million for the period examined. Where disclosed such borrowing has been attributed to the commercial banks. Certain loans from state agencies may also represent foreign borrowing under a state administered scheme, where the exchange rate risk is borne by the state. The capital market refers to sources of funds such as equity shares, preference shares and quoted debt. Long-term sources of funds (equity

and debt) from the parent company in the case of subsidiary companies, included in the study, are also included under this heading. This is because in general equity shares cannot be redeemed or repurchased under Irish company law. It is also likely that there is a considerable difference in the flexibility with which long-term loans can be repaid versus short-term loans that arise from intra-subsidary trading. This is likely to be particularly true in the case of majority owned subsidiaries. In the case of subsidiaries of multinational companies included in the study, intra-group short-term borrowing from the parent company or fellow members of the group is also separately identified as a source of funds. This largely related to trade credit received and given. State Institutions are subdivided into two sources of funds, capital grants and borrowing (both and long term). The third classification, commercial banks, is subdivided into long term (maturity longer than one year) and short term. There are also alternative classification for example those described by Bain [9], who suggests classification by the nature of the financial instrument, for example debt or equity, and also suggest that assets may be classified by liquidity. However Bain stresses that the key features in classifying flows of funds should be homogeneity and importance [10].

The following are the main problems encountered in attempting to classify financial liabilities according to sector of issue.

(1) If state institutions purchased equity or preference shares, the relevant amounts could be shown as originating from state institutions as with capital grants, or from the capital market. In this paper such amounts are shown as originating from the capital market.

(2) Many companies do not disclose the origin of debt in the balance sheet. Unless specifically identified, debt has been attributed to borrowing from the commercial Banks. Hence in some cases, debt provided by a state institution may be wrongly attributed to a commercial bank. In addition, no adjustment was made for a small number of cases where long-term debt provided by a state institution was subsequently converted into preference shares or equity.

(3) Because many companies do not disclose the origin of debt, some bank borrowing may have taken place outside Ireland. Where foreign borrowing is disclosed it has been

attributed to the commercial banks rather than create a separate category

(4) Insurance companies provided a small number of loans prior to 1970, known generally as mortgage loans, although the origin of these loans is not disclosed in company accounts. Generally these loans were of 5-10 years duration. In all cases these loans have been regarded as issuing from the commercial banks.

(5) Equity, debt, etc., issues to shareholders or quoted on the capital market was only included if issues in exchange for cash. Debt or equity issued in connection with mergers or takeovers was not included. In some cases this may lead to anomalous results, for example where a company issues shares for cash and then immediately purchases another company with the proceeds.

(6) Changes in short-term borrowing and cash balances were estimated as the difference between balance sheet stocks in the time period  $t_0$  and  $t_1$ . In the case of mergers/takeovers or where subsidiaries are sold off this may also lead to anomalous results, for example where two companies already in the study population merge this shows up as an increase in the flow of bank borrowing by the surviving company even though the aggregate of bank borrowing by both companies before the merger is the same as post merger. Hence in those cases where companies already in the study merged/took over other companies the change in short-term bank borrowing and in cash balances was treated as the difference between aggregate balance sheet totals prior and post to the merger/takeover. A corollary of this procedure is that merging/taking over companies not already included in the study population results in an inflow of any short-term bank borrowing by the taken over company/merged company to the surviving company, and divesting of a subsidiary results in a repayment of short-term loans [11]. In some cases companies that merged or took over other companies were omitted for a particular year because cash flows, such as tax payments, could not be accurately estimated from balance sheet data.

(7) As far as was possible changes in long-term loans resulting from mergers/takeovers of companies already included in the study population were also excluded.

(8) Finally, changes in trade credit have been ignored.

The population of firms included varies from year to

year. Hence in some cases changes in the pattern of financing may be partly due to the inclusion of different firms, rather than changes in the financing of the same firms. The data presented must also be interpreted in the light of varying rates of inflation from year to year. Inflation may also affect the magnitude of reported profits, although inflation adjustments to profits have proved controversial and are not used in this paper.

### *3 SOURCES OF INTERNAL AND EXTERNAL FINANCE*

Table (4) shows sources of internal finance for companies in the study for the years 1964-1982. Gross internal finance [depreciation plus retentions, column (6)] is a positive source of finance for each year, although Table (4) shows that there have been considerable variations in pre-tax profits particularly in the latter part of the period. Aggregate dividends show a generally rising trend through time, and as is suggested by the Lintner hypothesis [12] are much more stable than pre-tax profits. Hence fluctuations in profits become reflected in fluctuations in corporate saving. If a stock adjustment (S) and historical cost depreciation as it appears in company accounts (D) are deducted from gross internal finance an estimate of funds available for additional investment is obtained. Column (9) shows that this amount is positive though more unstable than pre-tax profits for the period 1964-1973, but becomes negative in the recession years 1974-1976, and at the start of a new recession in 1980.

Table (5) shows various sources of external finance, the total of external finance and the sum of external and internal financing. There is some evidence that different sources of external finance appear to be used in a contracyclical fashion. For example, the fall in corporate profits in 1974-1975 was associated with a rise in short-term bank borrowing in 1974 and in long-term bank borrowing in 1975-1976. A fall in profits in 1980-1981 was also associated with an increase in short-term borrowing. The recovery of profits in 1975-1976 was associated with a reduction in short-term bank borrowing. Raising funds from shareholders or on the Stock Exchange tended to be associated with rising corporate profits, as in the period

1971-1973, 1976, and 1979<sup>13</sup> The year 1982 appears to be an exception, however, approximately 50 per cent of the amount raised on the Stock Exchange for that year (IR£10 million) consists of additional equity from the parent of MNC included (Irish Shell)

As in the case of pre-tax profits and company saving, aggregate external finance appears to show a cyclical pattern although the cycle appears one to two years out of phase with changes in pre-tax profits When external finance was at a cyclically low point, for example in the years 1976-1977, corporate profits were recovering from the trough of 1974-1975 Conversely the recession years 1974-1975 were characterised by relatively large flows of external finance to the companies included in the study

A D Bain [14] also draws attention to a cyclical pattern in reviewing empirical evidence relating to corporate liquidity in the UK for the period 1958-1967 R C O Matthews (writing in 1959) suggests the cycle (both real and monetary) as an explanation of corporate financing and corporate liquidity [15] Matthews states (p 144) "share finance as a rule becomes more attractive relative to bond finance when trade improves" More recently the Wilson Committee [16] did not explicitly refer to a trade cycle as an explanation of changes in external corporate financing, but rather referred to the use of external funds as depending on a favourable market (par 500) and to the need to reduce high gearing levels (par 516)

In order to examine the relative importance of various sources of funds it is convenient to divide the period 1964-1982 into three sub-periods, coinciding with significant changes in fiscal incentives, that is the introduction of 100 per cent depreciation allowances in 1971, and "section 84" loans in 1976 Table (6) shows sources of funds as a percentage of total external sources for the Stock Exchange/shareholders, commercial bank long-term loans, total commercial bank loans, and other sources

Table (4) *Sources of Internal Finance 1964-1982*

IR£ Million

| Year | N <sup>1</sup> | Pre-Tax <sup>2</sup><br>Profits | Depreciation | Gross<br>Internal<br>Cash Flow | Cash Tax<br>Payment | Dividends | Gross<br>Internal<br>Saving | Net Profits<br>Available<br>for<br>Distribution | Stock <sup>3</sup><br>Adjustment | Internal<br>Funds<br>Available<br>for New<br>Investment |
|------|----------------|---------------------------------|--------------|--------------------------------|---------------------|-----------|-----------------------------|-------------------------------------------------|----------------------------------|---------------------------------------------------------|
|      |                | (1)                             | (2)          | (3)<br>(1+2)                   | (4)                 | (5)       | (6)<br>(3-4-5)              | (7)<br>(1-4)                                    | (8)                              | (9)<br>(6-8-2)                                          |
| 1964 | 117            | 16 501                          | 6 141        | 22 642                         | 5 773               | 4 457     | 12 412                      | 10 728                                          | 2 463                            | 3 808                                                   |
| 1965 | 136            | 17 444                          | 7 381        | 24 825                         | 6 394               | 5 157     | 13 274                      | 11 050                                          | 1 916                            | 3 977                                                   |
| 1966 | 143            | 16 840                          | 8 577        | 25 417                         | 6 897               | 5 519     | 13 001                      | 9 943                                           | 1 112                            | 3 312                                                   |
| 1967 | 140            | 18 149                          | 9 011        | 27 160                         | 7 734               | 5 607     | 13 819                      | 10 415                                          | 1 625                            | 3 183                                                   |
| 1968 | 139            | 23 650                          | 10 049       | 33 699                         | 7 766               | 6 006     | 19 927                      | 15 884                                          | 3 793                            | 6 085                                                   |
| 1969 | 137            | 25 445                          | 10 407       | 35 852                         | 7 176               | 7 217     | 21 459                      | 18 269                                          | 5 159                            | 5 893                                                   |
| 1970 | 127            | 23 336                          | 10 394       | 33 730                         | 7 919               | 6 446     | 19 365                      | 15 417                                          | 3 924                            | 5 047                                                   |
| 1971 | 130            | 28 954                          | 11 952       | 40 906                         | 8 408               | 7 503     | 24 995                      | 20 546                                          | 4 725                            | 8 318                                                   |
| 1972 | 121            | 41 981                          | 14 727       | 56 708                         | 9 329               | 9 240     | 38 139                      | 32 652                                          | 9 677                            | 13 735                                                  |
| 1973 | 114            | 61 953                          | 18 431       | 80 384                         | 9 036               | 11 348    | 60 000                      | 52 917                                          | 22 138                           | 19 431                                                  |
| 1974 | 112            | 46 052                          | 22 347       | 68 399                         | 12 546              | 16 486    | 39 367                      | 33 506                                          | 24 467                           | -7 447                                                  |
| 1975 | 111            | 40 632                          | 22 098       | 62 730                         | 8 130               | 14 241    | 40 359                      | 32 502                                          | 42 321                           | -24 060                                                 |
| 1976 | 108            | 59 392                          | 22 189       | 81 581                         | 8 547               | 14 373    | 58 161                      | 50 845                                          | 39 460                           | -3 488                                                  |
| 1977 | 101            | 86 828                          | 24 326       | 111 154                        | 13 884              | 18 693    | 78 577                      | 72 944                                          | 41 521                           | 12 730                                                  |
| 1978 | 95             | 104 639                         | 31 302       | 135 941                        | 14 435              | 23 292    | 98 214                      | 90 204                                          | 27 060                           | 39 852                                                  |
| 1979 | 90             | 127 691                         | 37 396       | 165 087                        | 20 417              | 27 009    | 117 061                     | 107 274                                         | 43 011                           | 36 654                                                  |
| 1980 | 88             | 95 258                          | 44 184       | 139 442                        | 21 684              | 33 981    | 83 777                      | 73 574                                          | 44 547                           | -4 954                                                  |
| 1981 | 77             | 85 179                          | 50 231       | 135 410                        | 19 057              | 35 310    | 81 043                      | 66 122                                          | 73 023                           | -42 211                                                 |
| 1982 | 72             | 69 862                          | 56 719       | 126 581                        | 16 923              | 37 927    | 71 731                      | 52 939                                          | 51 816                           | -36 804                                                 |

**Notes**

(1) N is the number of firms included

(2) P is defined as in Table (1) plus dividends from associates

(3) Estimated by subtracting from the average of opening and closing stocks for the current year, average stocks, deflated by the rise in the wholesale price index

**Source** Annual Reports of Companies

Table (5) *Sources of External Finance and Total Funds Available 1964-1982* IR£ M

| Year | Stock <sup>1</sup><br>Exchange<br>or Share-<br>holders | Intra-Group <sup>2</sup><br>Borrowing | State <sup>3</sup><br>Institution | Capital<br>Grants | Long Term <sup>4</sup><br>Commercial<br>Bank | Short Term <sup>5</sup><br>Commercial<br>Bank | Total<br>External<br>Finance | External <sup>6</sup><br>plus net<br>Internal<br>Finance | External<br>plus gross<br>Internal<br>Finance |
|------|--------------------------------------------------------|---------------------------------------|-----------------------------------|-------------------|----------------------------------------------|-----------------------------------------------|------------------------------|----------------------------------------------------------|-----------------------------------------------|
|      | (10)                                                   | (11)                                  | (12)                              | (13)              | (14)                                         | (15)                                          | (16)                         | (17)<br>(7-5+16)                                         | (18)<br>(6+16)                                |
| 1964 | 2 419                                                  | 0 885                                 | -0 023                            | 0 911             | 0 010                                        | 2 607                                         | 6 809                        | 13 080                                                   | 19 221                                        |
| 1965 | 5 672                                                  | 1 463                                 | 0 924                             | 1 623             | 0 288                                        | 2 113                                         | 12 083                       | 17 976                                                   | 25 357                                        |
| 1966 | 5 134                                                  | 1 702                                 | -0 756                            | 1 771             | 0 244                                        | 3 886                                         | 11 981                       | 16 405                                                   | 24 982                                        |
| 1967 | -0 089                                                 | 0 658                                 | 0 106                             | 2 219             | 0 300                                        | 1 623                                         | 4 817                        | 9 625                                                    | 18 636                                        |
| 1968 | 0 736                                                  | -0 286                                | 0 139                             | 1 293             | 0 676                                        | 8 072                                         | 10 630                       | 20 508                                                   | 30 557                                        |
| 1969 | 3 626                                                  | 1 934                                 | 0 394                             | 3 393             | 1 646                                        | 10 449                                        | 21 442                       | 32 494                                                   | 42 901                                        |
| 1970 | 1 235                                                  | 9 733                                 | -0 497                            | 2 870             | 6 819                                        | 7 611                                         | 27 771                       | 36 742                                                   | 47 136                                        |
| 1971 | 5 710                                                  | -3 305                                | 1 101                             | 3 069             | 9 340                                        | -8 125                                        | 7 790                        | 20 833                                                   | 32 785                                        |
| 1972 | 5 986                                                  | -6 717                                | 0 771                             | 3 851             | 11 317                                       | 18 107                                        | 33 315                       | 56 727                                                   | 71 454                                        |
| 1973 | 12 453                                                 | 2 983                                 | 0 933                             | 3 598             | 20 016                                       | 18 921                                        | 58 904                       | 100 470                                                  | 118 901                                       |
| 1974 | 1 828                                                  | 2 237                                 | 2 752                             | 3 739             | 7 392                                        | 29 209                                        | 47 157                       | 64 177                                                   | 86 524                                        |
| 1975 | 9 383                                                  | 6 179                                 | -0 252                            | 5 938             | 30 622                                       | -11 402                                       | 40 468                       | 58 729                                                   | 80 827                                        |
| 1976 | 17 196                                                 | -6 323                                | 0 458                             | 5 069             | 25 564                                       | -7 886                                        | 34 078                       | 70 050                                                   | 92 239                                        |
| 1977 | 3 278                                                  | 2 896                                 | 2 204                             | 3 780             | 6 599                                        | 4 051                                         | 22 808                       | 77 059                                                   | 101 385                                       |
| 1978 | 8 591                                                  | 2 042                                 | -0 260                            | 5 047             | 7 172                                        | 39 030                                        | 61 622                       | 128 534                                                  | 159 836                                       |
| 1979 | 36 934                                                 | -0 600                                | 0 227                             | 3 861             | 20 649                                       | 19 982                                        | 81 053                       | 160 718                                                  | 198 114                                       |
| 1980 | 7 254                                                  | 3 297                                 | 0 090                             | 7 383             | 36 980                                       | 31 261                                        | 86 265                       | 125 858                                                  | 170 042                                       |
| 1981 | 13 278                                                 | 2 245                                 | 0 541                             | 11 848            | 37 095                                       | 47 652                                        | 112 659                      | 143 471                                                  | 193 702                                       |
| 1982 | 20 457                                                 | -13 492                               | 5 833                             | 7 743             | 13 111                                       | -12 617                                       | 21 035                       | 36 047                                                   | 92 766                                        |

- Notes*
- (1) Net issues for cash of long-term debt, preference shares and equity
  - (2) Defined as current liabilities minus current assets
  - (3) Defined as long-term loans from the Industrial Credit Company and For Teoranta - a state rescue agency Preference and equity shares purchased by these agencies are included in vol (10)
  - (4) Loans with maturity longer than one year
  - (5) Loans with maturity less than one year (6) Net of accounting depreciation

*Source* Annual Reports of Companies

Table (6) *Sources of External Finance as a Percentage of Total External Finance<sup>(1)</sup>*

| Period  | Stock Exchange<br>or shareholders | Commercial<br>Bank Long<br>Term Loans | Total<br>Commercial<br>Bank Borrowing | Other<br>Sources |
|---------|-----------------------------------|---------------------------------------|---------------------------------------|------------------|
|         | (1)                               | (2)                                   | (3)                                   | (4)              |
| 1964-70 | 19 61                             | 10 45                                 | 48 51                                 | 31.88            |
| 1971-76 | 23 70                             | 47 02                                 | 64.53                                 | 11.77            |
| 1977-82 | 23 30                             | 31 55                                 | 65.11                                 | 11.59            |
| 1964-82 | 22.92                             | 33.56                                 | 62.67                                 | 14.41            |

(1) Columns (1 + 3 + 4) = 100 per cent

*Note* (1) Columns (1 + 3 + 4) = 100 per cent

By far the largest component of external finance over the period 1964-1982 consisted of borrowing from the commercial banks, which provided approximately 63 per cent of external funds [Table (6)]. Approximately 54 per cent of commercial bank borrowing was in the form of long-term loans. Next in importance were funds from shareholders or funds raised on the Stock Exchange (that is equity shares, preference shares and long-term debt) with 22.9 per cent of total external finance, of which approximately 20 per cent was raised by one company in 1979 (Cement Roadstone). Summing data over time may not be very meaningful because of varying rates of inflation from year to year, although the rate of inflation as measured by the CPI for the period 1971-1976 and 1977-1982 is similar at about 120 per cent and 130 per cent, respectively, the rate of inflation for the period 1964-1970 amounted to approximately 45 per cent. Deflating the data by a price index such as the Consumer Price Index or the Wholesale Price Index may also not be very meaningful as firms are likely to raise funds to purchase capital goods rather than consumer goods. Deflating by a capital goods index would be more useful but could be misleading when applied to a subsector of the economy as a whole. Hence it is important to examine the relative importance of sources of finance on a year to year basis.

For most years the commercial banks appear to be the largest single source of funds and for every year from 1972-1981

The Stock Exchange and shareholders were relatively more important in the periods 1971-1976, and 1977-1982 than in the period 1964-1970, as was total bank lending. Table (4) shows that for all years in the period 1964-1970 short-term bank lending was larger than long-term bank lending. In contrast for eight of the twelve years 1971-1982, long-term bank lending is larger than short-term bank lending. Long-term bank loans amounted to 48.5 and 72.9 per cent of total bank lending in the period 1977-1982, and 1971-1976, respectively, compared with 21.5 per cent for the period 1964-1970.

It is also of interest to note that total equity and preference shares issued for cash amounted to IR£156.6 million for the period 1964-1982, of which IR£4.60 million net consisted of preference shares. This latter figure excludes IR£5.2 million issued as preference shares and subsequently converted into equity shares. Over the period as a whole there were net redemptions of quoted debentures, and quoted long-term debt. There were also net redemptions of long-term loans from the parent company in the case of MNC subsidiaries included. Currently most long-term borrowing is from the commercial banks. There has also been a shift from quoted long-term debt to short- and medium-term bank borrowing in the UK. A recent UK study noted that for five of the years 1973-1980 bond redemptions exceeded new issues [17]. Several reasons have been advanced to explain the shift from quoted long-term debt, for example, increased uncertainty resulting from inflation, a decline in corporate profitability, and opposition by regulatory authorities to the issue of index linked securities. A study of the financing of the UK industrial commercial companies for the period 1971-1976 found net redemptions of preference shares [18]. This was largely due to tax changes in the UK in 1965 which made interest on debt finance a tax deductible expense against corporation tax, whereas dividends were not tax deductible and in addition were subject to income tax.

State institutions (Industrial Credit Company and Foir Teoranta) do not appear to be a major source of finance for

companies in this study. However in some cases bank lending shown in company balance sheets is not identified according to the lending institution. Hence a certain proportion of lending by state institutions in Table (5) may have been incorrectly ascribed to commercial bank lending.

Finally intra-group borrowing in the case of subsidiaries of MNCs appears to be a positive, if variable, source of finance for most years.

Table (7) shows a Sources and Uses of Funds Statement for the period 1964-1982. Total sources are defined as in Table (5), column (18). A similar problem to that of calculating the change in short-term borrowing in cases where firms merge, take-over other firms, or sell subsidiaries, arises in relation to changes in cash balances and in stocks, and the same procedure of adjusting the data where firms merged or took-over firms already included were used.

One of the features of Table (7) is a periodic negative movement in cash balances (for example 1964, 1967, 1971, and 1974) and the change in each balance in 1979, though positive is low compared with immediately preceding and succeeding years. For three of these years (1967, 1971, and 1974) the reduction in cash balances was associated with a fall in total sources of funds. A small group of companies (50) published comparable balance sheet data prior to 1964 (the year in which standard company accounts were required by law). If this sub-group of companies were compared for the years 1963 and 1964, a slight fall in total sources of funds and in pre-tax profits and a larger fall in cash balances was found for 1964 compared with 1963. The fall in cash balances in the years 1971 and 1974 was followed by a substantial increase in cash balances during the following two years. Another feature of Table (7) is the absolute fall in the nominal value of stocks in 1975 followed by a rebuilding of stocks in 1976. There was also an absolute fall in stocks in 1982. Previous falls in aggregate profits in 1966-1967 and 1970 were associated with smaller increases in the absolute value of stocks compared with previous years, and a slight fall in other uses of funds compared with previous years. A continuous fall in aggregate profits since 1979 has been associated with growing cash balances.

Table (7) *Total Sources and Uses of Funds 1964-1982*

| Year              | £IR Million          |                                         |                      |                            |
|-------------------|----------------------|-----------------------------------------|----------------------|----------------------------|
|                   | Sources <sup>1</sup> | Change in <sup>2</sup><br>Cash Balances | Changes<br>in Stocks | Other <sup>3</sup><br>Uses |
|                   | (1)                  | (2)                                     | (3)                  | (4)                        |
| 1963 <sup>4</sup> | 7.635                | 1.695                                   | 2.382                | 3.558                      |
| 1964              | 7.473                | -0.264                                  | 2.446                | 5.291                      |
| 1964 <sup>5</sup> | 19.221               | -0.503                                  | 4 752                | 14 972                     |
| 1965              | 25.357               | 0.677                                   | 3.370                | 21.310                     |
| 1966              | 24.982               | 0.557                                   | 4.565                | 19 860                     |
| 1967              | 18 636               | -0 632                                  | 3.971                | 15 297                     |
| 1968              | 30.557               | 1.347                                   | 8 503                | 20 707                     |
| 1969              | 42 901               | 1 085                                   | 9.721                | 32 095                     |
| 1970              | 47 136               | 13.282                                  | 3 299                | 30 555                     |
| 1971              | 32 785               | -15 684                                 | 3.853                | 44 616                     |
| 1972              | 71 454               | 5 283                                   | 14 482               | 51 689                     |
| 1973              | 118 901              | 7 870                                   | 51.610               | 59 421                     |
| 1974              | 86 524               | -7 144                                  | 57.284               | 36.384                     |
| 1975              | 80 827               | 19.185                                  | -9 797               | 71 435                     |
| 1976              | 92 239               | 13 291                                  | 61 556               | 17 392                     |
| 1977              | 101 385              | 6 860                                   | 37 311               | 57 214                     |
| 1978              | 159 836              | 4 198                                   | 48.487               | 107.151                    |
| 1979              | 198 114              | 1 674                                   | 94 652               | 101 788                    |
| 1980              | 170 042              | 5.455                                   | 55 240               | 109 346                    |
| 1981              | 196 436              | 7 344                                   | 42 602               | 146 490                    |
| 1982              | 92 766               | 12 212                                  | -9.308               | 89 862                     |

**Notes**

- (1) Table (5) column (18)
- (2) Defined as cash plus short-term bank deposits
- (3) Column (1) minus [column (2) plus column (3)]
- (4) Calculated for 50 firms for which comparable data was available for 1963 and 1964
- (5) For all firms for 1964 and subsequent years

Other uses of funds (fixed investment, company takeovers, and changes in trade credit) reached a low point in 1976, two years after the fall in cash balances. On average for the period 1964-1982 changes in cash balances were a net use of funds, absorbing approximately 4.7 per cent of total sources, although there is considerable variation from year to year. Increases in stocks absorbed 30.2 per cent of total funds, leaving 65 per cent of total funds for other purposes, such as fixed investment.

Table (8) shows various savings ratios, and self financing ratios, for the period 1964-1982. The table shows that all ratios of internal to external finance reached low points in the years 1965-1966, 1970, 1974-1975, and 1981, and on the narrowest definition of savings (column 4) became negative for the years 1974-1976, and for 1980-1982. Falls in the savings ratios also coincided with falls in the pre-tax profits [Table (4)]. Conversely the pay-out ratio (column 3) was higher than average in the years 1966-1967, 1974-1975 and in 1980-1982.

The year 1947 was the first year for which comprehensive national income accounts were prepared for Ireland. The period 1947-1968 has been examined by Kennedy and Dowling [19]. Aggregate company savings for the economy as a whole reached low points in the years 1952, 1957, and 1966. There was also a slight fall in company saving in 1964 [20]. Aggregate profits also fell in the period 1951-1952, 1956-1957, and also by a small amount in 1966. Overall Kennedy and Dowling [21] conclude that "there was comparative stagnation in company profits from 1949-1957 followed by a strong and relatively upward trend from 1957-1968". It is also of interest to note from the study by Kennedy and Dowling that company profits as a per cent of national income fell in 1964 and 1966. More recently Vaughan [22], using aggregate national income profit figures expressed in current prices, calculates net retentions after making an allowance for stock appreciation for the period 1960-1975, with estimates for the years 1976-1978. Net retentions as calculated by Vaughan fell in the years 1964, 1966, 1970, and 1974. These aggregate profit and savings figures, as noted in the earlier part of this paper are not directly comparable with the data presented in this paper, but they confirm the downturn in 1965-1966, 1970, and 1974, and also the slight fall in corporate profits in 1964.

Apart from cyclical elements in the payout ratio and savings ratios, there also appears to be a trend towards higher corporate saving, and a lower payout ratio. This can be illustrated by grouping the data into periods, for example 1964-1970, 1971-1976, and 1977-1982. Table (8) column (3) shows that dividends as a proportion of profits net of tax and depreciation fell from 44.06 per cent in 1964-1970 to 38.18 per cent in the period 1977-1982. If

**Table (8) *Savings Ratios and the Ratio of Internal to External financing 1964-1982***

| Year                 | Internal/ <sup>1</sup><br>Total<br>Financing | Net Savings/ <sup>2</sup><br>Net Savings +<br>External Finance | Dividends/ <sup>3</sup><br>Profits net<br>of Tax and<br>Depreciation | Investible Funds/ <sup>4</sup><br>Investible Funds +<br>External Finance |
|----------------------|----------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------|
|                      | (1)<br>%                                     | (2)<br>%                                                       | (3)<br>%                                                             | (4)<br>%                                                                 |
| 1964                 | 64 58                                        | 47 94                                                          | 41 55                                                                | 35 87                                                                    |
| 1965                 | 52 35                                        | 32 78                                                          | 46 67                                                                | 24 76                                                                    |
| 1966                 | 52 04                                        | 26 97                                                          | 55 51                                                                | 21 66                                                                    |
| 1967                 | 74 16                                        | 49 95                                                          | 53 84                                                                | 39 79                                                                    |
| 1968                 | 65 21                                        | 48 17                                                          | 37 81                                                                | 36 40                                                                    |
| 1969                 | 50 02                                        | 34 01                                                          | 39 50                                                                | 21 56                                                                    |
| 1970                 | 41 08                                        | 24 42                                                          | 41 81                                                                | 15 38                                                                    |
| 1971                 | 76 24                                        | 62 61                                                          | 36 52                                                                | 51 64                                                                    |
| 1972                 | 53 38                                        | 41 27                                                          | 28 38                                                                | 29 19                                                                    |
| 1973                 | 50 46                                        | 41 37                                                          | 21 44                                                                | 24 81                                                                    |
| 1974                 | 45 31                                        | 26 52                                                          | 49 20                                                                | -18 75                                                                   |
| 1975                 | 49 93                                        | 31 09                                                          | 43 82                                                                | -146 64                                                                  |
| 1976                 | 63 05                                        | 51 35                                                          | 29 25                                                                | -11 40                                                                   |
| 1977                 | 77 50                                        | 70 40                                                          | 25 63                                                                | 38 82                                                                    |
| 1978                 | 61 45                                        | 52 06                                                          | 25 82                                                                | 39 27                                                                    |
| 1979                 | 59 09                                        | 49 57                                                          | 25 74                                                                | 31 14                                                                    |
| 1980                 | 49 27                                        | 31 46                                                          | 40 56                                                                | -6 10                                                                    |
| 1981                 | 41 84                                        | 21 48                                                          | 53 40                                                                | -59 92                                                                   |
| 1982 <sup>5</sup>    | 77 32                                        | 41 65                                                          | 71 64                                                                | -                                                                        |
| 1964-70 <sup>6</sup> | 54 24                                        | 34 94                                                          | 44 06                                                                | 24 68                                                                    |
| 1971-76              | 54 07                                        | 40 24                                                          | 33 05                                                                | 2 93                                                                     |
| 1977-82              | 57 91                                        | 42 61                                                          | 38 18                                                                | 1 37                                                                     |
| 1964-82              | 56 28                                        | 40 92                                                          | 37 41                                                                | 6 13                                                                     |

**Notes**

- (1) Defined as gross internal financing/gross internal plus external financing, columns 6/18 of Tables (4) and (5)
- (2) Defined as net retentions/(net retentions plus external financing), columns (7-5)/17, Tables (4) and (5)
- (3) Defined as dividends (profits net of tax and accounting depreciation), columns 5/7, Table 7 1
- (4) Defined as net retention minus a stock adjustment/(net retentions minus a stock adjustment plus external financing), columns [9/(9 + 16)], Tables (4) and (5)
- (5) Column (4) could not be calculated for 1982 as both numerator and denominator were negative
- (6) Calculated as internal financing/gross financing where both numerator and denominator are separately calculated by summing across all firms and years for the relevant interval. A similar calculation was performed for columns (2), (3), and (4)

retentions are adjusted for the increase in the value of stocks [Table (8), column (4)] a different conclusion is reached. The rate of corporate savings was positive in the period 1964-1970 at 24.68 per cent, fell to 2.93 per cent in the period 1971-1976, and fell again to 1.37 per cent in the period 1977-1982. Hence conclusions relating to corporate savings ratios are quite sensitive to the definitions used.

Finally, the variability of the ratios shown in Table (8) is higher in the period 1971-1982 than 1964-1970. For column (1), Table (8) the standard deviation (SD) was 10.47 for 1964-1970 compared with 12.1 for 1971-1982. For column (2) the SD for 1964-1970 was 9.96 compared with 13.98 for 1971-1982. For column (3) the SD for 1964-1970 was 6.49 compared with 14.2 for 1971-1982, and the largest difference was found for column (4), 8.64 for 1964-1970, compared with 55.35 for 1971-1981.

Table (9) shows the total stock of bank borrowing by companies in the study (excluding borrowing from state institutions and foreign borrowing) and also shows the total stock of bank lending within Ireland (excluding lending by state institutions) for the period 1972-1982. The year 1972 was the first year for which aggregate data for lending by the banking sector became available. Table (9) may be used to illustrate two main points. First, long-term bank borrowing within Ireland, was an increasing proportion of the total stock of bank borrowing by companies in the study, until 1977 when it reached 50.2 per cent, and has fallen slightly since then. Secondly, columns (6) and (7) of Table (9) show that companies in the study appeared to increase their share of bank lending to the manufacturing and services sector until 1975 and their share of aggregate lending until 1974 but that their share of bank lending has fallen continuously since then. This implies that other companies in the manufacturing and services sector (mostly multinational companies and companies in the state sector) reduced their share of total bank lending and may even have reduced their absolute amount of domestic bank borrowing in this period. This may indicate that companies in the study were affected to a greater extent by the recession of 1974-1975 than foreign-owned companies operating in Ireland.

**Table (9)      *Total Stock of Bank Lending to Companies in the Study as a Proportion of Total Bank Lending***

| £IR '000 |                                              |                                             |                                         |                                                                            |                                                             |       |       |
|----------|----------------------------------------------|---------------------------------------------|-----------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------|-------|-------|
| Year     | Short Term <sup>1</sup><br>Bank<br>Borrowing | Long Term <sup>1</sup><br>Bank<br>Borrowing | Total <sup>1</sup><br>Bank<br>Borrowing | Aggregate <sup>2</sup><br>Bank Lending to<br>Manufacturing<br>and Services | Aggregate <sup>2</sup><br>Bank Lending<br>Within<br>Ireland | (3/4) | (3/5) |
|          | (1)                                          | (2)                                         | (3)                                     | (4)                                                                        | (5)                                                         | (6)   | (7)   |
| 1972     | 62 603                                       | 28 596                                      | 91 199                                  | 376 2                                                                      | 854 4                                                       | 24 24 | 10 67 |
| 1973     | 81 120                                       | 47 905                                      | 129 025                                 | 433 0                                                                      | 1016 8                                                      | 29 80 | 12 69 |
| 1974     | 113 085                                      | 51 699                                      | 164 784                                 | 505 3                                                                      | 1130 6                                                      | 32 61 | 14 57 |
| 1975     | 98 127                                       | 77 821                                      | 175 948                                 | 531 6                                                                      | 1237 0                                                      | 33 10 | 14 22 |
| 1976     | 87 922                                       | 87 070                                      | 174 992                                 | 717 2                                                                      | 1650 2                                                      | 24 40 | 10 60 |
| 1977     | 88 442                                       | 89 269                                      | 177 711                                 | 787 5                                                                      | 1935 5                                                      | 22 57 | 9 18  |
| 1978     | 128 136                                      | 112 517                                     | 230 620                                 | 1108 7                                                                     | 2683 4                                                      | 20 80 | 8 59  |
| 1979     | 145 405                                      | 128 326                                     | 273 729                                 | 1503 0                                                                     | 3425 1                                                      | 18 21 | 7 99  |
| 1980     | 177 067                                      | 163 446                                     | 340 539                                 | 2112 9                                                                     | 4306 1                                                      | 16 12 | 7 91  |
| 1981     | 209 769                                      | 200 350                                     | 410 119                                 | 2497 8                                                                     | 5082 4                                                      | 16 42 | 8 07  |
| 1982     | 204 351                                      | 202 740                                     | 407 091                                 | 3107 8                                                                     | 6330 5                                                      | 13 10 | 6 43  |

**Notes**

- (1) Relates to firms in the study These data exclude foreign borrowing
- (2) Relates to February of the following year These data exclude instalment credit and leasing agreements, as well as lending by state institutions

**Source** Central Bank of Ireland Annual Report The year 1972 is the first year for which aggregate data are available

An examination of the accounts of eleven state-owned companies for the period 1970-1982 [23] (Appendix 1), also appears to show an increase in the share of domestic bank lending (both short and long term) as a proportion of total lending to the services and manufacturing sector between 1972 and 1975. Their share of domestic bank lending also appears to increase, although at a reduced rate between 1975 and 1979, and showed a large increase between 1980 and 1982. This conclusion must, however, be interpreted with caution as the accounts examined in general do not show what proportion (if any) of short-term borrowing originated outside the State. In addition, prior to 1979, and the split between the Irish Pound and the Pound Sterling, any Pound Sterling borrowing is not separately identified as foreign currency borrowing[24]. The main feature relating to the financing of state-owned companies in the period 1970-1982 was the increased reliance on foreign borrowing in the period 1978-1982 [25], coupled with pre-tax losses in the years 1980-1981. Aggregate pre-tax profits were found to be positive in other years and to exhibit a coincident cyclical trend with public companies in the private sector. A reliance on foreign borrowing also appears to have had the effect of increasing cash balances with the domestic banking system.

Hence it is likely that domestic companies increased their share of domestic bank lending in the period 1972-1974, and the foreign-owned corporate sector reduced its share of bank lending in the period 1972-1974.

In conclusion the proportion of finance provided internally varies considerably as between recession years and non-recession years, and also depending on the definition of internal funds. So that for a non-recession year, for example, the year 1979, the broadest definition of internally generated funds amounted to 59.09 per cent of total funds, Table (8), column (1), the narrowest definition of internally generated funds amounted to just 31.14 per cent of total funds [column (4)]. For the entire period 1964-1982 internally generated funds (including depreciation) provided 56.28 per cent of total funds. Excluding depreciation internally generated funds provided 40.92 per cent of total funds, and excluding depreciation and a stock adjustment, 6.13 per cent of total funds. Bank

borrowing was also found to vary considerably over the trade cycle, for example funds from commercial banks provided 88 per cent of external finance in 1972, 47.5 per cent in 1975, and 75.0 per cent in 1978

There are no officially published estimates of flows of funds for the Irish economy. However some estimates of aggregate flows have been published [26], using four sectors: personal sector, corporate sector, Government sector and a foreign sector. This study used existing published data and relied on a statistical estimating procedure to fill in any gaps. Such a procedure is subject to a wide margin of error, particularly as the author notes published data are sometimes of "indifferent quality". This aggregate study also found that bank borrowing was the main source of finance for the corporate sector. It is concluded (p. 192) that the financial position of the corporate sector appears to be "countercyclical and slightly lagging activity". The financial position is defined to be the accumulation of money and deposits plus bank borrowing. However, the data presented in this paper suggest a more complex picture. Changes in equity finance, short-term bank borrowing and long-term bank borrowing vary over the trade cycle. In addition the change in cash balances also appears to be cyclical. However different sources of finance vary in importance over the trade cycle. Aggregate data relating to the economy as a whole are likely to be dominated by flows of funds into and out of the foreign-owned corporate sector.

There are considerable problems in making comparisons between countries of sources of corporate finance, because of differing accounting conventions. There are also difficulties in making comparisons between different studies even for the same country, because of differing conventions relating to the definition of internally generated funds, for example, whether tax payments relate to cash tax payments as in this paper, or tax liabilities. However, if a stock adjustment is deducted from internally generated funds [Table (4), column (6) column (8)], a roughly similar measure of self-financing is obtained for Irish companies as that contained in the Wilson Report for UK companies. One important difference is that the Wilson Report found that import and other credit amounted to between 3 and 7 per cent of total sources of funds for the period 1968-1979, whereas

trade and other forms of credit have been ignored in this study. From the Wilson Report [27], it appears that for each of the years 1968-1979 UK companies have a higher ratio of self-financing than Irish companies. For example, for the years 1978 and 1979 the self-financing ratios for UK companies were 67 per cent and 59 per cent, respectively, compared with 53.6 and 47.7 per cent for companies in this study. However, bank borrowing appears to be higher as a percentage of total sources for companies in this study compared with UK companies. For the years 1978 and 1979 bank borrowing for firms in this study amounted to 34.8 and 26.2 per cent of total sources compared with 15 and 23.8 per cent for UK firms. Perhaps surprisingly, shareholders or the Stock Exchange appear more important for companies in this study compared with UK companies. For the same two years these sources provided 6.5 and 23.3 per cent of total sources compared with 4 per cent for UK firms for both years. Equity finance in the UK also contributed a low proportion of total sources of funds [defined in a similar way to column (18), Table (5)] in the period 1970-1979.

Equity finance provided 4.8 per cent of total funds in the US for the period 1970-1979, compared with approximately 10.0 per cent for firms in this study for the same period [28]. The higher proportion found in Ireland compared with both the US and the UK may be explained by the favourable tax treatment of dividends by exporting companies in Ireland and this hypothesis is examined further in the next section of this paper.

An earlier study of UK quoted commercial and industrial companies, for the year 1948-1971, by Meeks and Whittington [29] found that retained profits plus depreciation accounted for 83.1 per cent of total funds for the period 1948-1964, and 78.1 per cent for the period 1964-1971. For the period 1964-1971 equity issues for cash amounted to 8.0 per cent of total funds and long-term loans issued for cash amounted to 7.1 per cent of total funds [30]. However, this study referred to the average pattern of financing by companies, equal weight was given to each firm, rather than focusing on aggregate financial flows. In addition shares issued in connection with mergers and takeovers were included as a source of funds (amounting to 8.2 per cent of total sources for 1964-1971), short-term

bank borrowing is treated as a negative source, and there was no adjustment for inflation. A D Bain [31] reports an average figure of 72 per cent self-financing, based on aggregate flows, for UK industrial and commercial companies for the period 1958 to 1967.

The self-financing ratio for the Meeks and Whittington study is higher than that of firms in this study and of the Wilson Report. Issues of equity, preference shares and long-term debt for cash amounted to 10.7 per cent for the period 1964-1971 compared with 10.1 per cent for companies in this study for the same period.

Using similar definitions of internal and external funds, higher pay-out ratios (dividends/internal plus external funds) were found for companies in this study compared with Meeks and Whittington for the period 1964-1971 (19.8 per cent compared with 14.7 per cent).

Finally, in a study of trends in financing of all quoted UK manufacturing companies for the period 1950-1973 by S J Prais [32], retentions were found to be 14 per cent of total funds for the period 1970-1973, 19 per cent for 1965-1969, 25 per cent for the period 1960-1964, 28 per cent for 1955-1959, and 21 per cent for 1950-1954. Prais measured retentions net of depreciation and also subtracted an estimate of stock appreciation (p. 127). Prais also argues that larger firms tend to be more highly geared, a point also made by Meeks and Whittington in a study of large companies in the UK [33]. Prais argues that although interest was tax deductible against profits tax and corporation tax when it was introduced in the UK in 1965, restructuring the capital structure is subject to substantial "frictional delays" (p. 105), because UK tax legislation prohibits changes in the capital structure of a company solely designed to reduce tax payments. Hence there may have been a delay of several years before companies adjusted their "gearing ratio" to take account of the relative advantage of debt finance compared with equity finance following the introduction of corporation tax in 1965.

Meaningful comparisons with other European countries apart from the UK are difficult because of differing

accounting conventions Nevertheless several writers suggest that gearing ratios tend to be higher in European countries than in the UK and that borrowing from various banking institutions is the main source of external finance Although new equity issues in France and Germany are similar or larger in absolute magnitude than funds raised in the UK Bayliss and Butt Phillip [34] show that for 1977 UK firms raised Stg £854 million, French companies Stg £1,235 million and German companies Stg £501 million Stonham concludes from a survey of corporate financing in EEC countries that "British industry is still low geared compared with much of EEC industry and hence it is likely that gearing ratios of Irish firms are also lower than those found in European countries [35]

#### *4 FLOW OF FUNDS AND FISCAL INCENTIVES*

The foregoing analysis of flows of funds has shown some of the effects of fiscal incentives on corporate financing First of all, from Table (4) it can be seen that since 1973 aggregate dividend payments have been greater than aggregate tax payments This result has not come about as a result of positive discrimination in favour of dividends, but rather from the increasing value of tax allowances Although as noted earlier in this paper, the savings ratios shown in Table (8), while fluctuating considerably from year to year, show a long-run trend to increase, and conversely for the dividend pay-out ratio The savings ratios and dividend pay-out ratios are also more variable in the period 1971-1982, compared with 1964-1970

A second point which can be noted from Table (4) results from the payment of tax in arrears This results in tax payments being procyclical A fall in profits has the perverse effect of increasing the tax rate on profits, although recent tax changes have reduced the lag in corporate tax payments In addition, in contrast to the UK, firms in Ireland do not have an opportunity to pay tax in advance by the purchase of interest bearing tax certificates

Capital grants provided about 11.2 per cent of external funds, for the period 1964-1982 and appear rather

unimportant as a source of funds. However, compared with internal funds available for new investment, capital grants are more significant. For the period 1964-1982, internal funds available for new investment amounted to £36 938 million, compared with £86 747 million paid in capital grants. For six years, 1974-1976 and 1980-1982, capital grants are larger than internally generated funds available for investment and are larger than funds raised by share issues for seven years (1967-1968, 1970, 1974, 1977, 1980-1981).

The effect of fiscal incentives on the form of external financing are more difficult to assess. The growth of long-term debt finance after 1976 could be attributed to the growth of "section 84" loans. Companies with high export ratios may also rely to a greater extent on issues of equity and preference shares because the dividends on these shares would be taxed at a lower rate or, in the case of 100 per cent exporting companies, would be tax free. However, it is also likely that companies issue share capital under a variety of circumstances, and not just in response to tax law. For example, Fama and Jensen [36] argue that equity shares are more likely to be issued where large amounts of wealth are required to finance specialised and hence risky assets. These assets are also likely to require specialised decision skills, which wealth owners are unlikely to possess. In this context, it is interesting to note that approximately 38 per cent of all share issues were raised by one company with the sort of assets structure described by Fama and Jensen, that is, a company which manufactures cement.

To a certain extent, capital grants may also be a substitute for share issues. Companies that receive capital grants may either not need associated share issues, or else require reduced amounts. An examination of the data indicates that all companies (with one exception, Woodchester Investments) that issued shares (preference and equity) in the period 1964-1982, also received capital grants, whereas not all companies that received capital grants issued shares [37]. It may be the case that for companies with profitable investment projects (in the absence of capital grants), capital grants are a partial substitute for share issues, as the project could have been

financed from other sources But for companies with investment projects dependent on the receipt of a capital grant to ensure private profitability, the effect of capital grants may be to increase demand for external sources of finance such as share issues

From a survey of the empirical evidence Marsh [38] recently summarised the factors affecting the choice between debt and equity Companies that are small, or have high price/earnings ratios, or have high gearing ratios are more likely to issue equity While companies raising large sums in relation to total assets are more likely to issue debt, companies with high market value/book value of assets are more likely to issue equity In addition, equity issues are widely thought to follow stock market rises and the level of interest rates is thought to have considerable influence on the long-term corporate debt market A D Bain also argues that all companies except those with considerable financial problems, have considerable choice in relation to the timing of capital issues Bain argues that this choice will depend on capital and credit market conditions While the choice between equity and long-term debt depends on Balance Sheet structure and relative costs [39]

Marsh also examines issues of equity and debt by UK quoted companies for the period 1959 to 1970 Marsh concludes (p 142) that "companies are heavily influenced by market conditions and the past history of security prices in choosing between equity and debt" Marsh also found support for the proposition that companies have a target ratio for the proportion of long-term debt in the capital structure and also for the ratio of short-term debt to long-term debt These ratios are explained by company size, bankruptcy risk, and asset composition

Marsh argues that while tax may be an important determinant of debt issues, all companies in a tax paying position are affected in the same way and hence tax cannot be used to explain cross sectional differences in debt/equity ratios However if the companies examined included both tax paying and non-tax paying ones, tax effects are likely to be more important

The relationship between the level of share issues and

the export/sales ratio was examined for companies in this study using Equations (1) and (2) below for the period 1964-1970 and 1971-1980. The most recent two years have been omitted because of possible complications resulting from a deduction in the corporate tax rate to 10 per cent in 1981. In summary, a positive but non-significant relationship was found between share issues (equity and preference shares) as a proportion of capital employed (I/K) and the export/sales ratio (E/S), and also between share issues expressed as a proportion of total external finance (I/F) and the export/sales ratio (E/S).

More specifically the following relationships were examined using the ordinary least squares regression procedure, on various subsamples of the study population selected according to the value of the export/sales ratio (E/S)

$$I/K = f(E/S) \quad (1)$$

where, I = share issues (equity and preference share issues),  
 K = capital employed is defined as fixed + net current assets + short term bank borrowing,  
 E = exports,  
 S = sales

$$I/F = f(E/S) \quad (2)$$

F = Total external finance, as in Table (5), column (16)

All the data were derived from annual Reports and Accounts prepared according to historic cost conventions. The data consist of pooled cross section data, which were divided into the two sub-periods 1964-1970, and 1971-1980.

Regression Equation (1) was examined using an ordinary least squares regression procedure. If all cases were included the coefficient of E/S was found to be positive and significant at the 5 per cent level for both the period 1964-1970 and 1971-1980, but with a low  $R^2$  (adj.) of 0.11 for 1964-1970, and of 0.16 for 1971-1980.

In a few cases the LHS of Equation (1) may be negative

as preference shares are redeemed, and regression Equation (1) was also examined omitting these negative cases. The LHS of Equation (1) is then constrained to lie between 0 and 1 and was transformed using a logit transformation to the form  $-\log[(1-I/K)/(I/K)]$  [40]. However there was no increase in statistical significance for 1971-1980, and only a slight increase for 1964-1970. Subsamples based on various values of E/S also produced a weak positive statistical relationship.

Aggregate value of I/K, that is

$$\sum_{t=1964}^{1970} \sum_{i=1}^n I_{it} / \sum_{t=1964}^{1970} \sum_{i=1}^n K_{it}, \text{ and}$$

$$\sum_{t=1971}^{1980} \sum_{i=1}^n I_{it} / \sum_{t=1971}^{1980} \sum_{i=1}^n K_{it}, \text{ where } n \text{ is the number of companies and } t \text{ is}$$

the time period were also examined for the period 1964-1970 and 1971-1980. Table (10) shows the results.

**Table (10)**

Share Issues as a Proportion of Capital Employed and External Finance for the Period 1964 - 1980  
(Per Cent)

| Share Issues (I)/<br>Capital Employed (K)<br>or External Finance (F)                  | E/S = 0 | E/S > 0 | E/S > 0.25 | E/S > 0.5 |
|---------------------------------------------------------------------------------------|---------|---------|------------|-----------|
| $\sum_{t=1971}^{1980} \sum_{i=1}^n I_{it} / \sum_{t=1971}^{1980} \sum_{i=1}^n K_{it}$ | 0.48    | 0.828   | 1.26       | 0.96      |
| $\sum_{t=1971}^{1980} \sum_{i=1}^n I_{it} / \sum_{t=1971}^{1980} \sum_{i=1}^n F_{it}$ | 9.00    | 17.614  | 19.84      | 17.0      |
| 1964-1970                                                                             |         |         |            |           |
| $\sum_{t=1964}^{1970} \sum_{i=1}^n I_{it} / \sum_{t=1964}^{1970} \sum_{i=1}^n K_{it}$ | 0.325   | 1.99    | 3.67       | 1.23      |
| $\sum_{t=1964}^{1970} \sum_{i=1}^n I_{it} / \sum_{t=1964}^{1970} \sum_{i=1}^n F_{it}$ | 6.50    | 22.97   | 28.47      | 12.89     |

(1) One company, Cement Roadstone, which accounted for 38 per cent of all share issues over the period 1964 - 1982, was excluded from Table (10) for the period 1971-1980, as exports amounted to between 3 and 5 per cent of sales. If the ratio I/K and I/F were calculated for all firms with E/S > 0 (including Cement Roadstone), the values obtained were 1.6 and 15.8 per cent for 1964-1970, and 1.7 and 20.9 per cent for 1971 - 1980 respectively.

(2) E/S = Value of export/sales ratio

Table (10) shows that share issues as a proportion of capital employed ( $I/K$ ) are higher for exporting companies than for non-exporting companies for both the period 1971-1980 and 1964-1970. It also appears that the higher the level of exports, the higher the ratio  $I/K$ . However, companies with  $E/S > 0.25$  had a higher ratio of share issues to capital employed, than companies with  $E/S > 0.5$ .

The relationship between share issues as a proportion of external finance ( $I/F$ ), and the export/sales ratio ( $E/S$ ) is more complicated, than that between  $I/K$  and  $E/S$  because  $F$  (total external finance) may become negative, as loans and preference shares are repaid.  $I$  (preference and equity shares) may also be negative, due to repayment of preference shares. If all cases were included except cases where the denominator was negative, a positive and significant (at the 5 per cent level) relationship was found for Equation (2) for the period 1964-1970 with an  $R^2$  (adj.) of 0.034, but no statistically significant relationship was found for the period 1971-1980. If cases where negative values of both the numerator and denominator are excluded,  $I/F$  is then constrained to lie between zero and one [41]. As for Equation (1), Equation (2) was transformed using a logit transformation to the form  $-\log[(1-I/F)/(I/F)]$ . However as for Equation (1) low values of  $R^2$  were obtained. For example, if all cases were included, except those where the numerator and denominator were negative and using a logit transformation, a positive significant coefficient was found for the period 1964-1970 with an  $R^2$  (adj.) of 0.012, but no statistically significant relationship was found for the period 1971-1980. As for Equation (1), subsamples based on higher values of  $E/S$  also had a weak positive statistical relationship.

Table (10) also shows a general increase in the ratio of aggregate share issues to aggregate external financing for both the period 1971-1980 and 1964-1970, for subsamples based on different values of  $E/S$ . As for  $I/K$ , the highest value of the ratio  $I/F$  was obtained for a subsample based on  $E/S > 0.25$ .

These results appear to show that there is a positive relationship between the level of exports and share issues as a proportion of external finance. However the statistical

relationship for individual companies on a yearly basis is weak. This may be explained by the spasmodic use of share issues as a source of external finance. Companies issue shares only on an occasional basis, and as shown earlier in this paper there appears to be strong cyclical influences. Debt, though more costly than share finance for an exporting company with taxable profits, is a much more flexible source of external finance. These results must also be interpreted with caution, as not all companies publish information relating to both exports and sales. This is particularly true of the period 1964-1970. In addition the ratio of share issues to capital employed will be influenced by company policies relating to revaluation of assets in the Balance Sheet as well as by the general rate of inflation.

## 5 CONCLUSION

This paper examined the importance of various sources of finance to Irish public companies. Overall commercial bank borrowing accounted for more than 50 per cent of external finance in 11 of the years 1964-1982, and provided approximately 62 per cent of total external finance over the entire period 1964-1982. Commercial bank borrowing as a proportion of external finance also showed an increase in the period 1971-1982 compared with 1964-1970. Funds from shareholders/Stock Exchange also increased in the period 1971-1976 and 1977-1982 compared with 1964-1970. Fiscal incentives in the form of capital grants while not as important as other external sources of finance are larger for some years than internal sources if internal sources are adjusted for stock appreciation. The paper also noted that since 1973 aggregate dividend payments have been larger than aggregate tax payments. Indeed aggregate dividend payments have remained positive even though aggregate savings adjusted for stock appreciation are negative. This may suggest that dividend payout ratios for companies in the study are too high. The introduction of advance corporation tax (ACT) means that companies are now faced with a type of differential profits tax, as ACT only becomes payable on payment of a dividend, and this may have the effect of reducing payout ratios.

There appeared to be a positive but weak relationship

between exporting and share issues. Apart from the effect of the fiscal system on the form of external finance, the fiscal system was found to have other effects on the financing of the corporate sector, for example, the payment of corporation tax in arrears appears to have a pro-cyclical effect on cash flows.

Finally, because of the complexity and heterogeneous nature of the factors affecting corporate finance, it is difficult to separate cyclical factors from trend factors, and non-fiscal effects such as asset specificity from fiscal effects. Specific assets such as plant and machinery are likely to be specialised and hence more risky. They are also likely to require specialised decision skills, for example cement and chemical plants. As argued in Stewart (1985) [42] such plant is not suitable for leasing, because of possible difficulties with the value of collateral in the event of default, and may be more cheaply financed with equity rather than debt.

Zysman [43] has recently categorised financial systems in developed economies into (1) a capital market based system with an emphasis on market forces. Economic growth in such a system will be led by the strongest companies. (2) A credit based system with administered prices allowing considerable Government intervention in the allocation of funds. Economic growth in such a system will often be led by the state. (3) A credit based bank dominated system in which economic growth is characterised by negotiated change. The largest single source of external finance to the companies examined in this study was the commercial banks and for this reason the allocation of funds to the corporate sector in Ireland could be described as an allocation by a private bureaucracy and would appear to be most similar to Zysman's third category. However the state is also important both as a direct source through capital grants, and loans, and also indirectly through a fiscal system in subsidising certain types of finance, for example "section 84" loans. The state has also ensured that many companies (particularly in activities classified as manufacturing) pay virtually no corporation tax on profits, and has also inadvertently become a major source of short-term finance through relying on the corporate sector to collect various taxes (VAT, PAYE, excise duties, etc). However this latter source of finance

is largely passive as it follows from existing investment, and trading activities, and is considerably influenced by changes in tax rates. If taxes collected by the corporate sector are reduced, for example VAT, this is likely to reduce corporate cash flows in the short term and in some cases in the long term, and conversely for increases in VAT. The change in cash flows will be a function of shifting effects and lags in the payment of taxes. The nature of the financial allocative mechanism to the corporate sector in Ireland raises certain key questions

(1) Is the level of borrowing too high? The answer to this question assumes there is some optimal level of debt to other sources of finance. Orthodox financial theory emphasises the well known Modigliani-Miller propositions relating to the irrelevance of debt ratios, and in practice there appears to be a wide range of debt ratios. In addition debt/equity ratios are difficult to measure with inflation. If firms fail to maintain the real value of debt during an inflation gearing ratios will fall [44]. A second point often made is that borrowing is too short term. Emphasising that debt levels are too high may merely be another way of stating that returns on assets are too low, thus ensuring that loans cannot be repaid and that interest cannot be paid on loans. However the question of the time duration of loans may be linked to another key question?

(2) What are the criteria for the allocation of funds by the banking system? While a policy of "picking winners" by a state bureaucracy such as the proposed National Development Corporation or the Industrial Development Authority, has received much attention often critical [45], the criteria by means of which a private bureaucracy allocates funds is often ignored. To the extent that banks rely on criteria such as collateral this may bias investment decisions towards fixed assets such as land and buildings and towards current assets such as consumer durable goods, alcoholic drink, etc. Banks may also have a preference for larger and hence less risky firms. Some evidence for this can be found in a recent NESC report which found that large firms and foreign firms had "constructive relationships with their banks" in contrast to small firms which had "a very neutral view" [46]. For these reasons MNCs are unlikely to be adversely affected by bias in the allocation of funds. In addition MNCs have access to a much wider range of funds

than domestic companies. Hence the sort of asset structure which is likely to evolve from a financial system such as is found in Ireland is most likely to be found in the indigenous sector, that is an emphasis on fixed assets which are likely to retain their value in the event of default such as land and buildings, rather than specific assets, knowhow, and investment in R & D. It is also likely to be difficult to attract funding for investment in non-traditional sectors, as lending agencies will have little experience of such lending, acquiring the necessary expertise is costly, and hence such investment will be regarded as risky.

## *APPENDIX (1)*

### *FLows OF FUNDS TO NON-FINANCIAL SEMI-STATE COMPANIES 1970-1982*

Appendix Tables (1) and (2) show internal and external flows of funds to various companies in the semi-state sector for the period 1970-1982. Before discussing the main features of Appendix Table (1) and Appendix Table (2) it is worth noting some problems encountered in interpreting the accounts of the companies included. Many of the problems encountered in preparing a flows of funds statement for companies in the private sector are also encountered with companies in the public sector. Many companies in the semi-state sector have taken over companies in the private sector, for example the Irish Refining Company by INPC. However the main additional problem relates to disclosure of foreign borrowing and to variations in the accounting treatment of foreign exchange gains/losses. In a number of cases semi-state companies do not disclose the amount of foreign borrowing (Bord na Mona, B + I). In some cases it was possible to identify foreign borrowing from the annual report of the European Investment Bank. However because of non-disclosure of foreign borrowing long-term borrowing from domestic banks is overstated. As far as was possible foreign exchange gains or losses have been omitted from pre-tax profits. Finally, accrued interest has not been included as part of short-term borrowing. This mostly affects the ESB.

It also proved difficult to reconcile amounts shown as sources of finance in the public capital programme for various years with receipts from the state by semi-state companies as shown in their accounts. In particular, difficulty was found with amounts shown as "capital restructuring and re-financing of borrowing". There were also some other instances where the accounts of semi-state companies do not show amounts received under the public capital programme (PCP), for example an amount of IR£10.7 million shown as paid to "Air Lines" in 1976. In addition some companies have received far more by way of equity, grants and loans, that is shown in the PCP, for example, Irish Steel.

The main feature of Appendix Table (1) is that pre-tax profits are small but positive for all but two of the years 1970-1982 (1980-1981). Pre-tax profits for semi-state companies also show coincident cyclical trends to public companies in the private sector, for example the downturn in profits in 1973-1974 and a new recession beginning in 1979. There was also a downturn in profits of semi-state companies in 1969 which is not shown in Appendix Table (1). Finally if depreciation allowances and a stock adjustment are subtracted from gross internal saving an estimate of internal funds available for net new investment is obtained [column (8)]. This is negative for the period 1972-1975 and also for 1979-1982, coinciding with a drop in pre-tax profits in 1974-1975 and pre-tax losses in 1980-1981. Appendix Table (2) shows how the deficit arising from trading activities and also how net new investment is financed. The fall in pre-tax profits in 1974 and in 1980-1981 was associated with a rise in short-term bank borrowing followed by a fall in short-term bank borrowing and an increased in foreign borrowing and long-term domestic bank borrowing.

Foreign borrowing was found to be the main source of external finance for the period examined. For all years except 1971 and 1976, foreign borrowing accounted for more than 50 per cent of external finance. For 1971 the state was the main source of external finance and for 1977 the main source was borrowing from domestic banks. Approximately IR£46 million net was raised on the Stock Exchange over the period 1970-1982. The ESB was the only company to issue securities directly on the Stock Market. The state provided approximately IR£262 million by way of equity, loans, and grants. This figure excludes current grants and subsidies.

**Appendix Table (1)**  
**Sources of External Finance for Semi-State Companies**  
**1970-1982**

| Year | 1<br>N | 2                  |              | IR£ '000                       |                     |          | 3       | Gross<br>Internal<br>Saving | Stock<br>Adjustment | 4<br>Internal<br>Funds<br>Available<br>for new<br>Investment |
|------|--------|--------------------|--------------|--------------------------------|---------------------|----------|---------|-----------------------------|---------------------|--------------------------------------------------------------|
|      |        | Pre-tax<br>Profits | Depreciation | Gross<br>Internal<br>Cash Flow | Cash Tax<br>Payment | Dividend |         |                             |                     |                                                              |
|      |        | (1)                | (2)          | (3)                            | (4)                 | (5)      | (6)     | (7)                         |                     | (8)                                                          |
|      |        |                    |              | (1+2)                          |                     |          | (3+4+5) |                             |                     | (6+7+2)                                                      |
| 1970 | 9      | 4409               | 16116        | 20525                          | 309                 | 96       | 20120   | 1545                        |                     | 2459                                                         |
| 1971 | 9      | 2789               | 17480        | 20269                          | 156                 | 95       | 20018   | 1857                        |                     | 681                                                          |
| 1972 | 9      | 3425               | 23359        | 26784                          | 126                 | 93       | 26659   | 3838                        |                     | -632                                                         |
| 1973 | 8      | 5193               | 24534        | 29727                          | 40                  | 93       | 29594   | 6592                        |                     | -1532                                                        |
| 1974 | 9      | 727                | 29511        | 30238                          | 33                  | 92       | 30113   | 7653                        |                     | -7051                                                        |
| 1975 | 8      | 3818               | 31384        | 35202                          | 0                   | 0        | 35202   | 10635                       |                     | -6817                                                        |
| 1976 | 9      | 13826              | 38149        | 51975                          | 60                  | 107      | 51808   | 13644                       |                     | 15                                                           |
| 1977 | 9      | 27271              | 41852        | 69123                          | 449                 | 143      | 68531   | 12876                       |                     | 13803                                                        |
| 1978 | 10     | 18555              | 43425        | 61980                          | 420                 | 126      | 61434   | 8831                        |                     | 9178                                                         |
| 1979 | 10     | 2543               | 54604        | 57147                          | 137                 | 169      | 56841   | 16097                       |                     | -13860                                                       |
| 1980 | 10     | -19656             | 71064        | 51408                          | 1051                | 191      | 50166   | 19844                       |                     | -40742                                                       |
| 1981 | 11     | -10105             | 89143        | 79038                          | 24                  | 0        | 79014   | 39220                       |                     | -49349                                                       |
| 1982 | 11     | 32207              | 104520       | 136727                         | 492                 | 33000    | 103235  | 27616                       |                     | -28901                                                       |

**Notes**

- (1) Due to changes in accounting year end dates Irish Sugar was omitted for 1975 and NET for 1973
- (2) Pre-tax profits only foreign exchange gains or losses  
Profits of the ESB are defined as the surplus on trading plus interest on sinking funds
- (3) For 1970-1980 refers to dividends on preference shares by Irish Sugar company and for 1982 to payments by An Bord Gais
- (4) Net deficient of CIE includes current grant

Appendix Table (2) *Sources of External Finance for Semi-State companies 1970-1982*

| £IR'000 |                                |                                                      |                   |                                 |                                  |                      |                              |                                                |                                                  |
|---------|--------------------------------|------------------------------------------------------|-------------------|---------------------------------|----------------------------------|----------------------|------------------------------|------------------------------------------------|--------------------------------------------------|
| Year    | Stock<br>Exchange<br>or equity | Loans from<br>the State<br>and State<br>Institutions | Capital<br>Grants | Long Term<br>Commercial<br>Bank | Short Term<br>Commercial<br>Bank | Foreign<br>Borrowing | Total<br>External<br>Finance | Total External<br>plus Net<br>Internal Finance | Total External<br>plus Gross<br>Internal Finance |
|         | (10)                           | (11)                                                 | (12)              | (13)                            | (14)                             | (15)                 | (16)                         | (17)                                           | (18)                                             |
| 1970    | 5626                           | -472                                                 | 2780              | 999                             | 3748                             | 14549                | 27230                        | 31234                                          | 47350                                            |
| 1971    | 11258                          | 13642                                                | 1713              | 4399                            | 3182                             | 4823                 | 39017                        | 41555                                          | 59035                                            |
| 1972    | -1556                          | -26                                                  | 3026              | 619                             | -8679                            | 51932                | 45316                        | 48522                                          | 71881                                            |
| 1973    | -4501                          | 2140                                                 | 1518              | 4182                            | -98                              | 21590                | 24831                        | 29891                                          | 54425                                            |
| 1974    | -4747                          | 2003                                                 | 1382              | 2300                            | 18649                            | 33084                | 52671                        | 53273                                          | 82884                                            |
| 1975    | 3766                           | 652                                                  | 2328              | 4199                            | 5506                             | 50091                | 66542                        | 70360                                          | 101744                                           |
| 1976    | 9947                           | 17320                                                | 2396              | 4704                            | -6617                            | 68642                | 96392                        | 110051                                         | 148200                                           |
| 1977    | 27574                          | -21                                                  | 3953              | 25213                           | 1424                             | -415                 | 57728                        | 84407                                          | 126259                                           |
| 1978    | 13011                          | 6958                                                 | 2573              | 18022                           | 7578                             | 95731                | 143873                       | 161882                                         | 205307                                           |
| 1979    | 12503                          | 12587                                                | 3136              | 24229                           | 22834                            | 174226               | 249515                       | 251752                                         | 306356                                           |
| 1980    | 8905                           | 12047                                                | 6496              | 49611                           | 74008                            | 213932               | 364999                       | 344101                                         | 415165                                           |
| 1981    | 22789                          | 80092                                                | 3497              | 2705                            | 47756                            | 236680               | 393519                       | 383390                                         | 472533                                           |
| 1982    | 5771                           | 3043                                                 | 12740             | 102399                          | -6877                            | 160935               | 278011                       | 276726                                         | 381246                                           |

## APPENDIX (2)

### *FIRMS INCLUDED IN THE STUDY AND THE YEARS FOR WHICH THEY ARE INCLUDED*

| (a) Irish or partly Irish Owned | Years Included | Sector                       |
|---------------------------------|----------------|------------------------------|
| Abbey                           | 1972 - 1982    | Construction                 |
| Abbey Clothing                  | 1965 - 1976    | Clothing Manufacturer        |
| Alliance and Dublin Gas Co      | 1973 - 1982    | Town Gas Supply              |
| Arklow Pottery                  | 1964 - 1977    | Manufacture of Pottery       |
| Arnott                          | 1963 - 1982    | Retailing                    |
| Ashtown Tinbox (Ireland)        | 1968 - 1975    | Tin Box Manufacturer         |
| Associated Properties           | 1964 - 1974    | Property Company             |
| Autozero                        | 1969           | Cold Storage                 |
| Bacon Company of Ireland        | 1964 - 1982    | Bacon Processing             |
| Baker, Wardell & Co             | 1965 - 1982    | Tea Merchants                |
| Barrow Milling Ltd              | 1964 - 1982    | Flour Milling                |
| Batchelors                      | 1963 - 1969    | Food Processing              |
| Bellville Holdings              | 1966 - 1981    | Manufacture of Fertilizers   |
| Bolands                         | 1963 - 1975    | Flour Milling                |
| Booth Poole                     | 1964 - 1968    | Car Assembly & Distribution  |
| J & G Boyd                      | 1964 - 1982    | Hardware Merchandise         |
| Braids                          | 1964 - 1982    | Joinery Manufacturer         |
| Brittain                        | 1971 - 1974    | Car Assembly                 |
| Brooks Watson                   | 1963 - 1982    | Builders Provider            |
| Brown Thomas                    | 1964 - 1982    | Retailing                    |
| Browne & Nolan                  | 1964 - 1968    | Printing & Publishing        |
| P C Cahill                      | 1963 - 1971    | Wholesale Chemists           |
| Cannock & Co                    | 1963 - 1981    | Retailing                    |
| Carrigaline Pottery Co          | 1963 - 1977    | Manufacture of Pottery       |
| Carroll Industries              | 1963 - 1982    | Cigarette Manufacturer       |
| Castle Brand                    | 1965 - 1982    | Manufacture of Kitchen Uten  |
| Castlebar Bacon Co              | 1963 - 1982    | Bacon Processing             |
| Castle Guard Textiles           | 1964           | Cotton Spinning              |
| Cement Roadstone                | 1964 - 1982    | Construction Materials       |
| Chipboard                       | 1963 - 1978    | Manufacture of Wood Products |
| Clarence Hotels                 | 1963 - 1982    | Hotels                       |
| Clondalkin paper                | 1964 - 1982    | Packaging Materials Manufact |
| Concrete Products of Ireland    | 1966 - 1982    | Builders Providers           |
| Convoy Woollen Co               | 1963 - 1982    | Manufacture of Woollen Goods |
| Cork Gas Company                | 1976 - 1982    | Town Gas Supply              |
| James Crean                     | 1964 - 1982    | Wholesale Distributor        |
| Creation Group                  | 1968 - 1972    | Printing & Publishing        |
| CroweWilson                     | 1965 - 1971    | Wholesale Drapery Distrib    |
| John Daly & Co                  | 1963 - 1971    | Mineral Water Manufacturers  |
| Dinan Dowdall                   | 1963 - 1967    | Builders Providers           |
| Dock Milling Group              | 1965 - 1982    | Flour Milling                |
| Thomas Dockrell                 | 1963 - 1971    | Builders Providers           |
| J Donohoe                       | 1965 - 1980    | Mineral Water Manufacturers  |
| Doreen Holdings                 | 1969 - 1982    | Manufacture of Clothing      |
| W Drummond and Sons             | 1963 - 1972    | Seed Merchant                |
| Dublin Artisans Dwellings       | 1964 - 1982    | Property Company             |
| Dublin & Central Properties     | 1963 - 1976    | Property Company             |
| Dubtex Clothing                 | 1964 - 1978    | Clothing Manufacturer        |
| Dungarvan Leathers              | 1963 - 1972    | Manufacture of Leather       |
| Dwyer                           | 1964 - 1982    | Clothing Manufacturer        |
| Edenderry Shoe Company          | 1964 - 1982    | Manufacture of Footwear      |
| Erin Peat Products              | 1963 - 1975    | Manufacturers of Garden Prod |
| Estates Development             | 1975 - 1982    | Property Company             |
| Ever Ready                      | 1963 - 1976    | Distributor of Car Parts     |
| Ferrier Pollock                 | 1964 - 1978    | Wholesale Drapers            |
| Findlater                       | 1963 - 1967    | Food & Drink Retailing       |
| Fine Wool Fabrics               | 1963 - 1970    | Clothing Manufacturer        |
| Fitzwilton                      | 1964 - 1982    | Investment Holding Company   |

|                                 |             |                               |
|---------------------------------|-------------|-------------------------------|
| Flogas                          | 1979 - 1982 | Distribution of Bottled Gas   |
| Freedex                         | 1964 - 1971 | Manufacture of Handbags       |
| Fruit Importers of Ireland      | 1977 - 1982 | Fruit Importer                |
| Gibson Guy & Smallridge         | 1965 - 1967 | Manufacture of Packaging      |
| Glen Abbey                      | 1964 - 1982 | Clothing Manufacturer         |
| R & J Goff                      | 1974 - 1982 | Bloodstock Auctioneering      |
| J & L F Goodbody                | 1964 - 1981 | Manufacture of Plastic Bags   |
| Graves & Company                | 1964 - 1970 | Builders Providers            |
| Green Group                     | 1965 - 1977 | Cinema & Property Company     |
| Greenmount & Boyne              | 1965 - 1974 | Manufacture of Linen Goods    |
| Gresham Hotel                   | 1964 - 1974 | Hotel                         |
| R & H Hall                      | 1963 - 1982 | Cereal Storage and Transport  |
| John Halliday                   | 1964 - 1970 | Manufacture of Footwear       |
| Hammond Holdings                | 1964 - 1976 | Scrap Metal                   |
| Harcourt Irish Holdings         | 1963 - 1980 | Manufacture of Metal Springs  |
| Harringtons & Goodlass Wall     | 1963 - 1976 | Paint Manufacturer            |
| Hayes, Cunningham & Robinson    | 1963 - 1971 | Retailer Chemists             |
| Heiton Holdings                 | 1965 - 1982 | Builders Providers            |
| Hely Group                      | 1964 - 1969 | Printing and Packaging        |
| I W P M Holdings                | 1964 - 1980 | Wallpaper Manufacturer        |
| Ideal Menswear                  | 1965 - 1979 | Clothing Manufacturer         |
| Independent Newspapers          | 1964 - 1982 | Newspaper Publishers          |
| Irish Distillers                | 1963 - 1982 | Distilling                    |
| Irish Dunlop                    | 1963 - 1970 | Manufacture of Tyres          |
| Irish Glass Bottle Company      | 1964 - 1982 | Manufacture of Glass          |
| Irish International Trading Co  | 1964 - 1982 | Hardware Merchandise          |
| Irish Leathers                  | 1964 - 1982 | Manufacturers of Leather      |
| Irish Oil & Cake Mills          | 1963 - 1982 | Margarine Manufacturers       |
| IrishPharmaceuticals            | 1966 - 1979 | Manufacture of Pharmaceut     |
| Irish Press                     | 1965 - 1982 | Newspaper Publishing          |
| Irish Ropes                     | 1964 - 1982 | Manufacture of Carpets        |
| Irish Tanners                   | 1964 - 1968 | Manufacture of Leather        |
| Irish Times                     | 1963 - 1972 | Newspaper Publisher           |
| Irish Wire Products             | 1964 - 1982 | Manufacture of Nails & Screws |
| Irish Worsted Mills             | 1963 - 1970 | Manufacturers of Cloth        |
| W & R Jacob                     | 1964 - 1982 | Manufacture of Biscuits       |
| Jameson Ltd                     | 1965        | Distilling                    |
| Janelle Ltd                     | 1973 - 1980 | Clothes Manufacturer          |
| Jones Group                     | 1973 - 1982 | Shipping and Engineering      |
| Kilkenny Engineering Products   | 1967 - 1971 | Manufacture of Farm Equipment |
| Edward Lee & Co                 | 1975 - 1977 | Retailing                     |
| Leethems (Ireland)              | 1964 - 1972 | Clothing Manufacturer         |
| LyonsIrish Holdings             | 1963 - 1982 | Wholesale tea & Cake manuf    |
| McBirney                        | 1963 - 1973 | Retailing                     |
| McCairns                        | 1964 - 1982 | Vehicle Distribution          |
| McFerran & Guilford             | 1963 - 1964 | Builders Providers            |
| McInerney                       | 1971 - 1982 | Construction                  |
| Maguire & Paterson              | 1963 - 1979 | Manufacture of Matches        |
| T & C Martin                    | 1963 - 1966 | Builders Providers            |
| Martin Mahony                   | 1963 - 1973 | Clothing Manufacturer         |
| Massers Waterford Iron Founders | 1963 - 1974 | Ironfounders                  |
| May Roberts                     | 1963 - 1969 | Wholesale Chemists            |
| Mayco                           | 1965 - 1976 | Toy Manufacturer              |
| Memory Computers                | 1978 - 1982 | Computer System Design        |
| Merchants Warehousing           | 1964 - 1982 | Cold Storage & Warehousing    |
| Metal Products (Cork)           | 1963 - 1981 | Manufacture of Fasteners      |
| Milford (Donegal)               | 1964 - 1982 | Flour Milling                 |
| A Miller & Co                   | 1965 - 1980 | Tea, Wine & Spirit Merchants  |
| Minch Norton                    | 1963 - 1982 | Mallsters & Grain Merchants   |
| Monsell Mitchell                | 1964 - 1969 | Builders Providers            |
| Mooney                          | 1965 - 1977 | Public Houses                 |
| Moore Holdings                  | 1964 - 1973 | Manufacture of Clothing       |
| Murdochs                        | 1963 - 1969 | Hardware Merchandise          |
| J J Murphy                      | 1976 - 1980 | Brewery                       |
| Navan Carpets                   | 1968 - 1971 | Manufacture of Carpets        |
| Newbridge Holdings              | 1963 - 1971 | Manufacture of Cutlery        |

|                                                  |             |                                |
|--------------------------------------------------|-------------|--------------------------------|
| John C Parkes                                    | 1963 - 1977 | Hardware Merchandise           |
| Peterson Tennant                                 | 1964 - 1981 | Food Distributor               |
| Pye (Ireland)                                    | 1963 - 1981 | Distributor of Electrical good |
| R T D Group                                      | 1971 - 1972 | Distribution of Car Parts      |
| Ranks (Ireland)                                  | 1964 - 1982 | Flour Milling                  |
| Rawson                                           | 1964 - 1966 | Manufacture of Footwear        |
| Readymix                                         | 1967 - 1982 | Construction Materials Manuf   |
| Roadstone                                        | 1964 - 1969 | Quarrying & Road Construction  |
| Rohan Group                                      | 1971 - 1982 | Construction                   |
| Salts                                            | 1964        | Worsted Spinners               |
| Seafield Gentex                                  | 1965 - 1982 | Textiles manufacturer          |
| Shannon Meats                                    | 1964 - 1982 | Meat Processing                |
| Smith & Pearson                                  | 1964 - 1976 | Structural Steelwork           |
| Smith Group                                      | 1963 - 1973 | Car Distributor                |
| Smurfit                                          | 1964 - 1975 | Packaging Materials            |
| Smyth & Company                                  | 1963 - 1978 | Clothing Manufacturer          |
| Solus Teoranta                                   | 1964 - 1980 | Manufacture of Light Bulbs     |
| Sunbeam Wolsey                                   | 1963 - 1982 | Knitwear manufacturer          |
| Swan Ryan International                          | 1965 - 1982 | Hotels and Tourism             |
| Swift Brook Paper Mills                          | 1964 - 1968 | Manufacture of Paper           |
| Switzer                                          | 1964 - 1970 | Retailing                      |
| T M G                                            | 1963 - 1982 | Iron Foundry                   |
| Temple Press                                     | 1964 - 1966 | Printing                       |
| Thwaites                                         | 1965 - 1967 | Mineral Water Manufacturer     |
| Torc Manufacturing                               | 1964 - 1972 | Manufacture of Office Equip    |
| Trimproof                                        | 1967 - 1969 | Manufacture of Clothing        |
| Unidare                                          | 1964 - 1982 | Manufacture of Cables          |
| United Drug & Chemical Company                   | 1963 - 1972 | Pharmaceutical Manufacturer    |
| Waterford Glass                                  | 1968 - 1982 | Crystal Glass Manufacturer     |
| Joshua Watson                                    | 1964 - 1971 | Malting                        |
| Williams & Woods                                 | 1964 - 1975 | Manufacturers of Food Products |
| Williams (H )                                    | 1964 - 1980 | Supermarket Chain              |
| Woodchester Investments                          | 1979 - 1982 | Leasing & Rental of Office gd  |
| J H Woodington                                   | 1963 - 1982 | Manufacture of Footwear        |
| Youghal Carpets                                  | 1964 - 1982 | Carpet manufacturer            |
| (b) Wholly Owned Subsidiaries Included           |             |                                |
| A C E C                                          | 1963 - 1982 | Manufacture of Electrical gd   |
| Batchelors                                       | 1970 - 1979 | Food Processing                |
| Beamish & Crawford                               | 1963 - 1982 | Brewery                        |
| Bovril                                           | 1963 - 1980 | Wholesale Food Distributor     |
| Butlins                                          | 1963 - 1962 | Tourism                        |
| Cadbury (Ireland)                                | 1963 - 1982 | Chocolate Manufacturer         |
| Esso                                             | 1963 - 1982 | Oil Distributor                |
| Fullers                                          | 1963 - 1971 | Caterers & Confectioners       |
| Gypsum Industries                                | 1963 - 1982 | Building Materials Manufact    |
| H B Chocolates                                   | 1973 - 1975 | Manufacture of Chocolate       |
| Irish Board Mills                                | 1963 - 1976 | Timber Products                |
| Irish Refining Company                           | 1963 - 1981 | Refining                       |
| Irish Shell                                      | 1963 - 1982 | Oil Distribution               |
| Jeyes (Ireland)                                  | 1963 - 1971 | Clearing Products Manufact     |
| Millar & Beatty                                  | 1975 - 1977 | Retailing                      |
| Mining Company of Ireland<br>& Strachan Brothers | 1965 - 1980 | Import & Sale of Lead Products |
| Nicholas Laboratories                            | 1964 - 1980 | Wholesale Chemists             |
| Odeon (Ireland)                                  | 1963 - 1975 | Cinemas                        |
| Rowntree - MacKintosh                            | 1964 - 1982 | Manufacture of Chocolate Prod  |

## FOOTNOTES

- [1] Sources Companies General Annual Report for 1964 and 1982, Department of Industry and Commerce, Dublin Stationery Office
- [2] The selection procedure is described in J C Stewart "Company Tax - Effective Tax Rates on Profits", Journal of the *Statistical and Social Inquiry Society of Ireland*, Vol XXIV, Part III, 1981, p 105 In addition to the companies included in the above study a group of wholly owned subsidiaries of MNCs were also included This group is listed in J C Stewart "A Study of the Financing of Multinational Companies in Ireland 1964-1980, *Journal of Irish Business and Administrative Research*, Vol 4, No 2, 1982, p 83 In addition the following companies became public companies since 1979 and were also included Memory Computers, Fruit Importers of Ireland, Woodchester Investments, and Flogas Finally it was decided to include a small company Dinan Dowdall, previously omitted This company was taken over by Brooks Thomas in 1968 All the firms included in the study and the years for which they are included are listed in Appendix (2)
- [3] This position will change dramatically with the passing into law of the Companies (amendment) Bill, 1985, which implements the EEC fourth directive relating to disclosure of company accounts
- [4] It was also possible to obtain an exemption from the Control of Manufacturers Acts A more detailed discussion of why these companies are public companies is contained in J C Stewart, 1982, p 73
- [5] Adopting the Department of Industry convention for UK companies would result in almost the same allocation of firms to different calendar years See M A King, *Public Policy and the Corporation*, London Chapman and Hall, 1975, p 278 for a description of this convention, or A Singh and G Whittington, *Growth, Profitability and Valuation*, Cambridge Cambridge University Press, 1968, Appendix A
- [6] There are some ground for classifying a leasing company as a financial company and hence excluding it from this study Leasing companies are classified as financial companies in UK data if they are "engaged in the

- leasing of capital goods whose value is generally depreciated during the course of a single hire contract" It is not clear that Woodchester Investment which is engaged in the hiring and leasing of office equipment meets these criteria In addition for some purposes, for example estimating funds available for net investment, it is more meaningful to include leasing companies See *Standard Industrial Classification Revised 1980*, London HMSO, 1981
- [7] A takeover was defined as a change in ownership, rather than the purchase by an existing majority shareholder of the remainder of the ordinary shares
- [8] This figure is a slight over-estimate as a number of firms have subsidiaries operating outside the Republic
- [9] A D Bain, "Surveys in Applied Economics Flow of Funds Analysis", *Economic Journal*, No 332, Vol 83, 1973, pp 1055-1093
- [10] A D Bain, 1973, p 1062
- [11] A similar adjustment is made in estimating sources and uses of funds for UK companies published in Company Finance, *Business Monitor*, MA3, London HMSO
- [12] Lintner found that the following gradual adjustment process explained a large proportion of the change in dividend payments for a sample of 28 US Corporations  $D_{1t} = A_{1t} + C_1(R_1 P_{1t} - D_{1(t-1)}) + U_{1t}$ , where  $D$  = change in dividends,  $R$  = target payout ratio,  $P_t$  is the current years after tax profits, and  $C_1$  is the speed of adjustment coefficient Lintner's study has been repeated numerous times, sometimes substituting cash flow for dividends, however in all cases an extremely good fit of the above equation has been obtained J Lintner, "Distribution of Incomes of Corporations among Dividends, Retained Earnings and Taxes", *American Economic Review*, May 1956, pp 97-113 For an example of Lintner's model fitted to UK data see T Ryan, "Dividend Policy and Market Valuation in British Industry", *Journal of Business Finance and Accounting*, Vol 1, Autumn, 1974, pp 415-429
- [13] A D Bain describes the financing pattern of UK companies in the following terms in the *Control of the Money Supply*, Harmondsworth Penguin Books, 1970, p 113, "UK companies demands on the capital and credit market have typically been light in the early stages of recovery, but have grown much heavier as economic

- activity quickened during the upswing"
- [14] A D Bain, 1970, pp 108-114
  - [15] R C O Matthews, *The Trade Cycle*, Cambridge Cambridge University Press, 1959
  - [16] Wilson Report, *Committee to Review the Functioning of Financial Institutions*, Cmnd 7937, London HMSO, 1980
  - [17] M /a King and D Fullerton, *The Taxation of Income from Capital*, Chicago University of Chicago Press and National Bureau of Economic Research, 1984, p 64 See also Wilson Report, 1980, p 79
  - [18] G Meeks and G Whittington, *The Financing of Quoted Companies in the UK*, Royal Commission on the Distribution of Income and Wealth, London HMSO, 1976, p 5
  - [19] K A Kennedy and B R Dowling, *Economic Growth in Ireland The Experience Since 1947*, Dublin Gill and Macmillan, 1975
  - [20] K A Kennedy and B R Dowling, 1975, p 158
  - [21] K A Kennedy and B R Dowling, 1975, p 165
  - [22] R N Vaughan, "Profits, Finance and Growth", in B R Dowling and J Durkan (eds ), *Irish Economic Policy A Review of Major Issues*, Dublin The Economic and Social Research Institute, 1978
  - [23] The eleven examined were Aer Lingus/Aerlinte, B + I, Bord Gais Eireann, Bord na Mona, CIE, Electricity Supply Board, Irish National Petroleum Corporation, Irish Shipping, Irish Steel, Irish /Sugar, Nitrogen Eireann
  - [24] Total foreign borrowing by state owned companies amounted to IR£490 2 million in December 1979, of which IR£92 4 million was due to the UK The year 1979 was the first year for which this data were published Source *Central Bank of Ireland, Quarterly Bulletin*, Autumn, 1982, Table 8
  - [25] Foreign borrowing by state-owned companies increased from IR£490 2 million in December 1979 to IR£778 8 million in December 1980 By December 1983 this sum had increased to IR£1,830 million Source *Central Bank of Ireland, Quarterly Bulletin*, Autumn 1982, Table 8, and Summer 1984, Table D9
  - [26] P Honohan, "The Flow of Funds 1972-1977", *Journal of the Statistical and Social Inquiry Society of Ireland*, Vol XXIV, Part IV, 1981-1982, pp 175-216
  - [27] Wilson Report, 1980, p 133

- [28] M A King and D Fullerton, 1984, pp 237-238
- [29] G Meeks and G Whittington, 1976
- [30] A breakdown between securities issues for cash and securities issued in relation to takeovers or mergers is not given for the period 1948-1964
- [31] A D Bain, 1970, p 112
- [32] S J Prais, *The Evolution of Giant Firms in Britain*, Cambridge Cambridge University Press, 1976, Table 5 8, p 126
- [33] G Meeks and G Whittington, "Giant Companies in the UK 1948-1969", *Economic Journal*, Vol 85, No 340, 1975, pp 824-838, especially Table (4)
- [34] B T Bayliss and A A S Butt Philip, *Capital Markets and Industrial Investment in Germany and France*, Saxon House Farnborough, 1980
- [35] See P Stonham, *Major Stock Markets of Europe*, London Gower 1982, p 122 See also J M Samuels, R E V Groves and C S Goddard, *Company Finance in Europe*, London Institute of Chartered Accountants in England and Wales, 1975 J Cable, "Capital Market Imperfections and Industrial Performance The Role of West German Banks", *Economic Journal*, Vol 93, No 337, 1985, pp 118-132
- [36] E F Fama and M C Jensen, "Separation of Ownership and Control", *Journal of Law and Economics*, Vol XXVI, 1983, pp 301-325
- [37] For each year and for the entire period examined a minority of companies issued share capital, but for most individual years and for the entire period a majority of the companies included in the study received capital grants
- [38] P Marsh, "The Choice Between Equity and Debt An Empirical Study", *Journal of Finance*, Vol XXXVII, No 2, 1982, pp 121-144
- [39] A D Bain, "A Model of UK Company Financial Behaviour", *The Manchester School*, 1977, pp 345-370 See also A D Bain, C L Day and A L Wearing, *Company Financing in the United Kingdom*, London Martin Robertson, 1975, especially Chapter (7)
- [40] See S Pindyck and D L Rubinfeld, *Economic Models and Economic Forecasts*, London McGraw-Hill, 1981, pp 287-300 The misspecification resulting from omitting these cases is likely to be small, as 8 of 647 cases were omitted for the period 1971-1980, and 6 out

- of 295 cases for the period 1964-1970
- [41] The number of omitted cases for the period 1971-1980 was 7 out of 397 and for 1964-1970 3 out of 390
  - [42] See J C Stewart, "The Effect of Fiscal Incentives on Tax Rates and Corporate Financial Behaviour in Ireland 1964-1980", Ph D thesis submitted to the London School of Economics 1985, p 177
  - [43] J Zysman, *Government, Markets, and Growth*, Ithaca Cornell University Press, 1983, especially Chapter 6
  - [44] See Stewart, 1985, Chapter (4) for some evidence of this for Irish companies
  - [45] See B Hindley (ed ), *State Investment Companies in Western Europe*, London Macmillan, 1983, H Corbet states in an introduction "There is no clear evidence of any special ability to pick winners on the part of any state investment company anywhere"
  - [46] National Economic and Social Council, *The Role of the Financial System in Financing the Traded Sectors*, Dublin NESC 1984, p 130 See also, for example, the comments by Austin Darragh on the problems of raising funds from Irish banks in *The Irish Times*, May 7, 1985

## DISCUSSION

*P Honohan* It is fair to say that flow of funds analysis still seems something of a Cinderella in the family of approaches to considering economic developments - a Cinderella awaiting her fairy godmother which will have to come in the form of a well established body of theory that can allow us to make real use of flow of funds data

For the moment, one is confined to reviewing a number of questions which seem to need flow of funds data to be answered, even though we do not yet have an agreed way of answering the questions The principal questions of this sort which concern policymakers in Ireland at present fall into three main categories

First, there is the question of whether the industrial sector, or the private sector economy generally, is short of capital in some sense A traditional view was that shortage of capital was the principal weakness in the economy, and when one considers the condition of the wealthier countries

of the EEC and North America it is evident that there is something in this point of view. However, it must also be borne in mind that a shortage of capital may be a symptom rather than an ultimate cause and there is the consideration that capital formation in the past ten years has averaged well over 25 per cent of GNP with a comparatively small result in overall output potential. Contrasting with the traditional view is the flashier mid-1960s opinion that no shortage of capital could exist because of the small and open nature of the economy offering the private sector all the funds it could need at world prices. If that is the case, investment needs in a country such as Ireland need not be financed at all by domestic savings. Research on this point has been inconclusive, whetting one's appetite for a more definitive answer to the question. Certainly many of those who held the small open economy view some years ago are now moving over to the incompatible theory that Government borrowing crowds out private investment. If one were to conclude that more domestic savings did facilitate greater private investment, there would be important policy implications for the tax treatment of savings and for Government foreign borrowing.

I do not believe that the present paper can really provide material to answer this particular question. That is because the sample of firms, ambitious though its scope is, is confined to a very small part of the private economy - not more than about 7-8 per cent in employment terms. We could not, therefore, and Dr Stewart would not want us to, apply the percentages and ratios of this paper writ large to the private economy as a whole. It is not that the sample is too small, but that it could not be taken as representative of the private economy. Nor could the sample be taken as representative of a sector such as manufacturing as a whole, in view, on the one hand, of the importance of foreign-based companies in that sector, and, on the other hand, because the sample spans a broader range than merely manufacturing. In fact I believe that it is most useful to think of the paper as analysing the behaviour of companies in a certain type of ownership structure - that of having many Irish shareholders.

That brings me to the second type of broad policy question which occurs in this area, and that is whether the

liability structure of Irish companies is, in some sense, wrong having insufficient equity to act as a buffer in bad times. There has been quite a lot of public discussion of this issue in recent years, most conspicuously in the 1984 NESc study to which Dr Stewart has referred. While I admit that the equity base of many Irish companies is too low, I am somewhat sceptical, myself, of the extreme and rather extravagant claims sometimes made for equity financing, which in their emphasis on how equity can be lost without the company going bankrupt, sometimes bear a resemblance to the calls of semi-state companies for free equity from the state. The significant role of the state grants - which are quite analogous to equity injections in their cushioning effect on a company's ability to survive fluctuations - is striking from the tables. In fact total grants were equivalent to one-half of equity-type financing for these companies.

It would be interesting to pursue this question of the relative importance of equity-type funding for Irish companies as compared with those of other countries a little further. Stewart's figures seem to imply that equity-type financing is as big or bigger here than abroad - but this is strongly influenced by a single observation - Irish cement. One must also bear in mind that most small companies are not included, which may explain that apparent disparity between the impression given by these figures and the results of the 1984 NESc study.

Short-term bank borrowings do seem to be an important first buffer for these companies in times of recession. This is what I had found in my 1982 paper, to which Dr Stewart was kind enough to refer, based on the 1974-1977 recession and is now confirmed for the second recession. There is an interesting contrast between the two recessions which has not been brought out in the paper. Following 1974/75 the short-term distress bank borrowing of that recession was largely consolidated into long-term bank loans in 1975 and 1976, whereas in 1982 part of the short-term borrowing was repaid at the expense of a dramatic reduction in funds made available for stock building and for fixed investment.

There is plenty of meat in the paper to be chewed over in order to throw light on this issue, which is, of course,

of topical interest in view of the 1986 Budget tax changes which affect the relative tax positions of bank and equity financing

The third great policy issue in the flow of funds, at present is of course the balance of payments, and the role of the growing personal sector surplus as well as the foreign profit outflows in affecting the financial markets. Here the omission of all but the most Irish of the non-Irish companies means that this paper cannot be expected to throw much light. But I feel that an important part of the analysis of these balance of payments issues will involve a careful tracking of timing relationships. For instance, foreign profit outflows may perhaps be predictable on the basis of measured output growth in some previous period, just as it has been suggested that personal sector savings are influenced by previous changes in the value of the personal sector's financial assets. Timing relationships are important in the present paper also, and I would like to mention just two points here. First of all, large isolated events can have an undue effect to the figures for a single year and Dr Stewart has been wise to group years, as in Table (6). However, grouping, or time aggregation, must be done with care if it is not itself to introduce distortions. An example is in this table, which seems to show a sharp growth in bank borrowing since 1970. However, a quite exceptional amount of "intra-group borrowing" occurred in 1970 and was reversed in the two following years. To divide the sample at 1970 instead of 1972 brings the bank percentage for the earlier period from 56.2 to 48.5. The jump in bank borrowing was not really as dramatic as the table suggests. Furthermore, the share of bank borrowing in external finance over the five years 1968-1972 was 65 per cent, the same figure as in the last five years of the sample, 1978-1982.

Finally, another point on timing. It is suggested in the paper that there was a shift from short-term to long-term bank borrowing over the two decades covered by the paper. I believe that this is a mistaken view. Around 1970 the banks moved away from the old overdraft system - whereby most borrowing was called an overdraft even though it often grew steadily - to a more structured system of term loans. This was an administrative change coming as an initiative

from the suppliers of funds rather than from the companies, and effectively amounted to a redefinition of the term "overdraft" to mean genuinely short-time borrowing. That is why the measured ratio of short-term to total bank borrowing collapsed in 1970 from an average of 94 per cent in previous years to about 43 per cent thereafter.

Dr Stewart has provided us with another really extensive and worthwhile collection of statistical material. I believe that he fully deserves the vote of thanks of the Society.

*Reply by J C Stewart* Dr Honohan has made a number of interesting points relating to flows of funds and their importance in examining topics such as the "crowding out" problem, or the adequacy of aggregate capital formation, and as he notes this paper is necessarily more limited in scope because of the relatively small number of companies included. While agreeing with him that the companies in the study account for a small part of the domestic economy, their contribution is likely to be larger than that suggested by their share of aggregate employment. It is also likely that their financial behaviour is more representative of non-financial domestically-owned companies rather than of the corporate sector as a whole. However the former is of increasing importance given the announced changes in industrial strategy favouring domestically-owned companies.

As Dr Honohan notes, the choice of time period is of great importance in examining time series. This paper sought to consider changes in corporate financing in response to, or in conjunction with, changes in fiscal incentives, hence the sub-periods into which the overall time period was divided was dictated by changes in fiscal incentives. There is no doubt that small changes in the sub-periods within which any overall time is divided for a series that fluctuates from year to year is likely to change the conclusions relating to the nature of the trend and the magnitude of the relationships. The important point is that the trend should have the same sign and that the magnitude of the variables should not alter greatly. On the latter point as Dr Honohan demonstrates, bank borrowing remains the main form of finance to the corporate sector irrespective of the sub-periods chosen. On the former point, changing the

sub-periods alters the slope of the trend at the beginning of the period but not its sign, that is upwards at the beginning of the period and then stabilising and this is what Table (6) shows

Dr Honohan also suggests that the increased use of long-term bank borrowing is merely the result of "administrative change", relating to the definition of short-term bank borrowing or borrowing on "overdraft" I would argue (as I suspect borrowers would also) that this "administrative change" involves an important change in the contractual relationship under which borrowing takes place, as such it is of economic significance

Finally I would like to thank Dr Honohan and others who contributed to the discussion